MARQUETTE UNIVERSITY

Graduate Bulletin

MARQUETTE
UNIVERSITY

2010–2011

Marquette University does not discriminate in any manner contrary to law or justice on the basis of race, color, gender, age, sexual orientation, religion, disability, veteran's status or national origin in its educational programs or activities, including employment and admissions. At the same time, Marquette cherishes its right and duty to seek and retain personnel who will make a positive contribution to its religious character, goals, and mission in order to enhance the Jesuit, Catholic tradition. Federal laws (Titles VI, VII and IX; the Age Discrimination Act in Employment of 1967 as amended, the Rehabilitation Act of 1973 as amended, the Veteran's Readjustment Assistance Act of 1974, and the Americans With Disabilities Act of 1990) prohibit such discrimination.

Employee inquiries concerning the application of Section 503 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974 and Title I of the Americans with Disabilities Act of 1990 may be referred to the Office of Human Resources; Straz Tower; P.O. Box 1881; Milwaukee, WI 53201-1881; (414) 288-7305.

Student inquiries concerning Section 504 of the Rehabilitation Act of 1973 and Title III of the Americans with Disabilities Act of 1990 may be referred to the Office of Student Educational Services; Alumni Memorial Union; P.O. Box 1881; Milwaukee, WI 53201-1881; (414) 288-1645, V/T.

Student and employee inquiries concerning the application of Titles VI, VII, IX the Age Discrimination Acts of 1967 as amended, as well as Executive Order 11246 as amended may be referred to the Affirmative Action Officer; Straz Tower; P.O. Box 1881; Milwaukee, WI 53201-1881; (414) 288-3430.

The Marquette University Board of Trustees approved the Affirmative Action Program, formalizing the university's position toward human rights. This program reaffirms and specifies action programs to continue the pledge of promotion and equal opportunity for all qualified persons.

The university reserves the right to amend any of its academic programs, requirements for degrees, tuitions, fees, etc., at anytime, in its total discretion.

The 2010–2011 *Graduate Bulletin* is also available on Marquette University's Web site www.marquette.edu. While the university strives to maintain an accurate online bulletin, the printed bulletin is the university's official document. The provisions of this bulletin are subject to change at any time by Marquette University in its sole discretion.

Produced by the Graduate School, the Graduate School of Management and the Office of Marketing and Communication

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The University

INTRODUCTION

GRADUATE BULLETIN

The *Graduate Bulletin* contains information regarding the academic calendar, admissions, degree requirements, fees, regulations, and course offerings. Prospective and current graduate students are responsible for all information contained in this bulletin that is pertinent to graduate study and their specific field.

Graduate School and Graduate School of Management students must assume full responsibility for knowledge of the rules and regulations of their school and the special requirements of their individual degree programs as outlined in this document. It is the responsibility of each graduate student to verify and meet the deadlines listed in the Academic Calendar (e.g., for submitting financial aid forms, submitting theses or dissertations).

ACCREDITATION

An educational institution is only as strong as the level of excellence which it demands of itself as well as of its faculty and students. Marquette University is accredited by the Higher Learning Commission, a commission of the North Central Association of Colleges and Schools. Marquette University has set consistently high standards for itself which have resulted in accreditation and/or certification of its academic programs from these additional organizations and associations.

ABET Engineering Accreditation Commission, Accreditation Review Commission on Education for the Physician Assistant, Accrediting Council on Education in Journalism and Mass Communication, American Association of Law Schools, American Bar Association, American Chemical Society, American College of Nurse-Midwives Division of Accreditation, American Psychological Association, American Society of Exercise Physiology (ASEP), Commission on Accreditation of Athletic Training Education, Commission on Accreditation in Physical Therapy Education, AACSB – International, The Association for Advancement of Collegiate Schools of Business, Commission on Collegiate Nursing Education, Commission on Dental Accreditation – American Dental Association, Council on Academic Accreditation of The American Speech-Language-Hearing Association, National Accrediting Agency for Clinical Laboratory Sciences, National Council for Accreditation of Teacher Education, National Strength and Conditioning Association, Wisconsin Department of Public Instruction, Wisconsin State Board of Nursing.

These accreditations assure a student that Marquette is recognized and approved by select national and regional educational associations, societies and councils. In addition, a student has the security of knowing that credits earned at Marquette have transfer value to comparable institutions of learning, just as an incoming transfer student learns by checking this list that Marquette can be expected to honor most credits earned at a similarly accredited college or university.

HISTORY

Marquette University was founded in 1881 by members of the Society of Jesus, a Catholic religious order established in 1540 by St. Ignatius Loyola. The university is named after Father Jacques Marquette (1637-1675), a French, Jesuit missionary and explorer in North America.

The origins of Marquette University date from 1848 when the Most Rev. John Martin Henni, first bishop of Milwaukee, obtained $16,000 from Guillaume DeBoey, a Belgian, Catholic businessman, to establish a Jesuit college. Bishop Henni petitioned the Jesuits to open a school, Marquette College, in Milwaukee. Because the Jesuits lacked personnel to undertake the project for decades, Marquette College did not open until 1881.

Marquette remained a small liberal arts college for men at North 10th and West State streets until 1907. That year its leaders obtained a university charter from the state of Wisconsin and moved operations to a building just east of the Church of the Gesu, at North 12th Street and West Wisconsin Avenue. That building, Johnston Hall, is the oldest building on the Marquette campus.

Between 1907 and 1913, Marquette expanded to include divisions of medicine, dentistry, nursing, pharmacy, law, business, engineering, music and journalism. In 1909, Marquette became the first Catholic university in the world to offer coeducation as part of its regular undergraduate program.

Following World War II, enrollment at Marquette increased dramatically, as at other American colleges and universities. Demand for graduate and professional education grew. In 1957-58, Marquette became for a short time the largest Catholic university in the nation.

In the 1960s and '70s, Marquette introduced doctoral programs in various fields, including religious studies, biology, history and chemistry.

Since 1990, Marquette has added numerous programs, including degree programs for working adults, which offer courses on campus as well as at satellite locations in southeastern Wisconsin; a part-time law program; an executive master of business administration program; programs in physician assistant studies and exercise science; and a Graduate School of Management.

Today Marquette University has a campus of approximately 90 acres and 60 buildings located near downtown Milwaukee. It consists of 12 colleges and schools:

Arts and Sciences	Education	Health Sciences
Business Administration	Engineering	Law
Communication	Graduate	Nursing
Dentistry	Management (Graduate)	Professional Studies

MISSION STATEMENT

Marquette University is a Catholic, Jesuit university dedicated to serving God by serving our students and contributing to the advancement of knowledge. Our mission, therefore, is the search for truth, the discovery and sharing of knowledge, the fostering of personal and professional excellence, the promotion of a life of faith, and the development of leadership expressed in service to others.

Excellence

Our students, whether traditional or non-traditional, undergraduate, graduate or professional, come to Marquette University to share our commitment to the pursuit of excellence in all things as a lifelong endeavor. They come to join a community whose members — faculty, staff, students, trustees, alumni and friends alike — believe that education must encompass the whole person: spiritual and moral as well as intellectual, the heart as well as the mind. And they come seeking the educational, professional and cultural advantages of a university located in the heart of the city. We, in turn, take seriously our responsibility to foster and support excellence in teaching and research, to keep a Marquette education accessible to a diverse population of students, and to offer personal attention and care to each member of the Marquette community.

Faith

As a Catholic university, we are committed to the unfettered pursuit of truth under the mutually illuminating powers of human intelligence and Christian faith. Our Catholic identity is expressed in our choices of curricula, our sponsorship of programs and activities devoted to the cultivation of our religious character, our ecumenical outlook, and our support of Catholic beliefs and values. Precisely because Catholicism at its best seeks to be inclusive, we are open to all who share our mission and seek the truth about God and the world, and we are firmly committed to academic freedom as the necessary precondition for that search. We welcome and benefit enormously from the diversity of seekers within our ranks, even as we freely choose and celebrate our own Catholic identity.

Leadership

As a Jesuit university, Marquette embodies the intellectual and religious traditions of the Society of Jesus. Through an academically rigorous, values-centered curriculum, our students receive a firm grounding in the liberal arts, preparation for work in a world of increasing complexity and diversity, and formation for life as ethical and informed leaders in their religious, cultural, professional and civic communities. They work with and learn from faculty who are true teacher-scholars, whose research not only advances the sum of human knowledge, but also informs their teaching, and whose commitment to students is fundamental to their intellectual and professional lives.

Service

Through both our academic and co-curricular programs, Marquette strives to develop men and women who will dedicate their lives to the service of others, actively entering into the struggle for a more just society. We expect all members of the Marquette community, whatever their faith traditions, to give concrete expression to their beliefs by giving of themselves in service to those in need.

All this we pursue for the greater glory of God and the common benefit of the human community.

VISION STATEMENT

Our vision is to provide a Catholic, Jesuit education that is genuinely transformational, so that our students graduate not simply better educated but better people, and to do so with such excellence that when asked to name the three or four best Catholic universities in America, people will include Marquette as a matter of course.

STATEMENT ON HUMAN DIGNITY AND DIVERSITY

As a Catholic, Jesuit university, Marquette recognizes and cherishes the dignity of each individual regardless of age, culture, faith, ethnicity, race, gender, sexual orientation, language, disability or social class. Precisely because Catholicism at its best seeks to be inclusive, we are open to all who share our mission and seek the truth about God and the world. Through our admissions and employment policies and practices, our curricular and co-curricular offerings, and our welcoming and caring campus environment, Marquette seeks to become a more diverse and inclusive academic community dedicated to the promotion of justice.

Our commitment to a diverse university community helps us to achieve excellence by promoting a culture of learning, appreciation and understanding. Each member of the Marquette community is charged to treat everyone with care and respect, and to value and treasure our differences. This call to action is integral to the tradition which we share.

DEGREES OFFERED

PROGRAM (Programs found alphabetically throughout this bulletin unless noted, in italics, below.)	DEGREE	SPECIALIZATIONS	PROGRAM ADMINISTERED BY: (college/department/school)
Accounting (ACCO) *Business Administration*	**M.S.A.**	*	**Graduate School of Management**
Bioinformatics (BIIN) *Mathematics, Statistics and Computer Science*	**M.S.**	*	**Mathematics, Statistics and Computer Science / Medical College of Wisconsin**
Biological Sciences (BSCI)	**M.S.**	Cell Biology (CEBI) Developmental Biology (DEBI) Ecology (ECOL) Epithelial Physiology (EPPH) Genetics (GENE) Microbiology (MICR) Molecular Biology (MOBI) Muscle and Exercise Physiology (MUEX)	**Biological Sciences**
	Ph.D.	Cell Biology (CEBI) Developmental Biology (DEBI) Ecology (ECOL) Epithelial Physiology (EPPH) Genetics (GENE) Microbiology (MICR) Molecular Biology (MOBI) Muscle and Exercise Physiology (MUEX)	
		Neuroscience (NSCI)	**Biological Sciences / Biomedical Sciences**
Biomedical Engineering (BIEN)	**M.S.**	Bioinstrumentation/Computers (BICO) Biomechanics/Biomaterials (BIOM) Rehabilitation Bioengineering (REBI) Systems Physiology (SYPH)	**Biomedical Engineering**
	M.E.	Biocomputing (BIOC) Bioimaging (BIOI) Bioinstrumentation (BIOE) Biomechanics (BIOM) Biorehabilitation (REBI)	
	Ph.D.	Bioinstrumentation/Computers (BICO) Biomechanics/Biomaterials (BIOM) Rehabilitation Bioengineering (REBI) Systems Physiology (SYPH)	
		Functional Imaging (FUIM)	**Biomedical Engineering / Medical College of Wisconsin**
Business Administration (BUAD) *Business Administration*	**M.B.A.**	Economics (ECON) Finance (FINA) Human Resources (HURE) International Business (INBU) Management Information Systems (MISY) Marketing (MARK) Operations and Supply Chain Management (OSCM)	**Graduate School of Management**
		Sport Business (SPBU)	**Graduate School of Management / Law**
	Certificate	Entrepreneurship (ENTP)	
Chemistry (CHEM)	**M.S., Ph.D.**	Analytical Chemistry (ANCH) Bioanalytical Chemistry (BIAN) Biophysical Chemistry (BIPH) Chemical Physics (CHPH) Inorganic Chemistry (INCH) Organic Chemistry (ORCH) Physical Chemistry (PHCH)	**Chemistry**
Civil Engineering (CIEN)	**M.S., Ph.D.**	Construction/Public Works Management (CONS) Environmental/Water Resources Engineering (ENWA) Structural/Geotechnical Engineering (STGE) Transportation Engineering and Planning (TREP)	**Civil and Environmental Engineering**
	Certificate	Construction Engineering and Management (CEMA) Structural Design (STDE) Transportation (TRAN) Water and Wastewater Treatment Processes (WWTP) Water Resources Engineering (WREN)	

*** No formal specialization offered. Some programs allow students to focus their courses or electives in a specific area of interest. Contact the program department for more information.**

PROGRAM (Programs found alphabetically throughout this bulletin unless noted, in italics, below.)	DEGREE	SPECIALIZATIONS	PROGRAM ADMINISTERED BY: (college/department/school)
Clinical Mental Health Counseling (CMHC) *Counselor Education and Counseling Psychology*	**M.S.**	Addiction-Mental Health Counseling (AMHC)	**Counselor Education and Counseling Psychology**
Clinical Psychology (CLPS)	**Ph.D.**	*	**Psychology**
Communication (COMM)	**M.A.**	Advertising and Public Relations (ADPR) Broadcast and Electronic Communication (BREC) Communication about Health, Environment, Science and Sustainability (CHESS) Communication Studies (CMST) Journalism (JOUR) Mass Communication (MASS)	**Communication**
	Certificate	Digital Storytelling (DIST) Professional Communication (PRCO)	
Computational Sciences (CMPS) *Mathematics, Statistics and Computer Sciences*	**M.S., Ph.D.**	*	**Mathematics, Statistics and Computer Science**
Computing (COMP) *Mathematics, Statistics and Computer Science*	**M.S.**	*	**Mathematics, Statistics and Computer Science**
Counseling (COUN)	**M.A.**	Community Counseling (COMC) School Counseling (SCHC)	**Counselor Education and Counseling Psychology**
Counseling Psychology (COPS)	**Ph.D.**	*	**Counselor Education and Counseling Psychology**
Dentistry (DENT)	**M.S.**	Dental Biomaterials (BIMA) Endodontics (ENDO) Orthodontics (ORTH) Prosthodontics (PROS)	**Dentistry**
	Certificate	Advanced Education in General Dentistry (Completion) Endodontics (Specialty) Orthodontics (Specialty) Prosthodontics (Specialty)	
Dispute Resolution (DIRS)	**M.D.R.** **Certificate**	* *	**Professional Studies**
Economics (ECON) *Business Administration*	**M.S.A.E.**	Business Economics (BUEC) Financial Economics (FIEC) International Economics (IECO) Marketing Research (MARE) Real Estate Economics (REEC)	**Graduate School of Management**
Educational Policy and Leadership (EDPL)	**M.A.**	Curriculum and Instruction (CUIN) Educational Policy and Foundations (EDPF) Literacy (LITR)	**Educational Policy and Leadership**
	M.Ed.	College Student Personnel Administration (STPA) Educational Administration (EDAD) Elementary Education (ELED) Secondary Education (SEED)	
	Certificate	Director of Instruction (DIIN) Elementary Education (ELED) Principal (PRIN) Reading Specialist (RESP) Reading Teacher (RETE) Secondary Education (SEED) Superintendent (SUPR)	
	Ph.D.	*	
Educational Psychology (EDPS) *Counselor Education and Counseling Psychology* **Note: Moratorium on admissions.**	**M.A.**	*	**Counselor Education and Counseling Psychology**
Electrical and Computer Engineering (EECE)	**M.S., Ph.D.**	*	**Electrical and Computer Engineering**
	Certificate	Digital Signal Processing (DISP) Electric Machines, Drives, and Controls (EMDC) Microwaves and Antennas (MIAN) Sensors and Smart Sensor Systems (SSSS)	
Engineering Management (ENMA)	**M.S.E.M.**	*	**College of Engineering / Graduate School of Management**
	Certificate	Engineering Innovation (ENIN) New Product and Process Development (NPPD)	
English (ENGL)	**M.A.** **Ph.D.**	British and American Literature (BRAM) American Literature (AMLI) British Literature (BRLI)	**English**

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PROGRAM (Programs found alphabetically throughout this bulletin unless noted, in italics, below.)	DEGREE	SPECIALIZATIONS	PROGRAM ADMINISTERED BY: (college/department/school)
Executive Master of Business Administration (EXBU) *Business Administration*	**M.B.A.**	Economics (ECON) Finance (FINA) Human Resources (HURE) International Business (INBU) Management Information Systems (MISY) Marketing (MARK) Operations and Supply Chain Management (OSCM) Sport Business (SPBU)	**Graduate School of Management** **Graduate School of Management / Law**
Foreign Languages and Literatures (FOLL)	**M.A.**	Spanish (SPAN)	**Foreign Languages and Literatures**
Healthcare Technologies Management (HCTM)	**M.S.**	*	**Biomedical Engineering / Graduate School of Management / Medical College of Wisconsin**
History (HIST)	**M.A.**	European History (EURO) United States History (USHI) Global Studies (GLST)	**History**
	Ph.D.	European History (EURO) United States History (USHI)	
Human Resources (HURE) *Business Administration*	**M.S.H.R.**	*	**Graduate School of Management**
Interdisciplinary Ph.D. (INPR)	**Ph.D.**	*	**Graduate School**
International Affairs (INAF) *Political Science*	**M.A.**	*	**Political Science**
Law Enforcement Leadership and Management (LELM)	**Certificate**	*	**Professional Studies**
Leadership Studies (LEDR)	**M.L.S.**	Criminal Justice Administration (CJAD) Dispute Resolution (DIRS) Engineering (ENGI) Health Care Administration (HECA) Non-profit Sector (NPSE) Public Service (PUBS) Sports Leadership (SPLE)	**Professional Studies**
	Certificate	*	
Mathematics, Statistics and Computer Science (MSCS)	**M.S.**	Mathematics for Secondary School Teachers (MSST)	**Mathematics, Statistics and Computer Science**
Mechanical Engineering (MEEN)	**M.S., Ph.D.**	Energy Systems (ENSY) Manufacturing Systems (MNSY) Mechanical Systems (MESY)	**Mechanical Engineering**
Nursing (NURS)	**M.S.N.**	Advanced Practice Nursing: Acute Care (ACCA) Adults (ADUL) Nurse-Midwifery (MIDW) Older Adults (GERO) Pediatrics Primary Care (PEDI) Pediatrics Acute Care (PEDA) Clinical Nurse Leader (CLNL) Health Care Systems Leadership (HCSL)	**Nursing**
	Post-master's Certificate	Acute Care Nurse Practitioner (ACNP) Adult Clinical Nurse Specialist (ADCNS) Adult Nurse Practitioner (ADNP) Gerontologic Clinical Nurse Specialist (GECNS) Gerontologic Nurse Practitioner (GENP) Health Care Systems Leadership (HCSL) Nurse-Midwifery (NUMI) Pediatrics Primary Care (PEDI) Pediatrics Acute Care (PEDA)	
	D.N.P.	Advanced Practice Nursing: Acute Care (ACCA) Adults (ADUL) Nurse-Midwifery (MIDW) Older Adults (GERO) Pediatrics Primary Care (PEDI) Pediatrics Acute Care (PEDA) Health Care Systems Leadership (HCSL)	
	Ph.D.	*	

*** No formal specialization offered. Some programs allow students to focus their courses or electives in a specific area of interest. Contact the program department for more information.**

PROGRAM (Programs found alphabetically throughout this bulletin unless noted, in italics, below.)	DEGREE	SPECIALIZATIONS	PROGRAM ADMINISTERED BY: (college/department/school)
Philosophy (PHIL)	**M.A.**	History of Philosophy (HIPH) Social and Applied Philosophy (SOAP)	**Philosophy**
	Ph.D.	Ancient Philosophy (ANPH) British Empiricism/Analytical Philosophy (BREM) Christian Philosophy (CHRI) Early Modern European Philosophy (MOPH) Ethics (ETHI) German Philosophy (GEPH) Medieval Philosophy (MEPH) Phenomenology-Existentialism (PHEN) Philosophy of Religion (PHRE)	
Physical Therapy (PHTH) *Marquette University Undergraduate Bulletin*	**D.P.T.**		**Health Sciences**
Physician Assistant Studies (PHAS) *Marquette University Undergraduate Bulletin*	**M.P.A.S.**		**Health Sciences**
Political Science (POSC)	**M.A.**	*	**Political Science**
Psychology	**(See Clinical Mental Health Counseling, Clinical Psychology, Counseling, Counseling Psychology)**		
Public Service (PUBS)	**M.A.P.S.**	Criminal Justice Administration (CJAD) Dispute Resolution (DIRS) Health Care Administration (HECA) Leadership Studies (LEDR) Non-profit Sector (NPSE)	**Professional Studies**
Religious Studies (REST) *Theology*	**Ph.D.**	Historical Theology (HITH) Judaism and Christianity in Antiquity (JUCA) Systematic Theology (SYTH) Theological Ethics (THET) Theology and Society (THSO)	**Theology**
Speech-Language Pathology (SPLA)	**M.S.** **Certificate**	* Bilingual English-Spanish (BIES)	**Speech Pathology and Audiology**
Theology (THEO)	**M.A.**	Historical Theology (HITH) Judaism and Christianity in Antiquity (JUCA) Systematic Theology (SYTH)	**Theology**
	M.A.C.D.	*	
Transfusion Medicine (TRME)	**M.S.T.M.**	Business Administration (BUAD) Education (EDUC) Science (SCIE)	**Graduate School**

Legend of Abbreviations:

M.A.	Master of Arts	M.S.A.	Master of Science in Accounting
M.A.C.D.	Master of Arts in Christian Doctrine	M.S.A.E.	Master of Science in Applied Economics
M.A.P.S.	Master of Arts in Public Service	M.S.E.M.	Master of Science in Engineering Management
M.B.A.	Master of Business Administration	M.S.H.R.	Master of Science in Human Resources
M.D.R.	Master in Dispute Resolution	M.S.N.	Master of Science in Nursing
M.Ed.	Master of Education	M.S.T.M.	Master of Science in Transfusion Medicine
M.E.	Master of Engineering	D.N.P.	Doctor of Nursing Practice
M.L.S.	Master in Leadership Studies	D.P.T.	Doctor of Physical Therapy
M.P.A.S.	Master of Physician Assistant Studies	Ph.D.	Doctor of Philosophy
M.S.	Master of Science		

Definitions

Certificate — An acknowledgement of a group of courses taken at the graduate level. Certificates are awarded in certain programs after completion of at least 12 credits. Students must have a bachelor's degree to be considered for admission.

Master's Degree — Degree conferred on students completing at least 30 credits. A thesis, professional project or essay may also be required. Students must have a bachelor's degree to be considered for admission.

Post-master's/Specialist Certificate — An acknowledgement of a group of classes taken at the graduate level. Post-master's/specialist certificates are awarded after the student has completed a specified number of credits, depending on the program. Students must have a master's degree to be considered for admission.

Doctoral Degree — The highest degree conferred by Marquette University. Credit requirements may vary by academic program. General guidelines can be found under Doctoral Degree Requirements, and program specific requirements can be found in the Graduate Programs section of this bulletin organized by academic discipline.

JOINT PROGRAMS OFFERED

Specializations for the joint degree programs are the same as the specializations listed in the DEGREES OFFERED section.

PROGRAM *(Program information located in italicized section)*	DEGREES	PROGRAM ADMINISTERED BY: (college/department/school)
Business Administration (BUAD) *Business Administration*	M.B.A. and J.D. ⁎	Graduate School of Management / Law
	M.B.A. and M.A. (International Affairs)	Graduate School of Management / Political Science
	M.B.A. and M.A. (Political Science)	Graduate School of Management / Political Science
	M.B.A. and M.S.N.	Graduate School of Management / Nursing
Communication (COMM) *Communication*	M.A. and M.A.	Communication / Political Science
Dispute Resolution (DIRS) *Dispute Resolution*	Certificate and J.D.	Professional Studies / Law
International Affairs (INAF) *Political Science*	M.A. and M.B.A.	Political Science / Graduate School of Management
	M.A. and J.D.	Political Science / Law
Nursing (NURS) *Nursing*	M.S.N. and M.B.A.	Nursing / Graduate School of Management
Philosophy (PHIL) *Philosophy*	M.A. and J.D.	Philosophy / Law
Political Science (POSC) *Political Science*	M.A. and M.A.	Political Science / Communication
	M.A. and M.B.A.	Political Science / Graduate School of Management
	M.A. and J.D.	Political Science / Law

⁎ Specializations offered: Sport Business in addition to the standard M.B.A. specializations.

BACHELOR'S-MASTER'S PROGRAMS OFFERED

PROGRAM *(Program information located in italicized section)*	DEGREES	PROGRAM ADMINISTERED BY: (college/department/school)
Accounting (ACCO) *Business Administration*	B.S. and M.S.A.	Graduate School of Management
Biomedical Engineering (BIEN) *Engineering*	B.S.B.E. and M.S.	Biomedical Engineering
Civil Engineering (CIEN) *Engineering*	B.S.C.E. and M.S.	Civil and Environmental Engineering
Economics (ECON)	B.A. and M.S.A.E.	Arts and Sciences
Economics	B.S. and M.S.A.E.	Graduate School of Management
Electrical and Computer Engineering (EECE) *Engineering*	B.S.E.E. and M.S.	Electrical and Computer Engineering
Human Resources (HURE) *Business Administration*	B.S. and M.S.H.R.	Graduate School of Management
International Affairs (INAF) *Political Science*	B.A. and M.A.	Political Science
Mechanical Engineering (MEEN) *Engineering*	B.S.M.E. and M.S.	Mechanical Engineering
Nursing for Non-Nursing Graduates (NURS) *Nursing*	M.S.N.	Nursing
Political Science (POSC) *Political Science*	B.A. and M.A.	Political Science
Speech-Language Pathology (SPLA) *Speech-Language Pathology*	B.S. and M.S.	Speech Pathology and Audiology

Legend of Abbreviations:

B.A.	Bachelor of Arts	M.A.	Master of Arts
B.S.	Bachelor of Science	M.B.A.	Master of Business Administration
B.S.B.E.	Bachelor of Science in Biomedical Engineering	M.S.	Master of Science
B.S.C.E.	Bachelor of Science in Civil Engineering	M.S.A.	Master of Science in Accounting
B.S.E.E.	Bachelor of Science in Electrical Engineering	M.S.A.E.	Master of Science in Applied Economics
B.S.M.E.	Bachelor of Science in Mechanical Engineering	M.S.H.R.	Master of Science in Human Resources
J.D.	Juris Doctor	M.S.N.	Master of Science in Nursing

Definitions

See DEGREES OFFERED section above for certificate and degree definitions.

POLICIES OF MARQUETTE UNIVERSITY

ACADEMIC HONESTY POLICY

PREAMBLE

Marquette University is committed to developing the whole person, spiritually, mentally, physically, socially, and ethically. As an institution of higher education, love of truth is at the center of the university's enterprise, and academic honesty, in all its forms, is an explicit value of the university. The development and practice of academic honesty and integrity, both inside and outside the classroom, are expectations for all members of the university community. In order to cultivate academic honesty in its students, instructors take every opportunity to help students appreciate both the process and the principles of academic integrity.

Academic honesty can be best understood by academic ethical standards guiding faculty in their work. That is to say, an individual's contributions, in terms of words and scholarly findings, belong to him or her alone. Furthermore, the integrity of that which one claims to be scholarly knowledge rests on the accurate demonstration of the assumptions and reasoning that produced it. These standards are used as the implicit basis for teaching and learning in the university.

In order for instructors to fairly assess the quality and quantity of a student's learning as determined by work that students represent as their own, a relationship of trust between instructor and student is essential. Because violations of academic integrity most often involve, but are not limited to, efforts to deceive instructors, they represent a breach of the trust relationship between instructor and student, and undermine the core values of the university.

RESPONSIBILITY FOR ACADEMIC HONESTY

This policy applies to all undergraduate programs and to students and faculty in programs under the auspices of the Graduate School. Graduate School generically refers to all graduate and professional schools and students, and terms such as associate vice provost or associate/assistant dean will refer to the appropriate official in the other colleges/schools. Graduate School students should appeal to the Graduate School while professional students should appeal to the appropriate person in their college or school, i.e., Graduate School of Management or College of Health Sciences. School of Dentistry and Law School students must follow the appeal processes put forth by their respective schools.

ACADEMIC HONESTY consists of truth telling and truthful representations in all academic contexts. All members of the academic community have a responsibility to ensure that academic honesty is maintained. In what follows the wording "chair" refers to either a department chair or an equivalent official, "associate dean" refers to either an associate dean or an equivalent official, or in the case of the Graduate School it will refer to the assistant vice provost for graduate programs, the word "college" refers to a college, school, or other academic unit, and the words "assigned college" refers to the degree granting college or school (i.e. for graduate students the assigned college is the Graduate School).

Faculty have primary responsibility for:

1. Upholding and enforcing university wide principles of academic honesty and integrity and informing students of these principles including any qualifications that may be operative in the classes they are teaching.
2. Minimizing opportunities for academic dishonesty in their courses.
3. Confronting students suspected of academic dishonesty in a way that respects student privacy.
4. Affording students accused of academic dishonesty the right to appeal any resulting disputes to disinterested parties for hearing and resolution.
5. Assigning an appropriate grade to a student who engages in academic dishonesty.
6. Reporting all instances of academic dishonesty to the associate dean of the college offering the course.
7. Protecting the anonymity of any student reporting an incident of academic dishonesty to the extent permitted by due process required for the accused and other legal requirements.

Students have responsibility for:

1. Refraining from cheating and plagiarism.
2. Refusing to aid or abet any form of academic dishonesty.

3. Notifying professors and/or their advisor about observed incidents of academic misconduct. The anonymity of a student reporting an incident of academic dishonesty will be protected to the extent permitted by law.

DEFINITIONS OF ACADEMIC DISHONESTY

ACADEMIC DISHONESTY applies equally to electronic media and print, and involves text, images, and ideas. It includes but is not limited to the following examples:

CHEATING

1. Copying from others during an examination.
2. Communicating exam answers with other students during an examination.
3. Offering another person's work as one's own.
4. Taking an examination for another student or having someone take an examination for oneself.
5. Sharing answers for a take home examination or assignment unless specifically authorized by the instructor.
6. Tampering with an examination after it has been corrected, and then returning it for more credit.
7. Using unauthorized materials during an examination.
8. Allowing others to do the research and writing of an assigned paper (including use of the services of a commercial term paper company).

DISHONEST CONDUCT

1. Stealing or attempting to steal an examination or answer key from the instructor.
2. Changing or attempting to change academic records without proper sanction.
3. Submitting substantial portions of the same work for credit in more than one course without consulting all instructors involved.
4. Intentionally disrupting the educational process in any manner.
5. Allowing another student to copy off one's own work during a test.

PLAGIARISM

Plagiarism is intellectual theft. It means use of the intellectual creations of another without proper attribution. Plagiarism may take two main forms, which are clearly related: 1. To steal or pass off as one's own the ideas or words, images, or other creative works of another and 2. To use a creative production without crediting the source, even if only minimal information is available to identify it for citation.

Credit must be given for every direct quotation, for paraphrasing or summarizing a work (in whole, or in part, in one's own words), and for information that is not common knowledge.

COLLUSION

Any student who knowingly or intentionally helps another student perform any of the above acts of cheating, dishonest conduct, or plagiarism is subject to discipline for academic dishonesty.

RESEARCH MISCONDUCT

Marquette University has a duty to ensure the integrity of research and will respond to any allegation of research misconduct in a thorough, competent, timely, objective, and fair manner. Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. The research misconduct policy applies to faculty, students, and others who are employed by or affiliated with Marquette University. Students who are accused of misconduct related to grant-funded research shall be governed by the procedures of the research misconduct policy, found at www.marquette.edu/orsp/PoliciesProcedures.shtml. Students who are accused of misconduct related to research that is not grant-funded and is a part of a student's academic program will be governed by the University Policy on Academic Honesty, found at www.marquette.edu/mucentral/registrar/policy_honesty.shtml. Any uncertainty related to which policy will govern a given situations will be decided by the research integrity officer.

CONSEQUENCES OF ACADEMIC DISHONESTY

Regardless of how alleged acts of academic dishonesty are brought to light, faculty and instructors retain the responsibility and the authority to investigate all allegations, although, as outlined below, university administrators may lead these investigations. Because the consequences for academic dishonesty can be severe, the decision to penalize a student for such

infractions must be the result of a thorough review. The procedures to be used for adjudicating suspected acts of academic dishonesty are determined by the nature of the misconduct and the seriousness of the offense.

PROCEDURES FOR INCIDENTS OF ACADEMIC DISHONESTY

Students found committing acts of academic dishonesty will be subject to the Marquette University procedures for incidents of academic dishonesty. In what follows the wording "chair" refers to either a department chair or an equivalent official, "associate dean" refers to either an associate dean or an equivalent official, or in the case of the Graduate School it shall refer to the assistant vice provost, the word "college" refers to a college, school, or other academic unit, and the words "assigned college" refers to the college granting the degree (i.e. for graduate students the assigned college is the Graduate School).

FIRST OFFENSES

Many, perhaps most, incidents of academic dishonesty involve accusations which are based on clear evidence and which are not contested by the accused student. In such cases, if the infraction is relatively minor and there is no indication that the accused student has previously been involved in such incidents, it is most appropriate that the matter be resolved between the student, the faculty member, and the chair of the department offering the course.

When a faculty member has evidence of a student's academic dishonesty, the faculty member must initiate communication with the student within 15 calendar days of discovering evidence of academic dishonesty. The faculty member must then present the evidence to the student in a private meeting, always with a facilitator present (e.g., department chair or designee). This meeting should take place within 15 calendar days of the student being notified of the allegation or as soon thereafter as possible. If, after this meeting, it is decided that the student did participate in academic dishonesty the faculty member may follow up with one or more of the following actions:

1. Issue a reprimand to the student
2. Require repetition of the questionable work or examination
3. Reduce the grade on the questionable work or examination
   (faculty can reduce the grade down to and including an F or zero)
4. Recommend that the student be administratively withdrawn from the course
5. Recommend that the student be given a final grade of F for the course

The faculty must maintain careful documentation of the incident.

It is essential that any disciplinary action be reported in writing to the student in a letter from the faculty member. The faculty member is strongly encouraged to consult with his or her associate dean for questions about appropriate discipline and the form and content of the letter sent to the student. Reference to the "Marquette University Policies on Academic Honesty" should be included in the letter. The letter to the student must be sent out within 15 calendar days of the meeting and may be sent by e-mail with settings for "notify sender of receipt and of opening". At the same time the letter is sent to the student, a copy must be sent to the department chair and associate dean of the college offering the course. In turn, within 5 working days, the associate dean of the college offering the course will communicate in writing details of the incident to the associate dean of the student's assigned college, to ensure that penalties assessed are commensurate with the offense and that repeated infractions can be detected and dealt with appropriately. The associate dean of each college is responsible for maintaining confidential records concerning academic dishonesty of students enrolled in that college. All letters reporting faculty imposed academic penalties for academic misconduct will be included in these files.

In most incidents the disciplinary response and procedure for incidents of academic dishonesty concludes at this step.

STUDENT'S APPEAL

Students have the right of appeal of the allegations of academic dishonesty and the disciplinary actions of the instructor if the student believes the alleged incident of academic dishonesty and/or resultant academic discipline to be unfounded, biased, or capricious. In this case the student should submit a formal written appeal stating the grounds for appeal and available documentation to the associate dean of the college offering the course within 15 calendar days of the notification of the instructor's decision. Upon receipt of the appeal the associate dean may convene a review of the student's actions by a college panel. The associate dean and/or panel reviews the details of the student's actions and may ask to speak to the student, the instructor, the chair of the department offering the course, associate deans, and others. The associate

dean of the college offering the course will determine the appropriate disciplinary action and, within 15 calendar days of receipt of the appeal, will provide a written statement to all parties concerned.

DISCIPLINARY RECOMMENDATIONS BY FACULTY OF ADW OR F

If the faculty member recommends that the student be administratively withdrawn from the course and assigned a final grade of ADW or that a final grade of F be assigned, the associate dean of the student's assigned college (the assistant vice provost for graduate programs) will review the details of the incident and make the final decision within 5 working days of receipt of the request, and provide a written statement to all parties concerned.

Students have the right to appeal the decision of the associate dean to issue grades of ADW or F to the dean of the student's assigned college (the dean of the Graduate School in the case of graduate students). This appeal must be made within 15 calendar days of the notification of the grade change. The final decision to uphold or modify the action of the associate dean will be provided to the student and associate dean within 15 calendar days of receipt of the appeal. The decision of the dean is final.

REPEAT OR MORE SERIOUS OFFENSES

When the associate dean (in the case of graduate students to the assistant vice provost for graduate programs) of the student's assigned college is aware of or determines that the student has engaged in multiple incidents of academic dishonesty or the incident in question is of a more serious nature he/she will convene a review of the student's actions by a college panel within 15 calendar days of learning of the most recent incident. In the case of graduate students, such a panel will be composed of a sub-committee of the University Board of Graduate Studies. More serious incidents may involve repeat offenses, cause injury or harm to others outside the academic community, or other actions deemed to warrant additional consideration. These incidents of academic dishonesty call for more serious disciplinary action up to and including campus wide sanctions of suspension or expulsion. Where incidents involve possible violations of the University Code of Conduct, in addition to the alleged academic dishonesty, consultation with the Office of Student Development is recommended.

Each college will have guidelines for the composition and selection of the college panel to assure a review by experienced faculty and/or administrators not directly involved in the incident(s). The panel reviews all aspects of the student's record, the details of the student's behavior and may ask the student, instructor(s), and others to speak with the panel. Within 15 calendar days of being given the charge, the panel will forward its recommendations for appropriate and just disciplinary action to the associate dean (in the case of graduate students to the assistant vice provost for graduate programs) of the student's assigned college with a copy to the dean. All disciplinary decisions that involve a campus wide sanction, such as suspension or expulsion, will be made by the dean of the student's assigned college with all other actions being taken by the associate dean.

Within 15 calendar days of receiving the panel's recommendation, the associate dean or dean, as appropriate, makes the decision known to the student via written documentation that includes a description of the academic dishonesty, the process the decision went through, the resulting decision and appeal procedures. A copy of the decision is placed in the student's academic file with a copy provided to the Office of the Provost.

Students have the right of appeal of the allegation of academic dishonesty and the disciplinary actions of the associate dean or the dean of the student's assigned college. Such appeals must be made within 15 calendar days of receipt of the letter. Actions taken by the associate dean should be appealed to the dean of the student's assigned college. The final decision to uphold or modify the action of the associate dean will be provided to the student and associate dean within 15 calendar days of receipt of the appeal. The decision of the dean is final.

For actions of the dean involving campus-wide sanctions, such as suspension or expulsion, students have the right of appeal to the Office of the Provost. A formal written appeal stating the grounds for appeal and available documentation is to be submitted to the Office of the Provost within 15 calendar days of the notification of the decision of the dean. The provost or designee will conduct a review of the appeal materials, may seek additional information, and may consult with the student, faculty, chair(s), associate dean(s), deans, and others. The final decision to uphold or modify the action of the dean will be provided to the student and to the dean and associate dean of the student's assigned college within 15 calendar days of receipt of the appeal. A copy of the provost's decision will be placed in the student academic file. The decision of the provost is final.

OTHER CONSIDERATIONS

The associate dean may exclude students who have on file recorded acts of academic dishonesty, as defined by this policy, from consideration for academic honors at graduation. Exclusion from consideration for honors is not for the purposes of this policy to be considered a campus wide sanction.

MAINTENANCE OF DISCIPLINARY RECORDS

Records relating to academic dishonesty will be maintained by the associate dean of the student's assigned college to promote consistency of penalties for academic dishonesty and to ensure appropriate action against repeat offenders. In order to ensure that minor and nonrecurring infractions do not negatively impact a student's career beyond Marquette University, a student may petition to the associate dean of his or her academic college to have relevant academic disciplinary records expunged after the student graduates or leaves the university. The associate dean has sole authority to consider and to grant or deny such petitions. The university will release a student's disciplinary records to potential employers, governmental agencies, other educational institutions, or other organizations or individuals only if authorized to do so by the student in question or if compelled by law.

PROFESSIONAL ETHICS AND STANDARDS

These procedures do not supersede or take the place of procedures established for students who violate professional standards applicable to a particular program or college. Separate procedures and/or outcomes may be invoked when students are found in violation of professional standards or codes of ethics related to special programs, licensure, or certification as determined by the program's external or internal professional requirements. It is the student's responsibility to know and follow these standards/codes of ethics, which are part of the student's academic program. These special expectations and procedures, including the appeals process, will be provided to the student upon enrollment in the program, and are available in published form in the administrative offices overseeing these programs.

This policy evolved from a collaborative effort that included members of the Marquette University Committee on Academic Procedures, Marquette University Board of Undergraduate Studies, and the Marquette University Board of Graduate Studies. These groups would like to express their gratitude to the University of California–Irvine whose UCI Academic Senate Policy on Academic Honesty provided the framework for the resulting document.

ASSISTANTSHIPS, FELLOWSHIPS AND SCHOLARSHIPS

All graduate students that receive merit-based financial aid, which include graduate assistantships, fellowships, and scholarships, must be full-time students in the term in which they receive the aid. Full-time status can be achieved by taking six credits of course work plus Graduate Assistant Teaching, Graduate Assistant Research or Graduate Fellowship, depending on the award received. These zero-credit courses will carry the status of full-time when combined with six credits of course work.

The following course numbers will be used in conjunction with the department acronym:

Graduate Fellowship (full-time, FT) = 9974

Graduate Assistant Teaching (full-time, FT) = 9975

Graduate Assistant Research (full-time, FT) = 9976

Students may use their scholarships to pay for Graduate Assistant Teaching, Graduate Assistant Research or Graduate Fellowship course fees. It is not required that all TAs and RAs be registered for one of these continuation courses. If a student already meets full-time status based on course work, then these continuation courses need not be used to obtain full-time status.

REGISTRATION PROCEDURES

Teaching and research assistants, and recipients of scholarships or fellowships, must register for the appropriate course, which will be graded on an SNC/UNC basis. Registration will require the consent of the student's adviser and department, which must be secured prior to registering.

Registration requires the following procedures:

1. The student and his/her adviser meet and complete the registration form.
2. The student will be given a permission number to be used during the registration process.
3. The student registers via CheckMarq for the appropriate course, using the permission number received.
4. The completed and approved form shall be delivered to the Graduate School or the Graduate School of Management, as applicable.

BACKGROUND CHECKS, DRUG TESTING

Some degrees, majors and/or courses may require a student to submit to a criminal background check and/or drug testing. The results of those checks and/or tests may affect the student's eligibility to continue in that degree, major and/or course.

WORKING WITH MINORS

Effective July 1, 2009, University Policy and Procedure 4-26 was established to provide a safe environment to those under the age of 18 years old participating in programs and activities at Marquette University. Unless an exception applies, programs that involve adults working with minors in university-sponsored programs and other programs held on campus must register with the Department of Risk Management. In addition, adults, before directly participating with minors in such programs and activities, must complete a criminal history background check; observe specific behavioral requirements; report all allegations of inappropriate conduct; and participate in mandatory training on protecting minors and on the behavioral and reporting requirements of the policy. The Department of Risk Management Web page at www.marquette.edu/riskunit/riskmanagement/working_with_minors.shtml provides additional information and all required forms.

CONDUCT

PROFESSIONAL INTEGRITY

To function properly and maintain high standards, academic and professional disciplines expect members to adhere to standards of conduct and professionalism. Marquette expects its graduate students, from the beginning of their work at Marquette, to demonstrate the utmost personal integrity and the highest standards of professionalism, including adherence to any commonly recognized codes of conduct or professional standards in the graduate student's discipline. In dealing with the public or campus community, in clinics, practica, internships, classrooms or elsewhere, graduate students must adhere to these standards. Violations of these standards may be grounds for dismissal or other penalties.

PROFESSIONAL PERFORMANCE

All students in professional, laboratory, or clinical settings must maintain fully professional behavior at all times. If, in the judgment of the academic unit, a student is not living up to the non-academic standards, and that deficiency is a first offense or an offense deemed to be less serious in nature, a warning letter may be issued by the department to the student. If, however, the unsatisfactory behavior is a repeat offense or is more serious in nature, a recommendation will be made to the dean of the Graduate School or the Graduate School of Management, as applicable, that the student be dropped from the graduate program.

STUDENT CONDUCT CODE AND PROCEDURES

Graduate students are responsible for complying with the regulations and/or procedures of the Graduate School or the Graduate School of Management, as applicable, as well as those set forth in the *At Marquette* student handbook. Violations of regulations found in the student handbook will be administered by the Office of Student Development. Copies of *At Marquette* are available at the Office of Student Development or online at www.marquette.edu/osd/policies/atmarquette.html. If there is a conflict between the two applicable regulations or procedures, the Graduate School's or the Graduate School of Management's, as applicable, will govern. If there are multiple components to the case, they may be separated and reviewed independently by the appropriate authorities.

CONFIDENTIALITY OF PROPRIETARY INFORMATION

The university recognizes that the primary purpose of research and scholarship is to train future scholars and disseminate new knowledge for the benefit of humankind. However, commercially valuable inventions and discoveries also may result. Graduate students, during the course of their studies and work at the university, may receive access to confidential or proprietary information from the university, its faculty and employees, and/or private companies. A student, both while a student and thereafter, is expected to respect and maintain the confidentiality of such information. In certain unusual cases, a student may be asked to sign an additional confidentiality agreement. Unauthorized use or dissemination of another's confidential

or proprietary information is subject to appropriate legal recourse and/or academic discipline, including termination from the program.

INTELLECTUAL PROPERTY

Students will acquaint themselves with the university's Intellectual Property Policy, found at www.marquette.edu/orsp/documents/IntellectualPropertyPolicy.pdf. Marquette University students are subject to the policy when, working for pay or for academic credit, they participate in faculty research programs.

FAMILY EDUCATION RIGHTS AND PRIVACY ACT (FERPA)

In compliance with the Family Educational Rights and Privacy Act, Marquette University notifies its students each term of their rights to inspect, amend and prevent disclosure of their education records. In addition, Marquette's policy regarding education records is printed in the *At Marquette* student handbook and copies may be obtained from the Office of Student Development in the Alumni Memorial Union, 329, or online on the "Academic Policy" page on the Web site of Marquette Central (www.marquette.edu/mucentral).

GRADUATION

All students must apply for graduation by the deadline specified in the Academic Calendar. Application forms for Graduate School students are available online at www.marquette.edu/grad/forms_index.shtml and at www.busadm.mu.edu/graduate/GraduateForms.shtml for Graduate School of Management students. Graduation deadlines are scheduled well in advance of the date of Commencement to allow time for student academic audits and for printing diplomas, graduation invitations, and program booklets.

The awarding of a degree or certificate is contingent upon the student's successful completion of all program requirements prior to the date of graduation. A cumulative grade point average of 3.000 or above is also required to graduate. Any exceptions to the total credits and minimum grade point average requirements for any degree and/or certificate must be approved by the provost. **If a student fails to graduate at the time originally anticipated, he or she must reapply online for the next graduation before the appropriate deadline stated in the Academic Calendar.**

Students who have completed all of their degree or certificate requirements prior to a specific graduation date, but who have missed the graduation application deadline, may request a letter from the Graduate School or the Graduate School of Management, as applicable, certifying the completion of their program. The student must still apply for graduation and the diploma will reflect the next graduation date.

POLICY GOVERNING GRADUATION DATES

Marquette University offers graduation on a weekly basis during the summer months and on a monthly basis during the academic year. However, each college may develop a policy that will guide the implementation of this new process for students in that college. This statement addresses the policy as implemented by the Graduate School.

It is the policy of the Graduate School that only specific additional graduation dates will be implemented, and then only for students in specific academic disciplines. The additional graduation dates will be used to accommodate students who will be or have earned a professional certificate issued by an agency other than Marquette University. This will include Wisconsin teaching licensure, the licensure in clinical psychology, and the specialty certificates in orthodontics, endodontics, and prosthodontics issued by the American Dental Association.

All graduate students other than those listed in the paragraph above will be restricted to graduating in May, August, or December of each year according to the Academic Calendar. In addition to these three regular graduations, the following additional graduation cycles will be implemented for the groups of students specified:

- Last working day of June – This will be utilized specifically for students in educational policy and leadership who are completing their student teaching, where the student teaching requirement is the final requirement necessary for graduation. This applies to master's degree and certificate students. Additionally, graduate dental students earning their master's degree and specialty certificate in orthodontics, endodontics, or prosthodontics may be eligible for this graduation date on an exception basis if they fail to meet the May graduation deadline for approval of the thesis.
  - In the case of both education and graduate dental students, applications for June graduation must be submitted by the deadline for May graduation.

- Graduate dental students must submit an approved thesis and all other graduation requirements no later than June 1.

- Last working day of September – This option will be available for clinical psychology doctoral students who complete their pre-doctoral internship and/or their dissertation defense and dissertation submission after the deadlines established for the August graduation, but before the September graduation deadline. Students shall be responsible for applying for September graduation, and for completing all graduation requirements, no later than the last working day of August.
- Last working day of October - This option will be available for clinical psychology doctoral students who complete their pre-doctoral internship and/or their dissertation defense and dissertation submission after the deadlines established for the September graduation, but before the October graduation deadline. Students shall be responsible for applying for October graduation, and for completing all graduation requirements, no later than the last working day of September.
- Last working day of January – This option will be available for clinical psychology doctoral students who complete their pre-doctoral internship and/or their dissertation defense and dissertation submission after the deadlines established for the December graduation, but before the January graduation deadline. In addition, this deadline will be available for students in educational policy and leadership who are completing their student teaching, where the student teaching requirement is the final requirement necessary for graduation. This will apply to master's degree and certificate students.
  - Students in clinical psychology shall be responsible for applying for January graduation and for completing all graduation requirements no later than the last working day of December.
  - Students in educational policy and leadership shall be responsible for applying for January graduation no later than the last working day of December.
- Last working day of February - This option will be available for clinical psychology doctoral students who complete their pre-doctoral internship and/or their dissertation defense and dissertation submission after the deadlines established for the January graduation, but before the February graduation deadline. Students shall be responsible for applying for February graduation, and for completing all graduation requirements, no later than the last working day of January.

Students who miss the deadlines for October or February graduation must wait until the following December or May to graduate, and in such cases will be responsible for meeting the established deadlines for those graduation cycles.

CEREMONY

Commencement at Marquette is a symbolic ceremony provided for students, faculty and families in celebration of our students' accomplishments. Following is the policy on when a student may participate in the spring or winter Commencement.

1. Students may participate in only one university Commencement per degree, and their names will only be published in the Commencement program in which they participated.
2. Spring Commencement:
   a. Students who are in good academic standing, have met the appropriate graduation application deadline and will complete their degree requirements, including the official recording of any transfer work, by the end of the spring term will participate in spring Commencement.
   b. Master's students, who are in good academic standing, have met the appropriate graduation application deadline and will complete their degree requirements, including the official recording of any transfer work, by the end of the summer term **and** are preregistered for those final requirements may participate in spring Commencement. This paragraph does not apply to doctoral candidates since they are not eligible to participate in Commencement until they have completed all degree requirements.
3. Winter Commencement:
   a. Students who are in good academic standing, have met the appropriate graduation application deadline and will complete their degree requirements, including the official recording of any transfer work by the end of the fall term will participate in winter Commencement.
   b. Students who completed their degree requirements in August and did not participate in spring Commencement will participate in winter Commencement.

4. Ph.D. Candidates:
   To participate in spring or winter Commencement, doctoral candidates must have met the appropriate graduation application deadline, successfully defended their dissertation, received approval by their dissertation committee for any required revisions, submitted their dissertation to the Graduate School, and received approval of the dissertation format by the Graduate School before the published Academic Calendar deadline for the respective Commencement.
5. Students who participate in Commencement without completion of their degree requirements will have their names published in the Commencement program with a notation indicating the expected term of completion; however, these students will not have any graduation honors noted. This paragraph does not apply to doctoral candidates since they are not eligible to participate in Commencement until they have completed all degree requirements.
6. Degree conferral is certified by the official Marquette transcript noting the degree completion. Receipt of a diploma or the participation in Commencement does not constitute certification of degree conferral.
7. Any exceptions to this policy must be approved by the provost.

DIPLOMAS

Diplomas are typically distributed at the May Commencement ceremonies. Any special arrangements for the mailing of May diplomas, etc., must be made directly with the Office of the Registrar. August and December diplomas are available for pick up or can be requested by mail from the Office of the Registrar. The Office of the President sends announcements to the names indicated on the *Graduation Application* each graduating student submits online to the Graduate School or the Graduate School of Management, as applicable. However, there is no limit to the number of family members and friends who may attend the university-wide Commencement exercises; tickets are not needed. Department Commencement exercises, if occurring, may require tickets. For further information contact University Special Events at (414) 288-7431 or visit www.marquette.edu/graduation/index.shtml.

IMMUNIZATION AND TUBERCULOSIS SCREENING REQUIREMENTS

All newly admitted and readmitted undergraduate, graduate, and professional students are required to provide proof of certain immunizations and complete a TB Screening questionnaire for tuberculosis. Prior to arrival on campus all new and readmitted students will provide to the Student Health Service proof of immunization and/or prior disease for Measles, Mumps, Rubella (MMR), Varicella (chicken pox) and Tetanus/Diphtheria. Proof is submitted via the Immunization History Form. Students are also required to complete the paper-and-pencil TB screening questionnaire for risk of tuberculosis infection. Both the Immunization History Form and the TB Screening questionnaire are available on the Student Health Service Web site at www.marquette.edu/shs. Completed forms are submitted to the Student Health Service where all information will be retained in confidence.

Failure to submit the required immunization documentation and TB screening questionnaire within 30 days of the start of the student's first term or the readmitted term at Marquette will result in the placement of a registration "hold" on future registrations. The hold will be removed once the immunization and screening requirements have been met.

Health Sciences, Nursing, and Dental students may be required by their departments or colleges to receive additional immunizations. Contact your department or college for specific requirements.

ACADEMIC FACILITIES AND RESOURCES

LIBRARIES OVERVIEW

The University's libraries support the teaching, research, and service mission of Marquette University by providing access to recorded knowledge through collections, services, cooperative programs, and connections to worldwide resources. The libraries combine state-of-the-art technologies with a repository of information in an atmosphere of service and learning. A full description of resources, hours, news, and services is found at the Libraries' Web site, www.marquette.edu/library/.

Collections of more than 1.7 million volumes and 3,700 print subscriptions are housed in the John P. Raynor, S.J., Library and the adjoining Memorial Library; the Law Library is separately described below. The libraries' shared online catalog, MARQCAT, includes all book and periodical holdings, locations, and circulation status.

RAYNOR MEMORIAL LIBRARIES

The new (2003) Raynor Library holds a commanding position at the physical and intellectual center of the campus. Raynor Library, seating 1,100, is designed around the needs of its users, preserving the university's extensive traditional collections, while expanding its capacity for incorporating digital technology into access and delivery of information. The library offers over 300 online databases, thousands of books in digital format, and an ever-growing (over 26,000 titles) collection of full-text online newspapers, journals, and magazines. The primary service point in Raynor is the two-level Information Commons (IC), with over 240 networked PCs and Macs, multimedia hardware and software, and comfortable small group study spaces. The Information Desk is open 104 hours weekly and, in addition, offers research consultations by appointment, and phone, IM, e-mail and 24/7 "chat" assistance through its AskUs! services.

Raynor's first level is open 24/7 when classes are in session, and the second level and bridge are open until 2 a.m. Sunday through Thursday, offering access to workstations and comfortable, safe late-night study space. Library hours during the summer, intercessions, and holidays are posted and updated regularly on the 24-hour recorded message at (414) 288-1530.

Additional features of Raynor Library include: reference collections, circulating laptops with wireless connectivity, the Class Reserves and Media Services Desk, Browsing and Spirituality collections, and the Funding Information Center. A conference center accommodating large groups and video conferencing, the Writing Center, and the Center for Teaching and Learning are also located in the facility. The second-level bridge entrance to Memorial Library features a 4,800 square foot café with casual seating, popular reading materials, and wired and wireless network connections.

Memorial Library, renovated top-to-bottom in 2004 and entered via the 2nd level bridge, houses the majority of the book and journal collections. The library is open 104 hours weekly and offers a variety of seating choices for over 1,050 readers. An open stack arrangement presents over six linear miles of compact shelving for bound journals on the lower level, plus book shelving on five floors. The facilities in this library include a circulation desk, a cluster of PCs, and assigned research carrels for faculty and graduate students.

Most library services and online research databases are available to students 24/7 from both on- and off-campus locations. Class reserve readings are digitized for online access whenever possible. Interlibrary Loan provides both books and journal articles from other libraries on request and a variety of other cooperative programs assure library privileges for Marquette students at other libraries in Southeastern Wisconsin. The Milwaukee County Federated Library System, including the Central Library just four blocks from campus, also lends to Marquette students. Above all, service-oriented staff members are committed to guiding and teaching users throughout the research process.

SPECIAL COLLECTIONS AND ARCHIVES

Raynor Library also houses the Department of Special Collections and Archives and its research/exhibit area on the third floor. Its archival and manuscript collections and over 7,000 rare books include the archives of Marquette University; the papers of faculty, students, staff, and alumni; and major collections relating to Christianity among Native Americans and 20th-century Catholic social action. These include research collections for the following individuals and organizations: the Bureau of Catholic Indian Missions, Dorothy Day and the Catholic Worker movement, the National Catholic Conference for Interracial Justice, and the National

Catholic Rural Life Conference. J.R.R. Tolkien's original manuscripts form a unique and notable research collection.

For more information on Raynor Memorial Libraries:
- Libraries' Web site: www.marquette.edu/library/
- Map showing campus libraries: www.marquette.edu/contact/CampusMap.pdf
- AskUs! Phone, e-mail, IM, or text information services: www.marquette.edu/library/research/askus.shtml
- Hours: www.marquette.edu/library/about/hours.shtml or 24-hour recorded message (414) 288-1530

LAW LIBRARY

The primary mission of the Marquette University Law Library is to support, through its information and service resources, the curricular, research, and service activities of the Marquette University Law School faculty and students.

The Law Library is located in the Law School in Sensenbrenner Hall. The collection is comprised of 362,586 volumes representing 199,066 print volumes and 3,200 electronic and print subscriptions. Wireless connectivity is available throughout Sensenbrenner Hall.

The Law Library maintains a comprehensive electronic and print collection of primary legal materials from all jurisdictions in the United States as well as a growing collection of international and comparative legal materials. In addition, the Law Library subscribes to BNA, the online CIS Serial Set, Hein Online, Lexis-Nexis, Loislaw, Westlaw and Wisconsin CLE materials, and is a depository of federal government information resources.

HAGGERTY MUSEUM OF ART

Opened in 1984, the Haggerty Museum of Art serves as a laboratory for learning focused on the visual arts by collecting, exhibiting and interpreting works of art in the context of Marquette University and Milwaukee. The museum's exhibitions and educational programs are designed to contribute to transformational lifelong learning and enjoyment of the arts.

The Haggerty features approximately eight to nine exhibitions each year. Representing the diversity of work in the permanent collection of over 4,500 objects, the museum has offered exhibitions celebrating the contributions of the Italian Renaissance "Petite Masters", American self-taught artists, works addressing social change issues, modern American printmaking and photography, and contemporary art by regional, national and international artists.

The Haggerty seeks to enhance the undergraduate educational experience by engaging students in various disciplines to think about the world and their subject matter through the lenses of the visual arts. The museum also works collaboratively with elementary and middle school teachers, local artists, and College of Education faculty and students to design programs that engage children and youth in educational activities. Additional educational opportunities for the campus and community include free tours, lectures, workshops and performances.

HARTMAN LITERACY AND LEARNING CENTER

The Hartman Literacy and Learning Center is a facility within the College of Education which supports undergraduate and graduate literacy-related programs. The center library houses a children's literature collection which is used by College of Education students as well as children and families participating in the Marquette University Family Literacy Project, a collaboration between the university and neighborhood elementary schools. Students enrolled in EDUC 4964 (Practicum in Reading) participate in the Family Literacy Project by tutoring small groups of children in reading and writing after school. The Hartman Literacy and Learning Center provides faculty and staff to support and conduct research regarding the project.

INSTRUCTIONAL MEDIA CENTER

The Kenneth Shuler Instructional Media Center (IMC) provides a wide range of multimedia creation and presentation services for the Marquette University community. The IMC's primary obligation is to support and enhance Marquette's classroom instruction through technology. The IMC is also responsible for audio-visual equipment distribution and technical support in presentation classrooms throughout the campus. In addition, the IMC produces media that augment the university's public communication goals. These efforts include the creation of photography, audio, videos, and multimedia for informational, development and student recruiting purposes.

The facilities of the IMC are state-of-the-art and an important component of the J. William and Mary Diederich College of Communications' broadcasting curriculum. Our facilities include two digital television studios, eight video editing suites, three audio studios, and computer graphics platforms. These advanced facilities are used as classrooms and laboratories by students pursuing a degree in Broadcast and Electronic Communication. Students also have access to these facilities as they participate in MUTV and/or MUR the student operated campus television and radio stations.

RESEARCH CENTERS AND INSTITUTES

In order to foster and enhance research and study at Marquette University, a number of units on campus have established thematic research centers and institutes. These centers and institutes offer the opportunity for active collaboration and research in a variety of categorical areas. Examples include the Center for Mass Media Research, the Center for Materials Science and Technology, the Institute for End of Life Care Management, the Institute for Urban Environmental Risk Management, the Integrative Neuroscience Research Center, the Les Aspin Center for Government, the National Sports Law Institute, the Center for Peacemaking, the Transportation Research Center, and the Center for Water Quality. The Office of the Provost maintains a list of currently active centers and institutes.

The centers generally are designed to bring an interdisciplinary focus to the study of complex problems and involve the participation of several faculty members. Opportunities are available for student participation in the programs of several of the centers and institutes.

PERSONAL RESOURCES AND FACILITIES

CAMPUS SAFETY

As the Marquette community is located in downtown Milwaukee, students need to be aware of the realities of city living. Recognizing this, the university strives to educate students about personal safety and crime prevention through a wide variety of safety programs and services.

Marquette maintains its own Department of Public Safety as a security and safety service to the university community. The department is located on the first floor of the 16th Street Parking Structure, 749 N. 16th St. (between Wisconsin Avenue and Wells Street). This location houses Public Safety Administration, Officer Operations, Communications Center, Preventive Services, and Student Safety Programs. Public Safety operates 24 hours a day, every day. Services can be obtained by calling (414) 288-6800. In cases of emergency, students and employees should contact Public Safety's emergency line by dialing 8-1911 from any campus extension or (414) 288-1911 from any off-campus phone.

Public Safety officers monitor on- and off-campus areas utilizing squad, foot and bicycle patrols. Public Safety officers are trained to respond to all calls for assistance, including crimes in progress and medical emergencies. University Service officers are responsible for monitoring campus buildings and property. The officers conduct walking patrols, provide authorized after-hours access to buildings, assist public safety officers and are available to provide information and assistance to students, staff and visitors. Security within the university's residence facilities is provided by Safety Services officers, who are on duty from 11:30 p.m. to 7:30 a.m., daily.

The department maintains an outdoor telephone system, including more than 200 Blue Light Phones. Blue Light Phones are located on campus pedestrian walkways, mall areas and within or near all of the university's parking lots. Blue Light Phones are located at Valley Fields as well as in the near off-campus residential area. Blue Light Phones provide a direct link to Public Safety's Communication Center. Upon activation of a Blue Light Phone, the caller's location is immediately known to the communications officer, who will provide the appropriate assistance.

A wide variety of crime prevention and safety awareness programs are made available to groups that are interested in promoting safety. Popular topics include self defense, personal safety, sexual assault prevention and alcohol awareness. Numerous brochures, the *Awareness* newsletter and crime statistics are readily available to provide information.

Any member of the Marquette community who becomes involved in a crisis situation can receive the benefits of the Victim/Witness Services program. The program provides resources for those in need of counseling or support services in addition to providing escorts to and from all necessary court-related appearances.

Public Safety complies with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act through the publication of the *Safety Resource Guide*, which includes campus crime statistics and crime prevention strategies. Copies of the *Safety Resource Guide* are available from Public Safety or by calling (414) 288-7320 or can be viewed online at www.marquette.edu/dps.

CHECKMARQ/SNAPSHOT

Marquette students obtain up-to-the moment information, monitor their academic record, view courses, register and update their address/phone numbers online by using the CheckMarq system via the Internet. Students can access CheckMarq from any computer with Internet access. CheckMarq can be found at http://checkmarq.mu.edu. CheckMarq requires both a user name and password. Information Technology Services assigns user names and passwords to all new students for the duration of their studies at Marquette.

Snapshot is an online Schedule of Classes students access to determine what courses to take each term. Snapshot is located at: www.marquette.edu/mucentral/registrar/snapshot.

DISABILITY SERVICES

Marquette University strives to integrate qualified students with disabilities as fully as possible into all aspects of university life. The Office of Disability Services, located within Student Educational Services, has been designated to coordinate this process in accordance with the university's compliance responsibilities under the law. Accommodations determinations for all students with identified and documented disabilities will be made on a case-by-case basis. Examples of possible accommodations or services provided to students with disabilities include: alternative texts, interpreting, lecture notes, testing arrangements informal counseling, advocacy training, etc.

More detailed information about accessibility for all students at Marquette can be found on our Web site: www.marquette.edu/oses/disabilityservices. The Office of Disability Services is located in Marquette Hall, 05; P.O. Box 1881; Milwaukee, WI, 53201-1881; P (414) 288-1645; F (414) 288-5799.

E-MAIL POLICY

Marquette University utilizes e-mail as one of the official means of communication with students to keep them informed of important information such as financial aid and billing data; college deadlines, events and updates; and important campus news. Each student is issued an official eMarq e-mail account for use while he or she is enrolled.

E-mail is an appropriate and preferred method for official communication by Marquette with students unless otherwise prohibited by law. The university has the right to send official communication to students by e-mail with the assumption that students will receive, read and, if necessary, act in a timely manner based upon these e-mails.

GRADUATE STUDENT ORGANIZATION

The Graduate Student Organization (GSO) serves as a channel for graduate students to voice concerns, resolve difficulties, and provide feedback on issues that directly affect graduate student life at Marquette University.

The GSO will accomplish this goal by:

- Actively representing graduate students to the university
- Advocating changes deemed necessary by graduate students
- Fostering inter-departmental cooperation and exchange
- Encouraging unity among the graduate students as a whole
- Improving the academic environment for graduate students through sponsored events
- Providing social events for graduate students
- Working with University Ministry to provide spiritual support for graduate students who seek it

All part-time and full-time graduate or professional students enrolled at Marquette University are automatic GSO members, and membership is free.

For a listing of events and meeting notices, past meeting minutes, the *GSO Constitution*, and the *Graduate Student Rights and Responsibilities* document, go to: www.marquette.edu/grad/GSO/current_GSO.shtml.

TRANSCRIPT OF RECORDS

A transcript is a complete and unabridged copy of all academic work attempted at Marquette University. Course and grade information contained on the transcript are released pursuant to the Family Educational Rights and Privacy Act of 1974 (as amended).

A student may obtain a transcript of his or her Marquette record by completing a *Transcript Request Form* available at www.marquette.edu/mucentral and submitting it to the Office of the Registrar. Current students may request a transcript online via their CheckMarq account. All transcript requests should be submitted one week in advance of the date the transcript is needed.

The fee for this regular service is $5 per transcript. The fee for a rush or immediate transcript service is $10 per transcript. All transcript fees are payable at the time of the request.

Every transcript that is issued directly to a student is clearly marked. Because most institutions will not accept a transcript that has been in the student's possession, we strongly recommend the student request the Office of the Registrar to mail a transcript directly to the institution involved. Students who fail to follow this recommendation are liable for any further charges when additional transcripts are ordered.

VETERANS BENEFITS

The Office of the Registrar acts as liaison between the student and the Veterans Administration, the Wisconsin Department of Military Affairs and the Wisconsin Department of Veterans Affairs. Any student eligible to receive educational benefits under one of the various Veterans Administration programs must report to Marquette Central at the beginning of each fall, spring or summer term for which he or she is registered. Information or consultation is available at any time during regular office hours. Information regarding veterans' benefits may also be found at www.marquette.edu/mucentral.

Marquette participates in the Yellow Ribbon GI Education Enhancement Program; which is a provision of the Post-9/11 GI Bill. This program allows institutions of higher learning in the United States to voluntarily enter into an agreement with the VA to fund tuition expenses that exceed the highest in-state public undergraduate rate. The number of student sponsored for Yellow Ribbon Program benefits is limited. For additional information visit the Veterans Benefits site on the Marquette Central Web site.

VA regulations require schools to enforce certain standards of progress in regard to certifying veterans for educational benefits; therefore any veteran who wishes to receive veterans' educational benefits must meet the published academic standards and requirements of the university.

Financial Information

TUITION, FEES AND HOUSING

MARQUETTE UNIVERSITY PAYMENT POLICY

The staff in Marquette Central is dedicated to providing service to our students and families in a professional and friendly manner while following the policies and procedures set forth by the university. The office provides accurate and timely information about each student's bursar account while encouraging our students to be active participants in managing their account.

The final step to complete a student's registration is payment in full of all fees for the term. Marquette University sends a monthly electronic billing statement to each student while the student has an account balance. A student may also view his/her e-bill via CheckMarq. Payment due dates are available at www.marquette.edu/mucentral. It is the student's responsibility to pay tuition, fees and housing by the published due date whether he/she receives a bill or not. Students who do not plan to attend the university are responsible for dropping classes through CheckMarq and notifying their respective college office. All courses for which a student is officially registered as of the close of registration are subject to fee assessment and payment, and as such to appear as part of the student's permanent record even if the student does not attend any sessions of the class. To avoid unnecessary fee charges and unnecessary courses with permanent grades of UW, WA or F on the student's permanent record, it is the student's responsibility to review his/her official registration prior to the end of late registration to ensure is accurately reflects the courses in which the student plans to be enrolled.

A student who does not pay in full by the due date, enroll in the Marquette Monthly Payment Plan, or submit a billing authorization from an approved sponsor will be subject to a 1 percent late payment fee, which is assessed monthly (12 percent annual percentage rate) on the outstanding balance. If the student does not pay the delinquent balance, Marquette may cancel a student's registration for the current term, prevent the student from registering for a subsequent term, withhold a student's academic transcript and/or diploma, turn the student's account over to a collection agency, and/or take legal action to collect any balance due.

PAYMENT OPTIONS

TRADITIONAL SEMESTER PAYMENT

Payment of all tuition, housing and other billed charges is due in full prior to the beginning of each term. Cash and checks are acceptable methods of payment. Payment may also be made electronically (direct debit from checking or savings account) by accessing the link on the Marquette Central Web site at www.marquette.edu/mucentral. Credit card payment is available through a third party provider. The convenience fee for using this service is variable depending on the amount of the charge. This service may be accessed through the link on the our Web site www.marquette.edu/mucentral or by calling (866) 893-4518.

MARQUETTE MONTHLY PAYMENT PLAN

Marquette offers the Marquette Monthly Payment Plan, which enables students and their families to budget all of their semester tuition, room and board, and student fees in five equal monthly installments. The MMPP is intended to cover the costs of fall (August–December) and spring (January–May) terms. The MMPP is not a loan; there are no interest or finance charges. The only cost is a $35 per semester enrollment fee. The fall term program begins Aug. 5, 2010. All payments are due on the fifth of each month.

PAYMENT BY A UNIVERSITY APPROVED THIRD PARTY SPONSOR

Students whose tuition is paid by a university approved third party sponsor must submit their billing authorization to Marquette Central by the payment due date.

TUITION DISCOUNTS

Students interested in taking a course on an audit basis must first register for the course for credit, then request a change in enrollment status to audit by informing their appropriate school (Graduate School or Graduate School of Management). Students must notify the Graduate School by submitting the *Registration Change Request* form found at www.marquette.edu/grad/forms_index.shtml. Graduate accounting, business administration, economics, executive business or human resources students must notify the Graduate School of Management.

Students must have the proper background and prerequisites for the course in question. Auditors are required to attend all classes and are expected to participate, based on the nature of the course, and/or complete assignments, at the discretion of the instructor. Students who register for an audit course will receive a 50 percent discount on the tuition for that course. This discount is not available to individuals who take the senior citizen discount.

A 50 percent senior citizen discount on tuition (only) is available to individuals 62 years of age and older taking graduate courses for credit and/or audit. This opportunity is offered to students who have the proper background and prerequisites for the course(s) in question. Students using the senior citizen discount are not eligible for the audit discount.

All rates in this bulletin are believed accurate and current when printed. However, Marquette University reserves the right to modify any rate to correct a printing mistake or to respond to any unforeseeable change in circumstances, e.g., energy surcharge, governmental action, etc.

TUITION

Graduate students are assessed at the per credit hour rate based on their academic plan for all registered courses, graduate or undergraduate.

Graduate $905.00
Graduate School of Management, Business Administration 905.00
Graduate School of Management, Executive Business Administration
(per program) ($2,500 deposit billed in fall term for new students)
Continuing students (graduating December 2010)
billed $14,350 fall 2009, 11,850/term spring, summer, fall 49,900.00
New students (graduating December 2011)
billed $15,500 fall 2010, 13,000/term spring, summer, fall 54,500.00
Education Graduate students with an academic plan of:
COEP, COPS, COUN, EDUC, EDPL and EDPS 675.00
Dental Graduate students with an academic plan of:
Dental biomaterials (per credit hour) 905.00
Endodontics, orthodontics, and prosthodontics: flat rate applies (see below).

Flat rate:	Endodontics	Orthodontics	Prosthodontics
Summer term	7,520.00	7,080.00	5,880.00
Fall term	15,040.00	14,160.00	11,760.00
Spring term	15,040.00	14,160.00	11,760.00

English as a Second Language courses – Cost per credit hour 600.00
Pre-M.S.N. phase for M.S. program for Non-Nursing Graduates
15-month program charged as follows:
Continuing students (graduating August 2010)
billed $8,870 for summer 2010 . . . . . 8,870.00
New students (start summer 2010) billed $9,275 summer terms,
13,910 fall/spring terms 46,370.00

CONTINUOUS ENROLLMENT/CONTINUATION COURSE FEES

Graduate Standing Continuation (less than half-time, LHT) = 9970 . . . . . $100.00
Graduate Fellowship (full-time, FT) = 9974 . . . . . 100.00
Graduate Assistant Teaching (full-time, FT) = 9975 . . . . . 100.00
Graduate Assistant Research (full-time, FT) = 9976 . . . . . 100.00
Master's Comprehensive Exam Preparation
(less than half-time, LHT) = 9984 . . . . . 100.00
Master's Comprehensive Exam Preparation (half-time, HT) = 9985 . . . . . 100.00
Master's Comprehensive Exam Preparation (full-time, FT) = 9986 . . . . . 100.00
Doctoral Comprehensive Exam Preparation
(less than half-time, LHT) = 9987 . . . . . 100.00
Doctoral Comprehensive Exam Preparation (half-time, HT) = 9988 . . . . . 100.00
Doctoral Comprehensive Exam Preparation (full-time, FT) = 9989 . . . . . 100.00
Field Placement Continuation (less than half-time, LHT) = 9977 . . . . . 100.00
Field Placement Continuation (half-time, HT) = 9978 . . . . . 100.00
Field Placement Continuation (full-time, FT) = 9979 . . . . . 100.00
Professional Project Continuation (less than half-time, LHT) = 9991 . . . . . 100.00
Professional Project Continuation (half-time, HT) = 9992 . . . . . 100.00
Professional Project Continuation (full-time, FT) = 9993 . . . . . 100.00
Master's Thesis Continuation (less than half-time, LHT) = 9994 . . . . . 100.00
Master's Thesis Continuation (half-time, HT) = 9995 . . . . . 100.00
Master's Thesis Continuation (full-time, FT) = 9996 . . . . . 100.00
Doctoral Dissertation Continuation (less than half-time, LHT) = 9997 . . . . . 100.00
Doctoral Dissertation Continuation (half-time, HT) = 9998 . . . . . 100.00
Doctoral Dissertation Continuation (full-time, FT) = 9999 . . . . . 100.00

SERVICE FEES

Application Fee $50.00
Diploma Fee, Replacement 25.00
Doctoral Dissertation Publication Fee (Traditional) 75.00
Doctoral Dissertation Publication Fee (Open Access) 170.00
Examination, Comprehensive, for each attempt beyond the first 15.00
Examination, Marquette Foreign Language Test, for each attempt 100.00
Examination, Special or Delayed 25.00
Late Payment Fee (per month) . . . . . 1% (12% APR)
Master's Thesis Publication Fee (Traditional) 65.00
Master's Thesis Publication Fee (Open Access) 160.00
Readmission Fee 100.00
Transcript Fee 5.00
Transcript and Enrollment Verification Fee, Rush Processing 10.00

Nursing Fees

Diagnostic Assessment Test for Licensure Examination for the M.S. program for Non-Nursing Graduates, after 15-month Pre-M.S.N. phase (Approximate fee. Exact amount based upon vendor costs in effect at time of registration.) 40.00

Uniforms (Approx. fee. Must be purchased through a private vendor. Vendor list available from the College of Nursing.) 300.00

Assessment Equipment (Stethoscope $70. Sphygmomanometer $60.00 Approx. fee. Exact amount based upon vendor costs in effect at time of registration. Must be purchased through a private vendor.) 175.00

Cardiopulmonary Resuscitation (CPR) Certification (Prior to entering any clinical practicum. This certification must be maintained through the remainder of the student's program through biannual recertification.) 50.00

HOUSING

The Office of University Apartments and Off-campus Student Services (UAOCSS) can assist graduate students with finding appropriate housing in the Marquette University neighborhood. UAOCSS publishes the *Tenant Guide*, an annual listing of properties in the Marquette neighborhood that provides information such as contact numbers, amenities, rent rates, and utilities included. Current and prospective students may request a *Tenant Guide* from the office

via e-mail at muuaocss@marquette.edu or by phone at (414) 288-7281. The *Tenant Guide* may also be viewed online and downloaded at www.marquette.edu/orl/apartments/services.shtml. UAOCSS is located at 1500 W. Wells Street and is open Monday through Friday from 8:00 a.m. to 4:30 p.m.

MEAL PLANS

Meal plans are available for purchase through the Office of Residence Life, and are automatically renewed for the second term unless cancelled through the office. Prices are per term.

Carte Blanche	$1,915
Block 175	1,725
Block 125	1,585
Loyalty 50 (off-campus/commuter students only)	310

REFUNDS AND ADJUSTMENTS

Students who have prepaid charges but do not register for classes will be given a full refund, less applicable non-refundable deposits. Students who register for classes and subsequently change their course load through either a partial withdrawal from courses or a complete withdrawal from the university will have adjustments made to their student accounts. If an adjustment results in a refund due to the student, proper application must be made with Marquette Central to obtain the refund. See this bulletin for a full description of withdrawal procedures.

After the first class, laboratory and special course fees are non-refundable. Tuition deposits are non-refundable but are applied toward first term tuition charges.

Refunds for tuition and board will be given based on the following schedules:

Tuition Refund and Adjustment Schedule

100% refund	Through registration
80% refund	During the second week
60% refund	During the third week
40% refund	During the fourth week
20% refund	During the fifth week
No refund	After the fifth week

NOTE: Graduate students who enroll in, and pay for, thesis or dissertation credits before actually beginning work on their projects will not be entitled to a refund of tuition for these credits if, for any reason, they do not complete their programs.

Board — Pro-rated; number of full weeks remaining in term as a percent of 16 weeks.

FINANCIAL AID

Both merit-based and need-based financial aid is available to graduate students at Marquette University. The Graduate School offers and administers merit-based aid such as teaching assistantships, research assistantships, tuition scholarships, and a variety of fellowships. The university's Marquette Central offers and administers need-based financial aid such as loans and federal work-study employment, and non-need based aid such as student work opportunity employment and private employment.

Students may opt to pay for their studies in a variety of ways. In addition to merit- and need-based aid, they may use their personal funds, sign up for the Marquette Monthly Payment Plan offered by Marquette Central, receive assistantships funded by faculty members' grants, or apply for outside scholarships and fellowships. Numerous funding options are listed and regularly updated in the financial aid section of the Graduate School's Web site.

MERIT-BASED COMPETITIVE ASSISTANTSHIPS, SCHOLARSHIPS, AND FELLOWSHIPS FUNDED BY THE GRADUATE SCHOOL

Students applying for merit-based aid must:

- Be admitted to degree programs (exceptions are made for the Catholic Schools Personnel Scholarships and the Milwaukee Area Teachers Scholarships).
- Be registered as full-time students (exceptions are made for the Catholic Schools Personnel Scholarships and the Milwaukee Area Teachers Scholarships).
- Not be admitted on probation.
- Maintain 3.00 grade point averages (term and cumulative). Failure to do so may result in the withdrawal or discontinuation of their aid.

Awards are made on the basis of academic record and scholarly promise. Factors used in determining this aid include the applicants' transcripts, letters of recommendation, GRE, GMAT, MAT scores, and academic backgrounds. Financial need is not a factor.

Every recipient of financial aid offered by the Graduate School receives a *Rules and Guidelines for Graduate School Financial Aid* brochure with their award letter. The brochure is also available online at www.marquette.edu/grad/finaid_forms.shtml. The brochure covers topics such as responding to the offer, reapplying for aid, and handling involuntary termination procedures. Acceptance of the offer of financial aid implies knowledge of the rules and guidelines covering such aid, and aid recipients will be held accountable for complying with those rules and guidelines.

ASSISTANTSHIPS

Assistants work approximately twenty hours per week in their departments. Outside employment is not allowed without written permission of the student's adviser and the Graduate School. Assistants receive stipends and tuition scholarships up to 18 credits.

*1. TYPES OF ASSISTANTSHIPS**

a. Teaching Assistantships
TAs assist with various instructional duties. They may function as classroom teachers, lab or quiz instructors, or instructional assistants, and in some cases be assigned primary responsibility for an entire course under the supervision of faculty.

b. Research Assistantships
RAs assist assigned faculty with their research projects.

c. Graduate Assistantships
GAs perform a combination of TA and RA duties as determined by their departments.

The following graduate programs offer assistantships:

Biological Sciences
Biomedical Engineering
Business Administration
Chemistry
Civil Engineering
Communication
Counselor Education and Counseling Psychology
Economics

MERIT-BASED COMPETITIVE ASSISTANTSHIPS, SCHOLARSHIPS, AND FELLOWSHIPS FUNDED BY THE GRADUATE SCHOOL

PROGRAM	ELIGIBILITY	AMOUNTS	APPLICATION PROCESS
The Greater Milwaukee Foundation's Frank Rogers Bacon Research Assistantship	Master's and doctoral students in the Department of Electrical Engineering.	$13,200 stipend and variable tuition scholarship amounts.	Interested students should write to the chairperson of the Department of Electrical and Computer Engineering.
Adelaide & Hubert Booz Scholarship in Neuropsychology	Graduate students in counseling and educational psychology.	Amount varies depending upon fund availability.	Nominations are made by Dept. of Counselor Education and Counseling Psychology.
R.A. Bournique Memorial Fellowship	Summer research support for graduate students in chemistry.	Amount varies depending upon fund availability.	Applicants should contact the Department of Chemistry for information.
John Braig Family Scholarship in Theology	Provides scholarship funds in varying amounts to students, particularly seminarians and members of religious orders, who are enrolled in theology graduate courses.	$2,000 stipend, though amount may vary depending upon fund availability.	Eligible students will be invited to apply.
Father Henry Casper, S.J., Memorial Fellowship in History	Provides stipend, scholarship, or travel reimbursement for graduate students in history.	Amount varies depending upon fund availability.	Nominations are made to the Graduate School by the Department of History.
Catholic Schools Personnel Scholarship Program Scholarship (affiliated with the Kopmeier Family Milwaukee Foundation) (online applications accepted at www.marquette.edu/grad/finaid_forms.shtml)	Teachers, administrators and other professionals employed by Catholic elementary and secondary schools in the Archdiocese of Milwaukee.	Covers up to two-thirds of a three credit course.	Applications are available from the Graduate School and online. Fall deadline June 15; Spring deadline November 15; Summer deadline April 15.
Dominican Sisters of Sinsinawa Graduate Education Award	Catholic Sisters of the Dominican Order of the Sinsinawa Province. Under special circumstances, funds may be available to other Catholic students.	Stipend for living expenses and/or tuition.	Recipients are authorized by the Superior of the Order.
John J. Eisch Graduate Research Fellowship in Chemistry	Fourth or fifth year doctoral students in chemistry. Recipient will have completed candidacy orals and demonstrate excellence in research.	Ten months of financial support. Amount varies depending upon fund availability.	Nominations are made by the chair of the Department of Chemistry in consultation with graduate faculty.
Forward Dental Graduate Residency Scholarship	Graduate residents enrolled in the prosthodontics, orthodontics, or endodontics programs.	Amount varies depending upon fund availability.	No application necessary. Awards selected by School of Dentistry scholarship committee. Recipients will be notified after July 1.
G.E. – Marquette Medical Systems, Inc. Scholarship	Graduate students in healthcare technologies management.	Amount varies depending upon fund availability.	Nominations are made by Healthcare Technologies Management.
Graduate Assistance in Areas of National Need (GAANN) program sponsored by the U.S. Department of Education	Ph.D. students in biomedical engineering, electrical engineering, or biological sciences.	Tuition scholarship up to 18 credits plus an annual stipend of up to $30,000 depending on need.	Applicants should contact departments for availability and application information.
Graduate Student Organization Graduate Assistantship	Graduate students in at least the second year of their programs.	Award includes a $6,600 stipend and a tuition scholarship up to 9 credits.	Application procedures are announced each spring for the following fall term.
Laura Ladish Jacobson Scholarship	Graduate students in speech-language pathology.	Amount varies depending upon fund availability.	Nominations are made by Speech Pathology & Audiology.
Patricia C. Janz Scholarship	Need- and character-based scholarship for students in the Dept. of Counseling and Educational Psychology.	Amount varies depending upon fund availability.	The Department of Counseling and Educational Psychology make nominations to the Graduate School.

PROGRAM	ELIGIBILITY	AMOUNTS	APPLICATION PROCESS
Jesuit International Scholarship	Jesuits from countries other than the U.S.	Tuition scholarship up to 18 credits.	Contact the Graduate School or the rector of the Jesuit community.
Richard W. Jobling Fellowship	Master's and doctoral students in biology, chemistry, mathematics, biomedical engineering, civil engineering, electrical engineering or mechanical engineering.	Up to a $2,000 stipend to supplement an assistantship.	Nominations are made to the Graduate School by the individual graduate units.
Johnson's Wax Research Fellowship	Doctoral-level fellowship available for students in biomedical engineering (2010-2011), mechanical engineering (2011-2012), chemistry (2012-2013), biological sciences (2013-2014), and electrical and computer engineering (2014-2015).	Stipend of approximately $5,500.	Nominations are made to the Graduate School by the appropriate department.
Paul A. Ketterer Scholarship	Degree-seeking students who are also eligible to apply for the Catholic Schools Personnel Scholarship (CSPS).	Up to 5 years of support. Amount varies depending upon fund availability.	Submit the CSPS application by June 15 for fall and by Nov. 15 for spring.
Dr. Joseph and Robin Lasnoski Scholarship	Master's students in theology.	Amount varies depending upon fund availability.	Nominations are made to the Graduate School by the Department of Theology.
Albert & Cecil Lue-Hing Engineering Scholarship	Graduate students in civil engineering. Available every other year to graduate students.	Amount varies depending upon fund availability.	Nominations are made by Civil and Environmental Engineering.
Marquette University Graduate School Diversity Fellowship	See details online at www.marquette.edu/grad/finaid_diversityfellowship.shtml.	Doctoral: $20,000 stipend plus full scholarship for up to 4 years. Master's: $20,000 stipend plus full scholarship for up to 2 years.	See procedures online at www.marquette.edu/grad/finaid_diversityfellowship.shtml. Deadline is February 15.
Marquette Minority Fellowship	Minorities underrepresented in American graduate education (African Americans, Hispanics, and Native Americans). Must be a U.S. citizen.	A minimum stipend of $6,600 and a nine-credit scholarship. The student's department is strongly encouraged to supplement this award and to provide support in subsequent years.	Nominations are made to the Graduate School by the individual graduate units.
Jeanne McGinn Redding Scholarship	Graduate students in speech-language pathology.	$5,000 scholarship.	Nominations are made by the Dept. of Speech Pathology and Audiology.
Leslie G. and Cecile C. Matthews Scholarship	Students in all graduate programs who demonstrate financial need.	Amount varies depending upon fund availability from 1 to 9 credits per semester.	The various graduate programs make nominations to the Graduate School.
Maurice L. Madden Biomedical Engineering Fellowship	Graduate students in biomedical engineering.	Financial assistance usually in the form of a stipend.	Nominations are made to the Graduate School by the Department of Biomedical Engineering.
Marquette University Women's Club Fellowship	Students who received the baccalaureate degree at Marquette University.	$2,000 stipend.	Nominations are made to the Graduate School by a different graduate unit each year.
Dr. Charles J. Mears Scholarship	Graduate residents in the first year of the orthodontics program.	Amount varies depending upon fund availability.	No application necessary. Awards selected by orthodontics program faculty. Recipients will be notified after July 1.
Milwaukee-Area Teachers Scholarships (online applications accepted at www.marquette.edu/grad/finaid_forms.shtml)	Elementary and secondary school teachers in the Milwaukee area.	One-half tuition scholarships up to three credits per term.	Request application from Graduate School. Fall deadline February 15; Summer deadline April 15; Spring deadline November 15.

PROGRAM	ELIGIBILITY	AMOUNTS	APPLICATION PROCESS
Denis J. O'Brien Fellowship	Students involved in summer study and research in the Departments of Biological Sciences (2009) and Chemistry (2010).	Amount varies depending upon fund availability.	Nominations are made to the Graduate School by the department.
Charles O'Hara Scholarship	Graduate students in biology involved in summer work at Woods Hole, Massachusetts, Cold Spring Harbor Laboratory, or a similar laboratory devoted to the study of biological sciences.	Tuition scholarship.	Nominations are made by the Department of Biological Sciences.
Orthopaedic Human Motion Analysis Fellowship	Advanced graduate students in bioelectronics and biomechanics. Through clinical collaboration with the Department of Orthopaedic surgery at the Medical College of Wisconsin.	Monthly stipend and up to 18 credits tuition scholarship.	Nominations are made to the Graduate School by the Department of Biomedical Engineering.
Jeremiah L. O'Sullivan Fellowship in Public Affairs Journalism	Master's students in journalism with a special emphasis in public affairs journalism.	Stipend and tuition scholarship.	Nominations are made to the Graduate School by the Diederich College of Communication.
Preparing Future Faculty Graduate Assistantship	Graduate students in at least the second year of their programs.	Awards include a $13,850 stipend and a tuition scholarship up to 18 credits.	Application procedures are announced each spring for the following fall term.
Reverend John P. Raynor, S.J., Fellowship	Master's and doctoral students. Recipients are expected to be in residence at Marquette and engaged in full-time study.	$18,700 stipend for doctoral students; stipend up to $2,000 for master's students to supplement assistantship award; up to 18 credits of tuition scholarship.	Students wishing to be nominated for this fellowship should communicate their interest to their departments by November 15. Nominations from the departments are reviewed in the Graduate School and decisions are usually announced by February 15.
Ann Rehberg End of Life Care Scholarship	Graduate students in the College of Nursing.	Amounts vary depending upon fund availability.	Nominations are made by the College of Nursing.
Research Assistantship (online applications accepted at www.marquette.edu/grad/finaid_forms.shtml)	Full-time students in degree programs.	Stipends begin at $13,200. In addition, up to 18 credits of tuition scholarship.	Submit application to the Graduate School. The Graduate School does not offer RA awards in the summer. Fall deadline February 15, Spring deadline November 15.
Agnes A. Reinders Scholarship	Full-time graduate students in the College of Nursing.	Amount varies depending upon fund availability.	Contact department chairperson to apply.
Joseph A. and Dorothy C. Rutkauskas Scholarship	Graduate students in the College of Engineering.	$5,000 award, but amount varies depending upon fund availability.	Applicants should contact their departments for information.
Arthur J. Schmitt Fellowship	Students in doctoral programs who intend to pursue a career in college teaching.	Stipend of $17,000.	Students wishing to be nominated for this fellowship should communicate their interest to their departments by November 15. Nominations from the departments are reviewed in the Graduate School and decisions are usually announced by February 1.
Eugene J. Schumack Memorial Journalism Fund	Graduate students in journalism.	Amount varies depending upon fund availability.	Nominations are made to the Graduate School by the Diederich College of Communication.

PROGRAM	ELIGIBILITY	AMOUNTS	APPLICATION PROCESS
Smith Family Fellowship	Doctoral students in history, English, philosophy, and theology who have dissertation topics that require travel out of state to collect data.	Stipend of $17,000 plus reasonable travel expenses up to $3,000.	Students wishing to be nominated for this fellowship should communicate their interest to their departments by November 15. Nominations from the departments are reviewed in the Graduate School and decisions are usually announced by February 1.
Milo F. Snyder Scholarship in Business	Finance majors in the Graduate School of Management's M.B.A. program.	Scholarship funds in varying amounts.	Nominations are made to the Graduate School by the Graduate School of Management.
Lawrence F. and Margaret C. Stollenwerk Scholarship Fund	Students enrolled in Advanced Gerontological Nursing.	Amount varies depending upon fund availability.	Contact the College of Nursing for nomination information before June 15.
Larry and Cindy Susienka Family Foundation Scholarship	Students in speech pathology and audiology. Preference given to an early acceptance program participant with a focus on geriatrics.	Amount varies depending upon fund availability.	Nominations are made to the Graduate School by the Department of Speech Pathology and Audiology.
Earl W. Swokowski Fellowship in Mathematics	Students with teaching or research assistantships in the Department of Mathematics, Statistics and Computer Science.	Summer stipend, or other support, up to $2,000. The award may also provide support for educational expenses.	Contact department chairperson to apply.
Teaching Assistantship (online applications accepted at www.marquette.edu/grad/finaid_forms.shtml)	Full-time students in degree programs.	Stipends are $13,200 to $21,610 depending upon department and level of award. In addition, up to 18 credits of tuition scholarship.	Submit application to the Graduate School. The Graduate School does not offer TA awards in the summer. Fall deadline February 15; Spring deadline November 15.
Trinity Fellowship	Graduate students in the programs of business, communication, political science, philosophy or public service with prior service in the Peace Corps, Jesuit Volunteer Corps, Americorps, or comparable service. Requires work in a specified social agency.	Stipend approximates Graduate School's teaching assistantship stipend in addition to a tuition scholarship of up to 18 credits.	Contact the director of the Institute for Urban Life.
Tuition Scholarship (online applications accepted at www.marquette.edu/grad/finaid_forms.shtml)	Full-time students in degree programs.	Scholarships up to 18 credits.	Submit application to the Graduate School. Fall deadline February 15; Spring deadline November 15; Summer deadline April 15.
Weis Family Scholarship Fund	Students enrolled in Advanced Gerontological Nursing.	Amount varies depending upon fund availability.	Contact the College of Nursing for nomination information before June 15.
Wisconsin Province of the Society of Jesus Grant Fund	Non-Jesuit third-world priests and religious.	Funds awarded as either grants or loans.	Contact the Graduate School.
Dorothy Randles Wood Scholarship	Graduate students in Speech Pathology and Audiology.	Amounts vary depending upon fund availability.	Nominations are made by Speech Pathology and Audiology.
Other merit- and need-based awards for graduate students	A few small endowments support special programs as specified by the donors of the awards.	Small amounts for tuition or living expenses vary depending on earnings of endowments.	The various graduate programs make nominations to the Graduate School.

Educational Policy and Leadership
Electrical and Computer Engineering
English
Foreign Languages and Literatures
History
Mathematics, Statistics and Computer Science
Mechanical Engineering
Nursing
Philosophy
Physical Therapy
Political Science
Psychology, Clinical
Speech-Language Pathology
Theology/Religious Studies

Refer to the table, found within this section, for more information about assistantships, or view the *Rules and Guidelines for Graduate School Assistantships* on the Graduate School's Web site at www.marquette.edu/grad/finaid_forms.shtml.

* Programs that do not offer graduate assistantships include: executive M.B.A., dispute resolution, law enforcement leadership and management, leadership studies, public service, and transfusion medicine. Dental students must contact the associate dean for research and graduate studies at the School of Dentistry for award consideration.

2. HEALTH INSURANCE FOR ELIGIBLE ASSISTANTS

Eligible graduate assistants will have policy premiums paid by the university for individual coverage under a health insurance plan made available to graduate and professional students through the Wisconsin Association of Independent Colleges and Universities (WAICU), up to a maximum plan benefit of $15,000. Graduate assistants who are required to work at least 20 hours per week, who receive a minimum stipend of at least $13,200 for a ten-month academic year, and who receive at least 18 credit hours in tuition scholarship for the academic year will receive offer letters from the Graduate School that will specify their entitlement to have the plan premiums paid by the university. In addition, graduate assistants who are required to work at least 10 hours per week, who receive a minimum stipend of at least $6,600 for a ten-month academic year, and who receive at least nine credit hours in scholarship for the academic year will receive offer letters from the Graduate School that will specify their entitlement to have one-half of the plan premiums paid by the university when they enroll in coverage and pay the remaining portion of the premiums.

Eligible graduate assistants will be required to complete enrollment forms and other documentation from time to time. International graduate assistants who meet the above eligibility criteria and who have been separately required by the university to participate in, and to pay the premiums for, international group health insurance plans through the university's Office of International Education (OIE) will receive credits equivalent to the premiums that would have otherwise been paid by the university on behalf of the student for the plan with a maximum benefit of $15,000. Credits are applied to Bursar accounts in the fall semester only to offset a portion of the cost of premiums the international student is required to pay. No credits are issued in the spring semester.

Anyone who does not receive an offer letter from the Graduate School that specifies that the university will pay the plan premiums on his or her behalf will not be eligible to have the university pay any portion of his or her plan premiums. All questions concerning eligibility as described in offer letters must be directed to the Graduate School for clarification in a revised offer letter.

Graduate assistants who are eligible to participate in the plan with a maximum benefit of $15,000 and university-paid premiums will have the option to purchase additional coverage under the plan with maximum benefits of $50,000 or $250,000. Coverage for the graduate assistant's spouse and eligible children will also be available for purchase.

The specific benefits and restrictions concerning the university's obligation to pay premiums, including the amount of premiums, procedures for payment of premiums paid by the university as well as those paid by the graduate assistant, and enrollment procedures and requirements will be determined and incorporated into written policies and announcements that will be communicated separately prior to the beginning of the academic year.

SCHOLARSHIPS*

Many programs offer scholarships to pay for tuition charges. Scholarships do not pay for prerequisites, audited courses, or non-related degree program courses and fees. They will not pay for more than six thesis or twelve dissertation credits. More information about scholarships is in the *Rules and Guidelines for Graduate School Scholarships* on the Graduate School's Web site at www.marquette.edu/grad/finaid_forms.shtml.

* Programs that do not offer graduate scholarships include: executive M.B.A., dispute resolution, law enforcement leadership and management, leadership studies, physical therapy, physician assistant studies, public service, and transfusion medicine. Dental students must contact the associate dean for research and graduate studies at the School of Dentistry for award consideration.

FELLOWSHIPS

A number of foundations, corporations, individual philanthropists, as well as the university, provide fellowships to Marquette graduate students. Fellowships do not have departmental work obligations, but outside employment is not allowed without the written permission of the student's adviser and the Graduate School. Specific requirements of fellowships are included in award offer letters. Most fellowships require departmental nominations. Refer to the table, found within this section, for a listing of fellowships and application and nomination requirements. More information about fellowships is on the Graduate School's Web site at www.marquette.edu/grad/finaid_merit.shtml.

APPLICATION PROCEDURES

New applicants for admission should complete the *Application for Graduate Admission and Financial Aid* or the *Application for Graduate School of Management Admission and Financial Aid*, as appropriate, and submit **all** admission materials by the application deadline (see below). Applicants for the Catholic Schools Personnel Scholarship must obtain a special paper application from the Graduate School, or they may apply online.

Admitted or continuing students should complete and submit the *Financial Aid Application for Admitted Students* by the application deadline (see below). The form may also be completed and submitted online at www.marquette.edu/grad/finaid_forms.shtml.

APPLICATION DEADLINES

For priority consideration, applications are due in the Graduate School by 4:30 p.m. on the following dates. Deadlines falling on weekends or holidays will be extended to the close of the next business day.

Fall Term	February 15
Spring Term	November 15
Summer Term	April 15

Some programs may have deadlines for fall admission that are earlier than the financial aid application deadlines. New applicants for financial aid in those programs must adhere to the earlier department deadlines that are listed in the Graduate Programs section of this publication.

RESOLUTION OF THE COUNCIL OF GRADUATE SCHOOLS IN THE UNITED STATES

Marquette University is a signatory to the CGS resolution. The resolution states that acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. When a student accepts an offer before April 15 and subsequently desires to withdraw that acceptance, the student may submit a written resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of written release from any previously accepted offer. It is further agreed that institutions subscribing to the CGS resolution will enclose a copy of the resolution with every scholarship, fellowship, traineeship, and assistantship offer it sends prior to April 15.

FINANCIAL AID AVAILABLE FROM THE OFFICE OF STUDENT FINANCIAL AID (OSFA)

Financial aid consists of scholarships or assistantships, student loans and part-time employment, and can help meet the costs of a graduate or professional program.

Scholarships and assistantships are awarded by each school or program (dental, law, health sciences or graduate). Questions concerning scholarships and assistantships should be directed to the admissions or dean's office of the school or program in which you plan to enroll.

Although care is taken to ensure the accuracy and timeliness of information contained in this bulletin, due to constantly changing federal and state legislation, as well as unintended error, the contents are subject to change and/or deletion without notice. Current information can be obtained by visiting www.marquette.edu/mucentral or by calling Marquette Central at (414) 288-4000.

ELIGIBILITY REQUIREMENTS

To receive financial aid from federal and state programs, students must meet the following requirements:

- Be a U.S. citizen or an eligible noncitizen. Students with F1, F2, J1, or J2 visas are not eligible.
- Be registered with Selective Service, if required.
- Complete the *Free Application for Federal Student Aid* (FAFSA) at www.fafsa.gov.
- Not be in default on any loan or owe a refund on any grant made under Title IV of the Higher Education Act of 1965, as amended, at any institution.
- Demonstrate financial need, if applying for need-based aid.
- Be enrolled at least half-time. Audit, repeat and other non-credit classes do not apply.
- Half-time: 4 credits per semester for Graduate; 6 credits per semester for Dental, Law, and Health Sciences.
- Be working toward a degree or certificate.
- Be making satisfactory academic progress (i.e., to be eligible for aid, a student must have academic standing that is consistent with university requirements for graduation).

APPLICATION PROCEDURES

Students may apply for financial aid if they are currently enrolled or are applying for admission to Marquette University. Be advised that no offer of financial assistance will be made until the student is formally admitted to the university. All students applying for financial aid must complete the *Free Application for Federal Student Aid* (FAFSA). The FAFSA is available online at http://www.fafsa.gov beginning on January 1 for the upcoming academic year.

During the application process, students may be asked to verify the information reported on the FAFSA. Any aid offer will be contingent upon completion of the verification process.

SATISFACTORY ACADEMIC PROGRESS POLICY

By federal regulation, Marquette University is required to apply both qualitative and quantitative standards in measuring academic progress for financial aid purposes. These standards apply to all students who receive institutional, state and federal Title IV and Title VII funds administered by the university. Federal Title IV programs for graduate students include William D. Ford Federal Direct Stafford and PLUS Loans, Federal Perkins Loans and Federal Work Study. Title VII programs include the Federal Nursing Loans.

Marquette has established the following criteria for graduate students in conjunction with federal regulation published on Oct. 6, 1993, Federal Register Part 668.16 and the Higher Education Amendments of 1986.

I. QUALITATIVE STANDARDS OF ACADEMIC PROGRESS

Financial aid recipients are governed by the performance standards of the school or college in which they are enrolled.

II. QUANTITATIVE STANDARDS OF ACADEMIC PROGRESS

Students must complete their academic programs and receive their degrees within a maximum time frame. For graduate students, 6 years is the maximum amount of time a student may attempt toward degree completion. In addition, graduate students must earn 75% of their cumulative credits attempted.

Note: Grades of I, U, UW, W and WA, unreported grades, grades of F or audit credits are not counted as earned credits.

III. FAILURE TO MEET THE SATISFACTORY ACADEMIC PROGRESS STANDARDS (QUANTITATIVE)

A. First Occurrence
   Students who do not meet the standard will be put in a warning status. The student will be notified of this status in writing.
B. Second Occurrence
   If a student fails to meet the standards for a second year, the student will be ineligible for further aid consideration. Eligibility can be regained by making satisfactory progress within one term at the student's own expense. Eligibility cannot be reinstated if the student simply sits out for an enrollment period or pays his/her own expenses for a term without making satisfactory progress.
C. Third Occurrence
   Aid eligibility is terminated. An appeal for reinstatement requires a written plan signed by an academic adviser on how the student intends to meet graduation requirements.

If a student in an ineligible status receives aid, full repayment will be required of all funds received, excluding College Work Study. A student working under the Federal Work Study program will have his/her employment terminated.

Reinstatement of Eligibility

When a student has made satisfactory progress as outlined above for a particular term at Marquette at his/her own expense, the student must provide the Office of Student Financial Aid with a final grade report. The student will then be reinstated to an eligible status.

IV. SATISFACTORY ACADEMIC PROGRESS APPEAL PROCEDURES

A. Student must complete Section A of the *Appeal Form* and forward it to the appropriate college/school for completion of Section B. The basis of the appeal may include, but is not limited to, the following extenuating circumstances: personal injury or illness, family difficulties, interpersonal problems, death of student's relative, difficulty balancing responsibilities.
B. Results of the appeal will be communicated to the student from the Office of Student Financial Aid.
C. Appeal must be granted prior to the end of the term for which aid is desired.
D. Recommendation of the college/school is final.

OFFICE OF STUDENT FINANCIAL AID AVAILABLE ASSISTANCE

GIFT ASSISTANCE

PROGRAM	ELIGIBILITY	AMOUNTS	APPLICATION PROCESS
American Indian Graduate Center Fellowship Program (AIGC)	1. Enrolled full-time. 2. Certified as Native American by tribe. 3. Must show financial need. 4. Must be in post-baccalaureate program.	Federal government funds program, AIGC selects eligible students and determines amount of each student's fellowship.	1. File the FAFSA. 2. Contact AIGC at www.aigc.com or (505) 881-4584 to request application directly. Application deadline: June 1.

EMPLOYMENT ASSISTANCE

STUDENT EMPLOYMENT

PROGRAM	ELIGIBILITY	AMOUNTS	TERMS	APPLICATION PROCESS
Marquette Student Employment (MSE)	Must show proof of identity and eligibility to work in U.S. (original birth certificate, Social Security card or U.S. passport, visa).	Varies. Determined by each employer.	Paid every two weeks; rate of pay depends on nature of job, skills, and experience. We recommend students work no more than 20 hours per week while classes are in session; students may work no more than 40 hours per week while classes are not in session.	Use the JobConnection Web site at https://jobconnection.mu.edu/interfase.htm to access job listings.
Off-campus Employment	Must show proof of identity and eligibility to work in U.S. (original birth certificate, Social Security card or U.S. passport, visa).	Varies. Determined by each employer.	Employer determines rate of pay and frequency of payment. Off-campus positions with Milwaukee area businesses have no restrictions on hours worked; however, we recommend a student work no more than 20 hours per week while classes are in session.	Use the JobConnection Web site at https://jobconnection.mu.edu/interfase.htm to access job listings.

LOAN ASSISTANCE

PROGRAM	ELIGIBILITY	AMOUNTS	TERMS	APPLICATION PROCESS
William D. Ford Federal Direct Loan — Subsidized (Stafford Loan)	1. Enrolled at least half-time. 2. Not in default on prior federal student loans. 3. Must show financial need. 4. U.S. citizen or eligible non-citizen. 5. Making satisfactory progress toward a degree.	Students may borrow up to $8500 per academic year. The exact amount may vary depending upon financial need. Cumulative maximum for graduate and professional students is $65,500 for both undergraduate and professional studies combined.	Interest rate is fixed at 6.8 percent. No interest is charged while enrolled at least half-time and during the grace period. Repayment begins 6 months following enrollment of less than half-time. Standard repayment period is 10 years. Other repayment options are available. A 0.5 percent processing fee is deducted from the loan proceeds when the funds are disbursed. See loan disclosure statement for details.	1. File the Free Application for Federal Student Aid. 2. Eligible students who have accepted the Stafford Loan on CheckMarq will receive instructions on completing the electronic Master Promissory Note (eMPN) and entrance counseling.
William D. Ford Federal Direct Loan — Unsubsidized (Stafford Loan)	1. Enrolled at least half-time. 2. Not in default on other federal student loans. 3. U.S. citizen or eligible non-citizen. 4. Making satisfactory academic progress toward a degree.	Loan limits are calculated in combination with any amounts borrowed from the Subsidized Stafford Loan. Annual combined limit cannot exceed $20,500.	Interest rate is fixed at 6.8 percent. Interest accrues while in school. Student may choose to make quarterly interest payments, or have the interest deferred and capitalized once prior to repayment. A 0.5 percent processing fee is deducted from the loan proceeds when the funds are disbursed. See loan disclosure statement for details. No prepayment penalty.	1. File the Free Application for Federal Student Aid. 2. Eligible students who have accepted the Stafford Loan on CheckMarq will receive instructions on completing the electronic Master Promissory Note (eMPN) and entrance counseling.
Federal Direct Grad PLUS Loan	1. Enrolled at least half-time in a degree program. 2. Not in default on prior federal student loans. 3. U.S. citizen or eligible non-citizen. 4. Making satisfactory progress toward a degree. 5. Completed the FAFSA. 6. Must be credit worthy.	Students may borrow up to the difference between the cost of attendance minus the other financial aid.	Interest rate is fixed at 7.9 percent. Interest is charged for the life of the loan. Interest and principal may be paid while in school. A 2.5 percent processing fee is deducted from the loan proceeds when the funds are disbursed. See loan disclosure statement for details. No prepayment penalty.	1. File the Free Application for Federal Student Aid. 2. Complete and submit the Federal Direct Grad PLUS Loan Credit Authorization form. 3. Eligible students whose Grad PLUS Loans have been accepted will receive instructions on completing the electronic Master Promissory Note (eMPN) and entrance counseling.

The Graduate School

INTRODUCTION

LOCATION

The Graduate School office is located in Holthusen Hall, 305, 1324 W. Wisconsin Avenue, Milwaukee, WI 53233. Office hours are 8 a.m. to 4:30 p.m. with the exception of national or university holidays when the office is closed. Mail should be sent to Marquette University Graduate School, P.O. Box 1881, Milwaukee, WI 53201-1881. The Graduate School's telephone number is (414) 288-7137, the fax number is (414) 288-1902, the electronic mail address is mugs@marquette.edu, and the Web site is www.marquette.edu/grad.

PUBLICATIONS

GRADUATE BULLETIN

The *Graduate Bulletin* contains information regarding the academic calendar, admissions, degree requirements, fees, regulations, and course offerings. Prospective and current graduate students are responsible for all information contained in this bulletin that is pertinent to graduate study and their specific field. Academic policy and course changes will apply to all students as of the date they become effective, regardless of whether they were in effect at the time the student initially enrolled at Marquette. A graduate student may follow the program requirements of the bulletin that are in effect at the time he/she submits an application, or any other bulletin used during their enrollment as long as the student's program has not been discontinued in the bulletin year the student decides to follow. That is, students may not continue in programs that have been discontinued, unless they maintain continuous enrollment from the time of admission and follow the degree requirements in effect during one of the bulletin years in which the program was active. Students must abide by only one bulletin's rules. If any exceptions to this policy are required due to length of time between submitting an application and beginning the program, the student will be notified in writing of the applicable bulletin to follow. In order to properly audit a student's academic record for graduation, the student must notify the Graduate School in writing if any bulletin other than the one in effect at the time of application is to be used.

Graduate School students must assume full responsibility for knowledge of the rules and regulations of the Graduate School and the special requirements of their individual degree programs. It is the responsibility of each graduate student to verify and meet the deadlines listed in the Academic Calendar (e.g., for submitting financial aid forms, submitting theses or dissertations). The Academic Calendar is located on the inside front and back covers of this bulletin.

CHANGES TO THE GRADUATE BULLETIN

Marquette University reserves the right to make changes of any nature in its programs, calendar, or academic schedule whenever in its sole judgement it is deemed necessary or desirable.

Certain provisions in the bulletin may be in the process of amendment or change. Accordingly, the bulletin is not intended to be relied upon as a statement of the university's contractual undertakings. The decision of Marquette University as to the interpretation and method of implementation of its rules, regulations, program requirements, schedules, and calendars shall be conclusive and final.

The information in this bulletin and other university bulletins, publications, or announcements may change without notice. Current information is available from the Graduate School.

SCHEDULE OF CLASSES AND SNAPSHOT

The *Schedule of Classes* is published online and found at www.marquette.edu/mucentral/registrar/snapshot. All available classes are listed for any term specified.

FINANCIAL AID INFORMATION GUIDE

The publication *Award Information Guide* provides an overview of the available financial aid, how to accept financial aid, debt management, students rights and responsibilities, and federal loan programs. Information is available online at www.marquette.edu/mucentral/financialaid/index.shtml. Information about different types of financial aid available to graduate students may be found in this bulletin under Financial Information.

MISSION STATEMENT — GRADUATE SCHOOL

The mission of the Marquette University Graduate School is to contribute to the discovery of knowledge through scholarly activities, to provide leadership in defining the graduate experience, and to advocate for an environment that nurtures exploring and learning. To accomplish its mission, the Graduate School ensures quality, consistency and continuity in graduate programs; establishes and monitors institutional commitment to standards; and stimulates improvement and change in the research and pedagogical settings. The Graduate School communicates with stakeholders in a continuing effort to maintain the centrality of graduate education to the mission of Marquette University and to excite the graduate environment.

PREPARING FUTURE FACULTY PROGRAM

The Marquette University Preparing Future Faculty (PFF) Program, in collaboration with the Marquette University Center for Teaching and Learning, helps prepare interested graduate students for a career in academia. Students with other career interests are welcome to engage in PFF activities, and may find the programs on developing a résumé, building presentation skills, and preparing for job interviews particularly helpful.

The PFF Program requires graduate students to meet requirements in the following areas: (1) Theory and research on effective teaching and learning in higher education; (2) Introduction to specific teaching skills; (3) Obtaining feedback on teaching; (4) Assessing student learning; (5) Teaching with technology – e-learning applications; (6) Applying and interviewing for faculty positions; (7) Obtaining external funding.

In order to meet these requirements, graduate students have the option of either taking graduate classes offered by the College of Education or attending colloquia, workshops, and conferences sponsored by PFF. These PFF events satisfy many of the requirements or address pedagogic and professional issues to enhance the professional development of graduate students. Topics covered range from technology in the classroom to grant writing, and from the job search process to diversity in the classroom.

Participants of the PFF Program create a professional portfolio detailing their achievements and abilities and providing future employers with a wealth of relevant information. The portfolio may include documents on: a) teaching (mentoring and development); b) publications; c) conference work/participation; d) professional development; e) institutional awareness; and f) university and community service.

Successful completion of the requirements for the PFF Program is recognized with a notation on the graduate student's official university transcript and is verified by a document issued by the PFF program and the Graduate School.

APPLICATION PROCEDURES

ADMISSION REQUIREMENTS

All applicants should have:

- A bachelor's degree from a recognized college or university, or the equivalent foreign degree.
- At least a B average (3.000 grade point average on a 4.000 scale).
- Course work suitable for the desired graduate program (applicants with a bachelor's degree but not the necessary course work should consult the Office of Undergraduate Admissions, [414] 288-7302 or [800] 222-6544, or the *Undergraduate Bulletin,* for information about Special Student Status).
- Some programs require professional experience in addition to a bachelor's degree. See the Graduate School Programs section of this bulletin for more information.

In addition, no application for admission will be considered for any applicant with an outstanding balance of $3,000 or more owed to the university.

SUBMITTING AN APPLICATION

All applications for admission must be submitted online. A link to our online application can be found at www.marquette.edu/grad.

PROGRAM INFORMATION

An applicant's program may have special requirements of background, tests, personal statements, other materials, and application deadlines. Check the Graduate School Programs section of this bulletin for information and requirements specific to each program or see requirements on the Web at www.marquette.edu/grad/programs_apps.shtml. Applicants are responsible for meeting and submitting all of their program's application requirements.

APPLICATION AND FINANCIAL AID DEADLINES

Applicants are admitted to the Graduate School on the recommendation of the intended department and the approval of the vice provost for research and dean of the Graduate School.

Applications for admission to programs that have no deadlines listed in the Graduate School Programs section of this bulletin must be received in the Graduate School by August 1 for fall admission, by December 15 for spring admission, and by May 1 for summer admission. If the program has a listed application deadline, all application materials must arrive before that date. Admission to the program is valid only for the term specified on the application, unless a deferral is requested before the start of that term from the Graduate School. Deferral of admission may be requested by completing and submitting the *Request for Deferral of Admission* form available at www.marquette.edu/grad/forms_index.shtml. Note that deferral is for admission only, and not for financial aid. Applicants should check the Graduate School Programs section for more information.

Students applying to more than one program must submit a separate application, application fee, and application package for each program. The first-choice program of interest must be indicated on at least one of the applications.

The deadline for applying for merit-based Graduate School financial aid (assistantships and scholarships) is February 15 for the following fall term, November 15 for the following spring term and April 15 for the summer sessions. Deadlines falling on weekends or holidays will be extended to the close of the following business day. Some programs may have deadlines for fall admission that are earlier than the financial aid application deadlines. New applicants for financial aid in those programs must adhere to the earlier department deadlines that are listed in the Graduate School Programs section of this bulletin.

INACTIVE FILES

Incomplete and inactive admission files are discarded after one year.

INTERNATIONAL STUDENT REQUIREMENTS

DEFINITION OF AN INTERNATIONAL STUDENT

An international student is defined as an applicant who is not a U.S. citizen or permanent resident.

APPLICATION INSTRUCTIONS

As described in the Application Instructions section later in this bulletin, international applicants are required to submit an application form, a non-refundable application fee, official transcripts with certified English translations, three letters of recommendation, test data (including the TOEFL), and other materials as required by the program to which they are applying.

ENGLISH LANGUAGE ASSISTANCE

All non-native English speaking teaching assistants will be required to take a language placement examination upon their arrival on campus. Based on the results of the exam, students may be required to enroll in one or more English as a Second Language (ESL) courses in addition to their required course work. ESL courses in writing, reading, listening comprehension, and speaking/pronunciation are offered during the fall and spring terms. (This requirement is in addition to the TOEFL requirement described in the Application Instructions section.) All international students with teaching assistantships (TAs) are also required to attend a one-week orientation program, where they are evaluated individually in language and communication skills before beginning course work.

FINANCIAL VERIFICATION AND VISA REGULATIONS

Upon acceptance to the Graduate School, F-1 students must adequately document their financial resources for the duration of the academic program before a visa will be issued. Financial verification, in the form of an appropriate sponsorship statement and an advance deposit (in U.S. currency) equal to the amount of the first term's tuition, must be sent to Marquette before the certificate of eligibility for a visa will be issued. Students wishing to have their I-20 express mailed to them must put their request in writing and submit it along with the required advance deposits and financial verification paperwork. The added cost for express mail requests will be subtracted from the advance deposit. The express mail charge is non-refundable. The premium for the first term of health and repatriation insurance, required of all F-1 and J-1 students, will be deducted from the advance deposit. Students must be prepared to pay any remaining balance of the first term's tuition when they arrive on campus. The advance deposit will be waived if the student receives a scholarship or other academic award that covers the cost of the first term's tuition. If a student chooses not to attend Marquette University after the I-20 has been issued, all but $10 (U.S. currency) will be refunded. A written request for a refund must be sent back to the Graduate School with the original I-20.

International students must abide by the regulations of their legal status in the United States regarding their defined educational objectives, academic load, and employment. Most international applicants are eligible only for regular degree status. Those seeking admission for non-degree status must obtain a statement of their legal eligibility from Marquette's Office of International Education.

APPLICATION INSTRUCTIONS

The Graduate School requires the following information from all master's and doctoral program applicants. Read the list carefully and follow the directions exactly. **Applications will not be reviewed for admission until all materials, including those requested by the proposed graduate program, have been received.** Submit all application materials by mail to: Marquette University Graduate School, P.O. Box 1881, Milwaukee, WI 53201-1881; or by courier to: Marquette University Graduate School, 1324 W. Wisconsin Ave., Room 305, Milwaukee, WI 53233.

SELF-COMPLETED APPLICATIONS

Students are required to apply online and are strongly advised to submit the application for admission and as many required documents as possible, at one time. Letters of recommendation and any transcripts must be in sealed envelopes with the signature/stamp of the issuing person/institution across the back flap. Official GRE/GMAT/TOEFL scores must come directly from the applicable testing service. However, applicants who have an unofficial copy of the score report are advised to submit it with all other documents; the score report will be considered unofficial until verified by the applicable testing service.

ALL APPLICANTS MUST SUBMIT THE FOLLOWING:

- **A completed online application form (online applications are required beginning September 15, 2008).**
- **A non-refundable application processing fee (*U.S. currency only*) of $50.**
  Note: The application fee is waived only for alumni of the Marquette University Graduate School, including graduates or students who have taken courses in the past without graduating. In order to receive the waiver, applicants must have previously taken courses while classified as a graduate student in one of the programs under the umbrella of the Graduate School, and does not include the Graduate School of Management, Law School, College of Health Sciences, or School of Dentistry.
- **A letter notifying the Graduate School if the last name (family name) on the transcripts or test scores is different from the name on the Graduate School application.**
- **Official transcripts:**

  The Graduate School requires official transcripts detailing previous academic study from **all universities or colleges attended**. Transcripts are not considered official unless they are sent directly to the Graduate School from the institution attended. Transcripts will not be accepted if routed through the applicant. Applicants with course work in progress toward the fulfillment of a degree are required to submit an official final transcript verifying receipt of their degree after completing the course work. All applicants who have transcripts in a language other than English must provide official transcripts accompanied by certified English translations.

  Applicants who previously attended Marquette University need not request Marquette transcripts but are required to furnish transcripts from other schools they attended.
- **Letters of recommendation:**

  Applicants should check the Graduate School Programs section of this bulletin for information about the number of letters of recommendation needed, if any. Letters of recommendation from former professors are preferred and should comment on the applicant's past academic record and potential for future success. Most programs do not require special forms or format. However, the nursing, counseling, counseling psychology, and educational psychology programs require special forms for recommendation submission. Letters of recommendation should be submitted online as part of the online application system. Letters of recommendation, if not submitted online, may be sent directly to the Graduate School by the author or institution or may be sent with the self-completed application in sealed envelopes with the author's signature across the back flap.

  Applicants applying for financial aid through the Graduate School must submit three letters of recommendation and check the financial aid box on the application (see the Financial Information section of this bulletin).
- **Permission to discuss the applicant's file with a third party (optional):**

  Applicants who are unable to speak directly with an admissions counselor (due to distance, expense, etc.) may give the Graduate School permission to communicate with a third party. Marquette University requires that this request be made in writing, be signed by the applicant, and specify the name(s) of the third party.
- **Additional application materials as requested by the program:**

  It is the applicant's responsibility to obtain information about any additional requirements from the Graduate School Programs section of this bulletin, from the Graduate School or department Web sites, or from the director of graduate studies in the proposed program.
- **Test Data:**

  One or more of the following tests may be required as part of the admission process. Consult the Graduate School Programs section of this bulletin or the program requirements at www.marquette.edu/grad/programs_apps.shtml for information specific to the applicant's proposed program. Regardless of the test, all scores will be considered unofficial until verified by the testing agency.

  Preparation books for these tests can be found at the public library and various bookstores. Free downloads of preparation materials are also available at www.mba.com for the GMAT and at www.gre.org for the GRE. A variety of tests, including the GRE (General Test only), the GMAT and the TOEFL, are administered locally at Prometric Testing, 19435 W. Capitol Drive, Suite L04, Brookfield, WI 53045. Call (262) 796-0836 for more information.

  The Graduate School urges applicants to take tests well in advance of the date the scores are needed. It usually takes at least six weeks for scores to reach the Graduate School office after the exam. Test scores should be relatively recent; scores more than five years old (two years for TOEFL) may not be accepted.

Graduate Record Examination (GRE)

Most graduate programs request a GRE (General Test) score. Departments may require applicants to take a "Subject" (advanced) GRE Test. Consult the Graduate School Programs section of this bulletin for specific information. For information about this test, contact the GRE-ETS, P.O. Box 6000, Princeton, NJ 08541-6000. Visit the Web site www.gre.org or call (609) 771-7670 or (866) 473-4373 for more information.

Test takers applying to the Graduate School must enter the code 1448 in the Score Report Recipient section of the GRE registration form; those applying to the Graduate School of Management for economics or human resources must enter the code 5786. It is not sufficient to list Marquette as the undergraduate institution. Failure to enter the correct code will delay the admission decision.

Graduate Management Admission Test (GMAT)

The GMAT is required for admission to the business administration and accounting master's programs. For information about this test, contact the Graduate Management Admission Council®, 1600 Tysons Blvd., Ste. 1400, McLean, VA 22102. Visit www.mba.com or call (800) 717-GMAT (4628) or (866) 706-0403 for more information.

Millers Analogy Test (MAT)

This test may replace the GRE for admission to some programs. Check with the Graduate School Programs portion of this bulletin for additional information.

Those on or near a college campus should contact the student counseling center, testing service, or similar office on that campus to arrange for testing. If applicants live near Marquette University, they may make arrangements with the Marquette University Counseling Center located in Holthusen Hall, 204. The telephone number is (414) 288-7172. The applicant may also request a list of test centers from Pearson-MAT, 19500 Bulverde Road, San Antonio, TX 78259, call (800) 622-3231 or (800) 627-7271, or look online at www.milleranalogies.com. Test scores must be reported directly to the Graduate School.

Test of English as a Foreign Language (TOEFL)—*International Students Only*

International students whose language of instruction for their bachelor's degree education (or master's, if applicable) was not English must take the TOEFL. International students must have an adequate command of both written and spoken English, usually evidenced by a TOEFL score of at least 550 on the paper-based version and 213 on the computer-based version. The Internet-based, or iBT, version of TOEFL tests students in four areas: reading, writing, speaking, and listening. In general, a minimum score of 20 is required for each of the four sections, with an overall minimum score of 80. Applicants for some programs must test with higher minimums and should consult the Graduate School Programs section of this bulletin for specific information.

Test scores may not be more than two years old. For information about this test, contact TOEFL Services, Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541-6151, U.S.A. Visit www.ets.org/toefl or call (609) 771-7100 or (877) 863-3546 for more information.

International English Language Testing System (IELTS)—*International Students Only*

International students whose language of instruction for a prior degree was not English may take the IELTS in place of the TOEFL. In general, scores should be no more than two years old. Although each application will be evaluated in its entirety, in general, an IELTS score of 6.0–6.5 or higher will be required for admission. Information about the IELTS can be found at www.ielts.org.

MASTER'S DEGREE PROGRAM

The master's degree is awarded in recognition of academic accomplishment as demonstrated by a program of course work, passing of the required examinations, and the preparation of a thesis, project, or essay.

ADMISSION REQUIREMENTS

Only applicants whose total record indicates that they can make independent, original and high quality contributions to knowledge will be admitted. Departments reserve the right to limit the number of students accepted within a given time period.

APPLICATION PROCEDURES

Applicants must follow the instructions detailed earlier in this section. It is the applicant's responsibility to obtain information about any additional requirements from the Graduate School Programs section of this bulletin, from the Graduate School or department Web sites, or from the director of graduate studies in the proposed program.

ACCELERATED BACHELOR'S-MASTER'S DEGREE PROGRAM

The Accelerated Degree Program (ADP) is designed to provide a more efficient means to obtain a master's degree. It is based on attaining the necessary competencies rather than just a specified number of credits. The program is for students who have a high academic potential and want to start taking courses that will count both towards their undergraduate and graduate degrees. It benefits the university by capturing our best students for master's study. Each department has a limited number of openings for this program and will accept the highest performing students.

The ADP allows a student to begin accumulating credits towards completion of a master's degree while still enrolled as an undergraduate. Undergraduates participating in this program are granted early admission to the Graduate School and are allowed to take specified graduate-level courses during their junior year or senior year.

Academic units can choose to impose stricter guidelines than those that appear below.

With the approval of the applicable academic unit, up to12 graduate credits taken during their undergraduate career may be applied toward completion of their graduate degrees as long as the following criteria are met:

1. The courses must be appropriate to attain the necessary competencies for the graduate degree.
2. The student must earn a grade of B or above in each course.
3. The courses are 5000-level courses or above. Pure graduate-level courses are 6000 and above courses. 5000-level courses are upper division courses that carry graduate credit. ADP students can take 5000-level courses, but they must complete the *Graduate Credit for Undergraduate Course* form, found at www.marquette.edu/grad/documents/GradCreditsforUGCourse.pdf, that specifies the additional work that they are going to do to justify the awarding of graduate credit for an undergraduate course.

These graduate-level courses may also count towards their baccalaureate degree. The grades earned in courses applied toward both the baccalaureate and graduate programs will be computed into the grade point averages of both programs. None of the graduate courses taken in this program may be applied to the undergraduate core of common studies.

Academic units interested in participating in the ADP must provide a proposal to the UBUS and the UBGS that indicates how the necessary competencies will be incorporated into this accelerated program. Specific courses that will comprise the ADP course selection must be identified rather than permitting students to select any courses that they desire.

ADMISSION PROCEDURE

Participation in the ADP by any academic unit is optional. Each academic unit will develop admission criteria based on the following guidelines:

1. Minimal criteria for admission will be established by each participating program.
2. Each academic unit will establish the point in an undergraduate career when a student may apply for admission to the ADP, but in no case may it be earlier than the completion of the sophomore year.

3. The student must apply for admission to the ADP through the Graduate School. This admission, if approved, will include admission to the graduate degree granting academic unit. After admission into the ADP, the student will be identified as having ADP status through a student group within the records management system.
4. International students who are admitted into the ADP will work with the Graduate School and the Office of International Education in order to apply for a visa extension.

ACADEMIC ADVISING AND RECORDS

Academic units that want to participate in the ADP will develop a clear admissions and advising process for the ADP. The academic unit will send the student a letter listing the graduate courses (5000-level and above) from which they may compose their graduate program of study. A copy of this letter will be placed in the student's graduate record and will be provided to the student's undergraduate college.

PROGRAM REQUIREMENTS

Programs that offer an ADP may approve a maximum of 12 credit hours which can be applied toward the undergraduate degree during the junior and senior year. Following admission to the master's program, those courses may be transferred into a master's program. While an undergraduate, the student must enroll for graduate credit but will pay the appropriate undergraduate tuition for the specified graduate courses.

Only courses in which a B or above have been earned will be transferred into the graduate program of study. Students who complete the undergraduate degree may claim their status as graduate students (with the appropriate graduate credit) in the next term or session after receiving the bachelor's degree. Students who have completed the Accelerated Degree Program will have it noted on their transcript.

Admission to the ADP is a promise of formal admission to the Graduate School and the academic unit after completion of the bachelor's degree. However, the ADP student will still be officially considered an undergraduate student until the baccalaureate degree is officially awarded. At that time, the student must notify the Graduate School that the baccalaureate degree has been received, and the student will be formally admitted into the Graduate School. The student must then transfer the graduate credits from their undergraduate career into their graduate career by completing a *Transfer of Credit Request* form, found at www.marquette.edu/grad/documents/MasterTransferofCredit.pdf.

DUAL COUNTING OF UNDERGRADUATE AND GRADUATE CREDITS

Graduate courses taken during an undergraduate program of study will only be accepted for both undergraduate credit and for transfer into a graduate degree program if students have participated in an approved Accelerated Degree Program. Graduate courses taken outside of an ADP as an undergraduate student, however, may still be considered for transfer into a graduate program if they have not also been counted toward the undergraduate degree.

MASTER'S DEGREE REQUIREMENTS

MASTER'S PROGRAM PLANNING FORM

Master's degree students must complete the *Master's Program Planning Form* with their adviser, have it approved by their adviser and the director of graduate studies or chair, and submit it to the Graduate School before the end of their first term of study. The form is available online at www.marquette.edu/grad/documents/MastersProgramPlan.pdf. This form constitutes a formal agreement between the student and the university, and outlines what must be done to complete the master's degree. It may be changed by submitting a revised and approved *Master's Program Planning Form*.

FOREIGN LANGUAGE REQUIREMENTS

Some programs require reading comprehension in one or more foreign languages. This requirement is used as an important tool to advance the scholarly and research efforts of the student. To determine foreign language requirements for a specific doctoral program, consult the Graduate School Programs section of this bulletin. If required, students must select one (or more) language(s) in which there is significant scholarly literature in their program field.

There are a number of ways by which a student can complete the language requirement(s), including: taking a foreign language proficiency examination administered by the Department of Foreign Languages and Literatures; taking a three-credit, semester-long foreign language reading

knowledge course (course number xxxx-6204) offered by the Department of Foreign Languages and Literatures; proving to the student's departmental faculty that he/she has the necessary foreign language proficiency as evidenced by prior language study; or by taking an exam prepared and graded by the student's academic department. The 6204 reading knowledge courses may only be taken for credit and may not be audited.

If the student chooses to take a foreign language reading knowledge course, the tuition for the course will be charged at the normal Graduate School tuition rate in effect at the time the course is being taken, and the language credits will be in addition to regular course credits required for that academic program and degree. The grades earned in the foreign language reading knowledge course will be included in the student's term and cumulative credits and grade point average.

Students also have the option of taking a two-hour exam to fulfill a graduate degree program's language requirement. The exam, graded SNC/UNC, assesses a student's reading proficiency in a particular language through translation and comprehension questions about a foreign language passage. The student must register for the exam just like a regular course, and a $100 fee is assessed. If a student receives an unsatisfactory grade assessment, it is recommended that he/she complete the corresponding 6204 reading knowledge course. If the student decides to retake the exam outside of the course, the student would have to re-register for the exam and pay the $100 exam fee.

Whatever method is chosen, it shall be the responsibility of the student's home department to determine what level of language proficiency is sufficient. It shall also be the department's responsibility to notify the Graduate School of each student's completion of foreign language requirements.

COMPREHENSIVE EXAMINATIONS

Candidates for a master's degree in many departments must successfully pass a comprehensive examination on their total graduate program of studies. If a student fails a major section of the examination, the entire examination is considered to be a failure. This will cause the department to review the student's record, and, if warranted, a second and final examination will be given.

Each department administers its own comprehensive exams. Students are encouraged to contact their program for specific information including deadlines and procedures. A department may require students to complete a specific course instead of passing a comprehensive exam. Generally speaking, this course may be taken only after the student has completed all of the other core course requirements.

PLAN A AND PLAN B

The Graduate School offers the master's degree under two plans: Plan A, which requires that the student write a thesis, and Plan B, which substitutes additional course work, a professional project or essay instead of the thesis. Some master's programs allow students to choose either Plan A or Plan B. For plans offered in each program, consult the Graduate School Programs section of this bulletin.

Students may submit a petition to the Graduate School requesting a change from Plan A to Plan B (or vice versa) providing they have permission from their program. A new *Master's Program Planning Form*, available at www.marquette.edu/grad/forms_index.shtml, must be completed and submitted to the Graduate School.

If a student changes plans after completing some or all of the required thesis or project courses, these credits will not automatically apply toward the revised degree requirements.

PLAN A — MASTER'S DEGREE WITH THESIS

MINIMUM CREDIT REQUIREMENTS

A minimum of 30 credit hours is required, including six hours of thesis credits and a minimum of 18 credit hours of course work in the major field. Some departments may require additional semester hours; students should consult the Graduate School Programs section of this bulletin for more information. At least one-half of the minimum total course program credits (twelve credit hours in most programs, exclusive of thesis credits) must be taken at the graduate level (6000 course number or above). In the major field, at least one-half (nine credit hours) of the minimum course program must be taken at the 6000 course level or above. The remaining courses may be selected from among those undergraduate courses that are eligible for graduate credit.

Upper-division 5000-level courses are approved for graduate credit. With the approval of their department and the Graduate School, students may take a limited number of 5000-level courses and count them toward their degree requirements. When a 5000-level course is taken, the student must complete a *Graduate Credits Requested for Undergraduate Course* form, available at www.marquette.edu/grad/documents/GradCreditsforUGCourse.pdf, to detail the additional work that will justify the granting of graduate credit.

Any exceptions to the total credits and minimum grade point average requirements for any degree and/or certificate must be approved by the provost.

THESIS CREDITS

Students must take six hours of thesis credit. Students who enroll in and pay for thesis credits will not be entitled to a refund of tuition for these credits if they should subsequently drop out, withdraw from their program, or transfer to a Plan B option.

THESIS OUTLINE FORM

Students must submit an outline for the proposed thesis or professional project. (No outline is required by the Graduate School for writing a master's essay, although some departments may choose to require the form.) The outline will list the committee members which, for a master's thesis, must contain a minimum of three voting members. Master's thesis outline forms are available online at www.marquette.edu/grad/forms_index.shtml.

MASTER'S THESIS

Although there is no Graduate School requirement that the student hold a formal, public defense, it is expected that some type of defense of one's thesis be held. The format of this defense will be required by the department. Whatever format is used, the results of the defense must be reported on the *Master's Thesis/Essay/Professional Project/Publication Approval Form*, available at www.marquette.edu/grad/forms_index.shtml. The defense will be considered successful, and the student passed, if a majority of the voting members of the thesis committee vote to approve the defense and the department chair signs to accept any nonunanimous vote.

In a master's thesis, students demonstrate familiarity with the tools of research and scholarship in their major field, show thorough knowledge of the subject covered, and reflect independence of thought, critical insight and originality. The thesis must also be acceptable in style and composition. Students are required to follow the instructions on the *Thesis Directives* and thesis submission checklist, available online at www.marquette.edu/grad/forms_index.shtml. A thesis that does not conform to the directives, including format specifications, will not be accepted by the Graduate School.

An electronic copy of the completed master's thesis must be submitted online, on or before the deadline listed in the Academic Calendar. Although the student retains ownership and copyright privileges, a copy of the approved thesis will be considered a public document by Marquette University. The thesis may be placed in the Marquette University library, used by students and faculty, or otherwise released to the public unless restricted by the author. See the electronic theses and dissertations Web site at www.marquette.edu/grad/etd.shtml for details.

RECORDING THESIS DEFENSES

In order to facilitate an open and honest dialogue, thesis defenses are not normally recorded. However, it is the policy of the Marquette University Graduate School to allow, with prior permission, the audio and/or video recording of a student's thesis defense.

However, common courtesy requires that the thesis committee chair and all committee members must be made aware, in advance of the defense, of the student's desire to record the proceedings. Additionally, the chair and all committee members must assent to such a recording. Such written approval must include the signatures of the chair and all committee members, and the signed approval must be submitted to the assistant director for student records in the Graduate School prior to the recording being made.

If a thesis defense is recorded, all questions, statements, or other comments, whether verbal or written, remain the property of the person who spoke or wrote them, and any future use of the recording is subject to applicable copyright laws.

PLAN B — MASTER'S DEGREE WITHOUT THESIS

MINIMUM CREDIT REQUIREMENTS

A minimum of 30 credit hours is required and a minimum of 18 credit hours of the course work must be taken in the major field. Some departments require more semester hours; students should consult the Graduate School Programs section of this bulletin. At least one-half of the

minimum total course program (fifteen credit hours in most programs, exclusive of professional project credits) must be taken at the graduate level (6000 course number or above). The remaining courses may be selected from among those undergraduate courses that are eligible for graduate credit. Consult individual program listings and department advisers to determine the specific requirements for Plan B programs.

Upper-division 5000-level courses are approved for graduate credit. With the approval of their department and the Graduate School, students may take a limited number of 5000-level courses and count them toward their degree requirements. When a 5000-level course is taken, the student must complete a *Graduate Credits Requested for Undergraduate Course* form, available at www.marquette.edu/grad/documents/GradCreditsforUGCourse.pdf, to detail the additional work that will justify the granting of graduate credit.

Any exceptions to the total credits and minimum grade point average requirements for any degree and/or certificate must be approved by the provost.

PROFESSIONAL PROJECT CREDITS

Academic units may require students to register for project credits or similar course work. Students who enroll in and pay for project credits will not be entitled to a refund of tuition of these credits if they should subsequently drop out of or be withdrawn from their programs.

PROFESSIONAL PROJECT

In a project, students demonstrate familiarity with the tools of research and scholarship in the major field, show thorough knowledge of the subject covered, and reflect independence of thought, critical insight and originality. The project must be acceptable to the department in style and composition. Formatting of professional projects is at the discretion of the department. *Thesis Directives*, found at www.marquette.edu/grad/forms_index.shtml, may be used as a guide.

An original copy and a *Master's Thesis/Essay/Professional Project/Publication Approval Form* with appropriate signatures must be submitted to the Graduate School office on or before the deadline listed in the Academic Calendar.

ESSAY

In many graduate programs, a master's essay may be required even though no formal credit is given for it and no outline is required by the Graduate School. Students should confer with their advisers about topics and guidelines for producing an acceptable paper, including requirements for length and references. An original copy of the essay and a *Master's Thesis/Essay/Professional Project/Publication Approval Form* with appropriate signatures must be submitted to the Graduate School office on or before the date listed in the Academic Calendar. Essays must be acceptable to the department in style and composition. Formatting of essays is at the discretion of the department. *Thesis Directives*, found at www.marquette.edu/grad/forms_index.shtml, may be used as a guide.

RESEARCH INVOLVING HUMANS OR ANIMALS

A student whose thesis or professional project involves research either on or with humans or animals must receive written approval before undertaking such research. The approval forms for human or animal research may be obtained through the Office of Research Compliance. This approval form and any additional paperwork must be submitted to the Graduate School. Additional information may be found in the *Thesis Directives* or at www.marquette.edu/researchcompliance.

EARNING A SECOND MASTER'S DEGREE

Students already holding a Marquette master's degree may earn a second Marquette master's degree in another discipline by applying for and receiving admission, and by completing all of the requirements necessary for the second master's degree.

During the first term of study of the second master's degree, students must complete a *Master's Program Plan Form*, have it approved, and submit it to the Graduate School. Additionally, if the student intends to request and transfer credit from their first master's degree, they must complete the *Master's Degree Transfer of Credit Request* form, available online at www.marquette.edu/grad/documents/TransferofCredit.pdf. Between 9 and 15 credits may be transferred from the first master's degree, depending on the total number of credits required to complete the second master's degree. Normal transfer credit policy will apply. Credits to be transferred in must normally have been earned within six years prior to admission into the second master's degree. (See Transfer of Credit.)

DOCTORAL DEGREE PROGRAM

The doctor of philosophy (Ph.D.) degree is awarded in recognition of high attainment and ability in a special subject field. Candidates are required to pass examinations that cover general and specific knowledge in their area of expertise, and prepare and successfully defend a dissertation based on original research that makes a significant contribution to the field.

INTERDISCIPLINARY Ph.D. PROGRAM

Faculty from both doctoral and non-doctoral departments may propose interdisciplinary Ph.D. programs for individual students to the University Board of Graduate Studies. This provides students and faculty with opportunities for creative academic programming and research opportunities that cross traditional disciplinary boundaries. Since there is no departmental structure to support these programs, certain understandings, commitments, and restrictions, beyond those required in regular doctoral programs, are necessary. Additional information appears later in this bulletin. Direct specific questions to the Graduate School.

ADMISSION REQUIREMENTS

Admission requirements for the doctoral degree are substantially higher than those for a master's degree. Only applicants whose total record indicates that they can make independent, original and high-quality contributions to knowledge will be admitted. Doctoral students are not admitted on probation status. Departments may require that students obtain a master's degree before beginning doctoral studies. For more information, check the Graduate School Programs section found in this bulletin or with the director of graduate studies for the proposed program. Departments reserve the right to limit the number of students accepted within a given time period.

APPLICATION PROCEDURES

Applicants must follow the instructions detailed earlier in this section. It is the applicant's responsibility to obtain information about any additional requirements from the Graduate School Programs section of this bulletin, from the Graduate School or department Web sites, or from the director of graduate studies in the proposed program. Students with master's degrees from Marquette are required to submit a new application to the Graduate School if they wish to be considered for doctoral admission.

DOCTORAL DEGREE REQUIREMENTS

DOCTORAL PROGRAM PLANNING FORM

Students must prepare a program of study, with their adviser, that lists the steps and classes needed to complete their doctoral degree. The *Doctoral Program Planning Form*, available online at www.marquette.edu/grad/forms_index.shtml, is used for this purpose. The approved *Doctoral Program Planning Form* constitutes a formal agreement between the student and Marquette University and, once established, may be changed only by formal amendment using the *Doctoral Program Planning Form Amendment*, available online at www.marquette.edu/grad/forms_index.shtml. The *Doctoral Program Planning Form* should be submitted to the Graduate School no later than the end of the student's first year. Course work, foreign language and residency requirements are accepted as part of a student's doctoral program only after approval of the *Doctoral Program Planning Form*.

CREDIT REQUIREMENTS

Depending on previous preparation and the nature of the research undertaken, the number of credits required for individual students, even within the same program, may vary considerably. Minimum credit requirements have, however, been established by the university and the Graduate School.

Upper-division 5000-level courses are approved for graduate credit. With the approval of their department and the Graduate School, students may take a limited number of 5000-level courses and count them toward their degree requirements. When a 5000-level course is taken, the student must complete a *Graduate Credits Requested for Undergraduate Course* form, available at www.marquette.edu/grad/documents/GradCreditsforUGCourse.pdf, to detail the additional work that will justify the granting of graduate credit.

The doctoral degree is the highest degree conferred by Marquette University. There are significant differences in degree requirements between the physical/natural sciences and other

fields, and these are addressed below. However, in all cases, students must complete 12 dissertation credits and must satisfy the university's residency requirements. The credit requirements listed below are the minimum established by the Graduate School. Individual departments may set their own requirements that meet or exceed these minimums.

BIOLOGICAL SCIENCES AND CHEMISTRY

A minimum of 24 credits of course work beyond the bachelor's degree is required, plus 12 dissertations credits. In cases in which the student enters the program with a master's degree in the same or closely related field, the student may request the department and the Graduate School to allow the master's degree to satisfy up to 25% of the 24 required credits. In all cases, a minimum of 18 credits of course work exclusive of the dissertation must be taken at Marquette while in the doctoral program.

Any exceptions to the total credits and minimum grade point average requirements for any degree and/or certificate must be approved by the provost.

ALL OTHER PROGRAMS

A minimum of 45 credits of course work beyond the bachelor's degree is required, plus 12 dissertation credits. In cases in which the student enters the program with a master's degree in the same or closely related field, the student may request the department and the Graduate School to allow the master's degree to satisfy up to 50% of the required credits. In all cases, a minimum of 21 credits of course work exclusive of the dissertation must be taken at Marquette while in a Ph.D. or D.N.P. program.

Any exceptions to the total credits and minimum grade point average requirements for any degree and/or certificate must be approved by the provost.

FOREIGN LANGUAGE REQUIREMENTS

Some programs require reading comprehension in one or more foreign languages. This requirement is used as an important tool to advance the scholarly and research efforts of the student. To determine foreign language requirements for a specific doctoral program, consult the Graduate School Programs section of this bulletin. If required, students must select one (or more) language(s) in which there is significant scholarly literature in their program field.

There are a number of ways by which a student can complete the language requirement(s), including: taking a foreign language proficiency examination administered by the Department of Foreign Languages and Literatures; taking a three-credit, semester-long foreign language reading knowledge course (course number xxxx-6204) offered by the Department of Foreign Languages and Literatures; proving to the student's departmental faculty that he/she has the necessary foreign language proficiency as evidenced by prior language study; or by taking an exam prepared and graded by the student's academic department. The 6204 reading knowledge courses may only be taken for credit and may not be audited.

If the student chooses to take a foreign language reading knowledge course, the tuition for the course will be charged at the normal Graduate School tuition rate in effect at the time the course is being taken, and the language credits will be in addition to regular course credits required for that academic program and degree. The grades earned in the foreign language reading knowledge course will be included in the student's term and cumulative credits and grade point average.

Students also have the option of taking a two-hour exam to fulfill a graduate degree program's language requirement. The exam, graded SNC/UNC, assesses a student's reading proficiency in a particular language through translation and comprehension questions about a foreign language passage. The student must register for the exam just like a regular course, and a $100 fee is assessed. If a student receives an unsatisfactory grade assessment, it is recommended that he/she complete the corresponding 6204 reading knowledge course. If the student decides to retake the exam outside of the course, the student would have to re-register for the exam and pay the $100 exam fee.

Whatever method is chosen, it shall be the responsibility of the student's home department to determine what level of language proficiency is sufficient. It shall also be the department's responsibility to notify the Graduate School of each student's completion of foreign language requirements.

SPECIALIZATIONS

A specialization (or sub-plan), normally consisting of twelve credits of course work in a specific field, may be required for some doctoral programs. When a specialization is required, it must be selected from those currently active within approved Marquette University programs.

The specialization must be outlined on the *Doctoral Program Planning Form*. For additional information, consult the Graduate School Programs section of this bulletin.

RESIDENCY REQUIREMENT

The residency requirement is designed to immerse doctoral students in the campus community of scholars. It must be satisfied in the department in which the student is seeking a doctoral degree. The residency requirement is met when a student completes nine credits of course work, or its equivalent per term, for two terms within an 18-month period, or alternatively, completes at least 6 credits of course work, or its equivalent per term, for three terms within an 18-month period. Plans for the residency must be included on the *Doctoral Program Planning Form*. The credit load necessary to meet the six- or nine-credit requirement may be met by course work alone or course work in conjunction with dissertation credits.

DOCTORAL QUALIFYING EXAMINATION

The DQE is an exploration of the student's understanding in the program field and may be written, oral, or both. It may also include an explanation of the proposed dissertation. Some departments require students to pass cumulative examinations. Required elements for the DQE are defined by the student's program department. The DQE is typically scheduled after all course work, language and residency requirements have been completed. Taking the DQE before all requirements have been satisfied requires written permission from the student's department.

The exam is conducted by a committee made up of at least three faculty members from the student's program. If the committee includes a non-Marquette member, the department must note this exception in writing and submit a request and a curriculum vitae for that person to the Graduate School.

Students who fail the examination may, with the consent of the academic department, be eligible to take a second examination after fulfilling all conditions stipulated by the doctoral examining committee. If the second examination is unsatisfactory, no further examination is permitted.

OFFICIAL DOCTORAL CANDIDACY

Students advance to doctoral candidacy upon recommendation of their department, having completed all course work, language, and residency requirements, and passing the DQE. The departments shall notify the Graduate School in writing, using the *Advancement to Doctoral Candidacy* form found online at www.marquette.edu/grad/forms_index.shtml, for all students recommended for candidacy.

DISSERTATION PROCESS

ASSEMBLING A DISSERTATION COMMITTEE

Candidates select their dissertation committee with the assistance of their adviser. The committee must be comprised of a minimum of three voting members. The names of the members, including the chairperson, must be on the *Outline for Dissertation, Thesis, Professional Project or Essay* form, available online at www.marquette.edu/grad/forms_index.shtml. If the committee includes a non-Marquette member, the department must submit a recent curriculum vitae for that member to the Graduate School with their *Outline for Dissertation, Thesis, Professional Project or Essay* form. The vice provost for research and dean of the Graduate School appoints the dissertation committee by approving the outline form.

DOCTORAL DISSERTATION OUTLINE FORM

Students must submit an outline for the proposed dissertation on the *Outline for Dissertation, Thesis, Professional Project or Essay* form, typically within the first term that dissertation credits are taken, but no later than the deadline listed in this bulletin. Outlines must be approved by the student's adviser, the department chairperson, and the Graduate School. If the proposed research involves a real or apparent conflict of interest on the part of the student, the dissertation director, or the committee members, it must be declared at the time the outline is submitted.

RESEARCH INVOLVING HUMANS, ANIMALS OR RADIOISOTOPES

A student whose dissertation involves research with humans, animals or radioisotopes must receive written approval before undertaking such research. The approval forms for human, animal or radioisotope research may be obtained through the Office of Research Compliance. This approval form and other required paperwork must be submitted to the Graduate School.

Additional information may be found on the *Dissertation Directives* or at www.marquette.edu/researchcompliance.

DISSERTATION CREDITS

Students must register for 12 hours of dissertation credits and may enroll for these while working on their doctoral dissertation outline or dissertation. Each department determines the number of credit hours that a candidate may take during any one term. Students who enroll in, and pay for, dissertation credits before actually beginning work on their project will not be entitled to a refund of tuition of these credits even if they should subsequently drop out of or are withdrawn from their program.

DISSERTATION DIRECTIVES

Directions for writing the dissertation and the dissertation submission checklist are available online at www.marquette.edu/grad/forms_index.shtml. Students are strongly encouraged to consult both and to check with their departments for additional guidelines, if any, *before* starting. The Graduate School updates the directives periodically and students are responsible for using the most recent version. Dissertations that do not conform exactly to the most recent directives will not be accepted by the Graduate School.

WRITING THE DISSERTATION

A dissertation demonstrates a student's familiarity with the tools of research and scholarship in the field, shows thorough knowledge of the subject covered, and reflects independence of thought, critical insight and originality. The dissertation must exhibit the student's mastery of the literature of the subject and familiarity with the sources, and be presented with a satisfactory degree of literary skill. Students are required to follow the instructions in the *Dissertation Directives*. Dissertations not conforming to the directives, including format specifications, are not accepted by the Graduate School.

An electronic copy of the completed dissertation must be submitted online, and the completed *Dissertation Approval Form* must be turned into the Graduate School office by the date listed in the Academic Calendar inside the back cover of this bulletin. Students must consult the dissertation submission checklist prior to submitting the dissertation and must consult the *Dissertation Directives* for a complete list of forms and other requirements that must be turned in to the Graduate School at the time of submission of the dissertation. Although the student retains ownership and copyright privileges, a copy of the approved dissertation will be considered the property of Marquette University. Bound or microfilm copies may be made available to the public at the Marquette University library unless restricted by the author. See the electronic theses and dissertations Web site at www.marquette.edu/grad/etd.shtml for details.

PUBLIC DEFENSE OF THE DISSERTATION

A public defense of the dissertation is conducted after the candidate has completed all other formal requirements for the doctoral degree. Although the examination is primarily a defense of the dissertation, it will include material relevant to the general field in which the dissertation is written, with particular attention to the more recent and significant developments.

The candidate and adviser select a date, during weekday working hours and avoiding public or religious holidays, for the public defense of the dissertation. If the student wants to graduate the same term the defense is made, the defense must be held before the deadline listed in the Academic Calendar. At least four weeks prior to the scheduled date for the dissertation defense, the student must submit a signed *Announcement for Public Defense of the Dissertation* form, available online at www.marquette.edu/grad/forms_index.shtml. The form must be accompanied by an electronic version of the abstract in MS Word, e-mailed to grad.records@marquette.edu. All committee members must sign this form indicating their agreement to the date of the public defense.

The defense will be considered successful, and the candidate will be passed, if a majority of the voting members of the dissertation committee vote to approve the defense and if the department chair signs to accept any nonunanimous vote.

RECORDING DISSERTATION DEFENSES

In order to facilitate an open and honest dialogue, dissertation defenses are not normally recorded. However, it is the policy of the Marquette University Graduate School to allow, with prior permission, the audio and/or video recording of a student's dissertation defense.

However, common courtesy requires that the dissertation committee chair and all committee members must be made aware, in advance of the defense, of the student's desire to record the

proceedings. Additionally, the chair and all committee members must assent to such a recording. Such written approval must include the signatures of the chair and all committee members, and the signed approval must be submitted to the assistant director for student records in the Graduate School prior to the recording being made.

If a dissertation defense is recorded, all questions, statements, or other comments, whether verbal or written, remain the property of the person who spoke or wrote them, and any future use of the recording is subject to applicable copyright laws.

POLICIES OF THE GRADUATE SCHOOL

ACADEMIC COURSE LOAD

The maximum academic course load for a graduate student is thirteen semester hours of course work for fall or spring term. Residents in the graduate dental programs have higher limits. Seven hours are the maximum permitted for each of the summer sessions but no more than 13 credits for the entire summer term. Teaching or research assistants may register for a maximum of ten semester hours each fall or spring term and seven hours for each of the summer sessions. Overloads must have the approval of the Graduate School on the *Credit Overload Request* form, available on the Office of the Registrar's Web site at www.marquette.edu/mucentral/registrar/reg_maximum.shtml.

ACADEMIC PERFORMANCE

ACADEMIC REVIEW

Every academic unit evaluates the academic performance of its graduate students, adhering to the standards of Marquette University, the Graduate School and any additional standards promulgated by each academic unit. Students must earn acceptable grades as well as adhere to the requirements of academic honesty, professional integrity, and appropriate performance in professional, laboratory, and clinical settings set forth earlier in the *Graduate Bulletin* (see Policies of Marquette University).

CLINICAL COURSES

By virtue of the special nature of clinical courses, particularly those courses in which students are working directly with patients or clients, students may be held to clinical and professional standards in addition to academic standards. If, in the opinion of the supervising faculty member, the student is falling short of expected levels of performance or professional behavior, the student may be removed immediately from the class. In most cases, the student shall be counseled regarding the deficiency, and will be given an opportunity to retake the class. However, depending on the type and severity of the deficiency, the student may be considered for dismissal from the program and the Graduate School.

SATISFACTORY PROGRESS

Satisfactory academic work is not determined exclusively by course grades. All degree graduate students must also make substantial and visible progress toward their degrees. This includes successful completion of such program requirements as a language examination, a comprehensive or qualifying examination, a thesis or dissertation outline, the thesis or the dissertation.

ACADEMIC STANDING

Non-degree and degree seeking graduate students must maintain a cumulative grade point average of at least 3.000 to satisfy university requirements. These are minimum standards for graduate courses; individual programs may specify higher standards to which students will be held by the programs. Students are responsible for awareness of these standards which are listed in the program sections of the Graduate Bulletin and in handbooks or Web pages provided by the programs. Students enrolled in the professional programs of dentistry, law, physician assistant studies, physical therapy, and the Graduate School of Management are not subject to these policies but are subject to the standards stated within their programs.

In addition to meeting requirements for academic and professional integrity and conduct, graduate students must also maintain both a cumulative and term grade point average of at least 3.000 in all course work, including prerequisites and other course work that does not apply to the degree. Failure to meet the required levels of academic performance may result in the following actions:

WARNING

Whenever the grade point average for any enrollment period is less than 3.000, but the cumulative grade point average is 3.000 or above, the student will be notified in writing of failure to meet academic standard requirements.

ACADEMIC PROBATION

If a student's cumulative grade point average falls below 3.000, or if the student receives a grade of F or U, the student may be considered for disenrollment, depending on the nature and seriousness of the reasons for the grades received. If, however, the student is continued, the student will be placed on academic probation for the next enrollment period. A student who fails to achieve a 3.000 grade point average during an enrollment period while on academic probation may, at the discretion of the academic unit and with the approval of the Graduate School, be granted an additional term on probation. A student who fails to achieve a cumulative 3.000 grade point average after the second probationary period will be reviewed by their department and the Graduate School and will normally be dismissed from the university.

ACADEMIC PROBATION REMOVED

When a student's cumulative grade point average returns to above 3.000, and the prior term's GPA is a 3.000 or higher with no grades of F or U, academic probation will be removed.

DISMISSAL

Students placed on academic probation who fail to earn at least a 3.000 grade point average in the subsequent enrollment period, or who fail to achieve a 3.000 cumulative grade point average while on a second academic probationary period, may be dismissed from the university. Within 10 days after the date of the notice of dismissal based upon academic grades, a student may appeal the decision to the dean of the Graduate School. A student who does not appeal will be disenrolled 11 days after the date of the notice of dismissal. In the case of an appeal, the dean of the Graduate School will decide whether to hear the appeal alone or to convene a meeting of a subcommittee of the University Board of Graduate Studies to weigh the appeal materials and to obtain testimony delivered live to the subcommittee by the student and academic unit representatives. Typically, situations dealing only with substandard academic performance will be considered by the dean, and issues dealing with an alleged violation of rights or procedures will be referred to a subcommittee of the UBGS. If referred to a subcommittee of the UBGS, the recommendation of the subcommittee as well as all materials delivered to the subcommittee by the student and the academic unit will be considered by the dean of the Graduate School, whose decision on the appeal is final. If dismissal is upheld, then disenrollment is made at that time.

Dismissed students may apply for readmission through the normal admission process. A period of one semester may be required by the academic department before readmission will be considered. If so required, the department may specify conditions that must be met during this period. No student may be readmitted to a program that is no longer active at the time of readmission.

The student must send a written request for readmission to the assistant dean of the Graduate School who will, in turn, forward the student's file to the academic program for review and a recommendation on readmission. The request for readmission must include a statement by the student addressing previous weaknesses, steps taken to correct the weaknesses, and an explanation of why the student feels he or she has the ability to succeed in graduate studies.

The student's transcript will not indicate the semesters the student has been on academic probation but will indicate dismissal if such should occur. If the student is subsequently granted readmission, the grade point average will continue from the previous calculation and the student must obtain a 3.000 grade point average after a new sequence of academic probation.

ACADEMIC STATUS

CONTINUOUS ENROLLMENT POLICY

All graduate students in degree status must enroll in either: adviser-approved course work; thesis, professional project, or dissertation credits; one of the continuation courses; or a combination of these **every fall and spring term** until graduation to maintain their graduate student status. Graduate students who intend to graduate in August must enroll in one of the above courses during the summer term prior to their graduation. Students who fail to register for one of these terms will automatically be discontinued and must apply for readmission. Readmission requires departmental consent and the payment of all fees in arrears. Continuation courses allow

those graduate students who have completed their degree requirements but are still working on their thesis, project or dissertation to be considered full-, half-, or less than half-time students.

Every graduate student, except those with non-degree status, must be enrolled as a full-time, half-time, or less than half-time student each fall and spring term to maintain his or her status. Registration in the summer is only required if the student intends to graduate in August. A full-time load consists of 7 or more academic credits; half-time consists of 4-6.99 academic credits; and less than half-time consists of less than 4 academic credits. All degree graduate students must enroll in adviser-approved academic course work; independent study; field placement; graduate assistant teaching or research; thesis, professional project, or dissertation credits; comprehensive exam preparation; or graduate standing continuation credits. Degree students who fail to enroll for a fall or spring term will be discontinued and must apply for readmission to the Graduate School (see Readmission).

THESIS, DISSERTATION, OR PROFESSIONAL PROJECT CONTINUATION

Students who have completed all credit requirements for their degree but need to continue work on their thesis, dissertation or professional project may retain graduate status by enrolling in Master's Thesis Continuation (9994/9995/9996), Doctoral Dissertation Continuation (9997/9998/9999), or Professional Project Continuation (9991/9992/9993). Each of these non-credit courses will allow students to be considered full-time, half-time, or less than half-time depending on the amount of work being completed on their project each term. Registration for Master's Thesis Continuation, Doctoral Dissertation Continuation, or Professional Project Continuation requires completion of a registration form, identification of the type and amount of work to be done, and the approval of the student's adviser or thesis/dissertation director (and director of graduate studies or chair if required by departmental policy).

FIELD PLACEMENT CONTINUATION

Students who have completed all credit requirements for their degree but still must participate in a practicum or internship experience may retain graduate status by enrolling in Field Placement Continuation (9977/9978/9979). This non-credit offering will allow students to be considered full-time, half-time, or less than half-time depending on the amount of work being devoted to their placement each term. Registration for Field Placement Continuation will require the consent of the student's adviser or thesis/dissertation director (and director of graduate studies or chair if required by departmental policy) and completion of a registration form outlining the number of hours a student will devote to the Field Placement Continuation.

GRADUATE ASSISTANTSHIPS

Graduate assistants who enroll in 6 academic credits in a term may earn full-time status by enrolling in a non-credit Graduate Assistant Teaching (9975) or Graduate Assistant Research (9976) course. Graduate fellows may enroll in six academic credit hours plus a non-credit Graduate Fellowship course (9974) to maintain full-time status.

COMPREHENSIVE EXAM PREPARATION

Students who are preparing for comprehensive exams may retain graduate status by enrolling in the appropriate Master's Comprehensive Exam Preparation course (9984/9985/9986) or Doctoral Comprehensive Exam Preparation course (9987/9988/9989). These zero-credit courses are graded on an S/U basis, and they may be taken alone or in conjunction with for-credit courses.

The Comprehensive Exam Preparation course will normally be taken during the term in which the student anticipates taking the exam, and it may be taken only once. If the student either fails the exam or for some reason does not take the exam, the student should register for Graduate Standing Continuation (9970) for less than half-time status for the following term to retake or complete the exam.

GRADUATE STANDING CONTINUATION

Students who are not able to take academic courses in a particular session, but need to maintain active academic status, may take a non-credit course entitled Graduate Standing Continuation (9970). This offering is designed to allow graduate students to engage in such activities as completing preparation for comprehensive examinations or participating in other projects. This option is designated as less than half-time, cannot be used in conjunction with other courses, and will not qualify an individual for financial aid.

CONTINUATION COURSE REGISTRATION PROCEDURES

All continuation courses shall be graded Satisfactory (SNC) or Unsatisfactory (UNC) and charged at the stated fee by the Office of the Bursar as listed in the Tuition, Fees and Housing section of this bulletin. Any needed registration forms can be found on the Graduate School's forms Web site at www.marquette.edu/grad/forms_index.shtml. Registration is as follows:

The appropriate registration form must be approved by the student's adviser and director of graduate studies/chairperson, and the student must have registered for the course on or before the last day of registration.

Enrollment information may not be accurate for students who are not registered by the close of registration and may affect requests for information provided through the Office of the Registrar (such as enrollment verification requests from lending institutions, insurance companies, etc.).

Students enrolling in one of these courses must register to activate their desired status. Registration will require the consent of the student's adviser and department, which must be secured prior to registering.

Registration requires the following procedures:

1. The student and his/her adviser meet and complete the registration form. An explanation of the student's involvement in non-credit academic work is required.
2. The student will be given a permission number to be used during the registration process.
3. The student registers via CheckMarq for the appropriate course, using the permission number received.
4. The completed and approved form shall be delivered to the Graduate School.

ADMISSION STATUS

Marquette University admits graduate students under four different categories: degree, non-degree, temporary and visiting scholar status.

DEGREE STATUS

When applicants are admitted to a program leading to a master's or doctoral degree, they are said to be in "degree status." This designation is made after the department and the Graduate School have accepted an application. An applicant may be admitted into one of two categories.

Regular degree status — Designates a student who is admitted to the Graduate School and is working towards a master's or doctoral degree in a particular program. Students are eligible for tuition scholarships, graduate assistantships and fellowships, as available.

Probationary degree status — This status is awarded to master's degree students only by the applicant's department or the Graduate School. Probationary status is assigned when an applicant's academic performance falls below Graduate School standards but there is other evidence to suggest the potential for successful graduate-level study. Students admitted on probation are not eligible to receive financial aid from the Graduate School but may apply for financial assistance from the Office of Student Financial Aid. Students failing to meet the conditions of the admission letter will be dismissed from the Graduate School.

In order to be considered for admission to degree status, all applicants are required to submit an application, the application fee, certified copies of transcripts, and other information as requested by the department.

NON-DEGREE STATUS

This status designates any student taking graduate-level classes who is not seeking a certificate, a master's degree, or a doctoral degree. Non-degree students are not eligible to receive financial aid from the Graduate School except for Catholic Schools Personnel Scholarships and the Milwaukee Area Teachers Scholarships. Non-degree students are typically not eligible to receive federally subsidized loans unless enrolled in an approved graduate certificate program. Non-degree students should contact the Office of Student Financial Aid for exceptions.

All non-degree applicants are required to submit an application, the application fee, and certified copies of transcripts. Non-degree applicants seeking admission to degree status must meet the same admission standards as other applicants to a degree program.

Completion of any number of non-degree credits **does not guarantee** acceptance into a degree program, and, if a non-degree student is subsequently admitted to a degree program, there is no guarantee that credits earned while in non-degree status will count toward the degree. Most degree programs accept between 9 and 15 transfer credits, depending on the number of credits needed for the degree (see Transfer of Credit). Non-degree students will not be permitted to take

more than 9 credits until they certify in writing that they are aware of the policies and limits regarding the transfer of credits into the degree program.

Credits earned as a non-degree student may be considered as graduate credits and certified as such to school boards or other authorities. Non-degree students may register for any course (with the exception of courses in dentistry) if they have met the prerequisites and have department permission. Non-degree students interested in taking courses in dentistry must have special permission from the Graduate School and the School of Dentistry.

TEMPORARY ADMISSION STATUS

Applicants who have applied to a degree or a non-degree program, and meet the minimum admission requirements but have not submitted all the necessary documents may be admitted under temporary status. This admission is valid for only one term. Students must apply for and be admitted as a degree or non-degree student before being allowed to register for additional courses.

VISITING SCHOLAR STATUS

This status designates a student, seeking a master's or doctoral degree at another institution, who takes one or more classes at Marquette University with the intention of transferring the earned credits. Evidence of the student's status and academic performance at the other institution will be required, although submission of official transcripts may not be necessary.

Visiting scholars may apply for federal financial aid through the student's home school or through Marquette. Students applying for aid through Marquette must request a Consortium Agreement from the Office of Student Financial Aid. When the completed form is returned to Marquette, the student will become eligible for federal financial aid and the Office of Student Financial Aid will process the student's FAFSA. Students applying for federal aid through their home institutions should consult their home institutions for their application policies and procedures.

ADVISING

In the admission letter, the Graduate School notifies each student to contact his/her department for identification of the assigned adviser and for advising prior to registration. A student is required to meet or talk with the adviser before registering for classes. The Graduate School strongly recommends that students meet regularly with their advisers; an adviser plays an important role in the graduate student's course of study. An adviser's signature is required on most forms submitted to the Graduate School and a student's program of study is not valid until it has been approved by both the adviser and the Graduate School. Students who want to change advisers should check with their department for additional information and instructions.

Non-degree and temporary graduate students are normally not assigned academic advisers. Students in these categories who need assistance should contact the department in which they will focus their course of study.

APPEALS

Students have the right to appeal the imposition of any sanctions due to unsatisfactory academic performance, findings of academic dishonesty, unsatisfactory professional integrity or performance, or student misconduct. The point of appeal is dependent upon who has the responsibility for imposing the sanction. For example, cases of academic dishonesty are governed by Marquette University's *Academic Honesty Policy*, as applicable to graduate students. Sanctions due to unsatisfactory academic or professional performance are governed by the *Graduate Bulletin*.

GRADE APPEALS

All grade appeals shall be heard for the Graduate School by the school or college that teaches the course, following the rules of that school or college. Their decision is final, and no further appeal is available. In schools or colleges with a departmental structure, the appeal procedure usually begins with the department chairperson. are also considered grades with regard to appeals.

DEADLINES

All graduate students are responsible for ascertaining and meeting all deadlines listed in the Academic Calendar. This includes, but is not limited to: deadlines for registration, withdrawing from courses, financial aid applications, graduation applications, comprehensive exams, theses, essays, projects and dissertations.

ENROLLMENT CHANGES

Changes in a graduate student's enrollment are under the jurisdiction of the Graduate School. Most enrollment changes, i.e., adding and withdrawing from courses, can be done using the online registration system (CheckMarq) prior to the close of registration (typically the second Tuesday of the term). Instructions for adding or withdrawing from courses are available at www.marquette.edu/mucentral/registrar/reg_index.shtml. Instructions for using CheckMarq are available at www.marquette.edu/mucentral/registrar/reg_studentselfservice.shtml.

After the close of registration each term, the student must notify the Graduate School office directly and must complete appropriate forms before any enrollment change will become effective. It is **not** sufficient for a student to notify the course instructor or someone in the department office; changes must be made manually.

ADDING COURSES

Students who wish to add one or more courses after the close of registration must submit a *Registration Change Request* form, available online at www.marquette.edu/grad/forms_index.shtml. New courses will not be added to a student's enrollment until a completed *Registration Change Request* form, with the signature of the course instructor, is returned to the Graduate School office.

WITHDRAWING FROM (DROPPING) COURSES

Students who, after the close of registration, decide to withdraw from one or more, but not all courses in a particular term or summer session must notify the Graduate School office by obtaining a *Request to Drop a Course(s)* form online at www.marquette.edu/grad/forms_index.shtml. (See also Withdrawing From All Courses, below.) It is extremely important that the student contact the Graduate School office as soon as the decision to withdraw is made. Changes will not be processed or be considered official until the appropriate forms, with all required signatures, are returned to the Graduate School office. Forms may be mailed, dropped off in person, or faxed to (414) 288-1902. **Tuition refunds** (refer to Refunds and Adjustments) **and W** (Withdrawal) **grades will be based on the date that the form is submitted to the Graduate School office, not on the date that the student last attended classes.**

A student who wishes to withdraw from a course with a W (Withdrawal) grade must do so before the deadline date listed in the Academic Calendar. Due to excessive absences or other reasons, including failure to formally withdraw before the deadline, a student may be administratively withdrawn from a course and incur a grade of either ADW (Administrative Withdrawal), UW (Unexcused Withdrawal), WA (Withdrawn-Excessive Absences) or F (Failure).

When withdrawing from any portion of a course load, students must carefully consider the ability of their remaining enrollment to satisfy any enrollment requirements to which they might be subject due to applications for student loans, loan repayment deferments, visas, etc.

WITHDRAWING FROM ALL COURSES

Students enrolled for one or more classes who, after the close of registration, decide to discontinue study for the term must notify the Graduate School office and complete a *Request to Drop a Course(s)* form. The same rules, procedures, and cautions for partial withdrawals also apply to complete withdrawals. (Refer to Withdrawing From Courses, above.) Withdrawing from all courses will not automatically withdraw a student from a graduate program, but it might affect the student's eligibility to register in subsequent terms.

GRADING SYSTEM

The following letter grades and their achievement equivalents are used by instructors in the Graduate School to evaluate a student's performance in a course. Grade points corresponding to each letter grade determine a student's academic average and eligibility to graduate. Each grade, A through F, has a specific grade point value. The grade points earned in any course equal the grade point value of the grade multiplied by the number of semester hours credited. The grade point average (GPA) is found by dividing the total grade points earned by the total number of semester hours credited in those courses for which grade points have been assigned. Determination of the cumulative GPA will be based on all courses taken during the student's graduate career, including prerequisite and repeated courses, if any. Note: Credits that are accepted for a Marquette degree, if transferred from another university, will not be included when calculating the student's grade point average.

All graduate students must maintain a grade point average of at least 3.000 to graduate. (For the effect of F and U grades, refer to Academic Review.) Graduate students may not be assigned a CD or a D grade in any course whatsoever, including undergraduate courses.

Grade	*Achievement*	*Grade Points*
A	Superior	4.000
AB		3.500
B	Good	3.000
BC		2.500
C	Minimally acceptable on a limited basis for graduate credit	2.000
CD	Not approved for graduate students	
D	Not approved for graduate students	
F	Failure	0

Grade points are not affected by the following grades:

Grade	**Circumstance**
ADW	Administrative Withdrawal; student was withdrawn from the course for administrative reasons, as determined by the university via a dean's decision, a formal hearing and/or appeal process; takes precedence over W, WA or UW grades.
AU*	Audit.
CR	Credit; equivalent of C work or better.
I	Incomplete; assigned on a pre-arranged basis, to allow completion of course assignments other than the final examination; the student's performance in the course must merit this exception otherwise, the instructor will assign either a grade of F, or a passing grade that reflects both the quality of the work completed and the significance of the work which has not been completed.
IC	Course Incomplete; assigned to all students enrolled in a course, clinical, independent study/research, capstone, etc. that will not be completed by the grading deadline for the term in which the course is scheduled; changed to a letter grade by the faculty at the time of completion (no initiation needed by the student).
IE	Incomplete Extension; assigned by the college office to those students who are granted an extension to the deadline for removal of an I, IX or X grade.
IX	Incomplete course work and final exam not taken; assigned to a student who has incomplete course work and is absent from the final examination; must meet the criteria for both the I grade and the X grade; a student not qualifying for the IX will be assigned the grade of F.
NC	No Credit; equivalent of less than C work.
SNC	Satisfactory completion in a course bearing no credit; mandatory grade for all zero credit bearing courses.
UNC	Unsatisfactory completion in a course bearing no credit; mandatory grade for all zero credit bearing courses.
S	Satisfactory completion in a credit bearing competency-based course; equivalent of C work or better.
SY	A permanent grade indicating satisfactory work completed in the first term of a series of year-long courses, where grades are assigned only in the final course in the series.

U	Unsatisfactory completion of a credit bearing, competency-based course; equivalent of less than C work.
UW	Unexcused withdrawal; withdrawal initiated by the faculty or college office when a student registered for a course, never attended and failed to officially withdraw.
UY	A permanent grade indicating unsatisfactory work completed in the first term of a series of year-long courses, where grades are assigned only in the final course in the series.
W**	Official withdrawal; withdrawal initiated by the student, with approval of the college office.
WA	Withdrawn-Excessive Absences; withdrawal initiated by the faculty or college office due to excessive absences in the course or student is found to be in violation of the "Undergraduate Attendance Policy" section of the *Undergraduate Bulletin*.
X	Completed coursework and final exam not taken; assigned to a student who is absent from the final examination and who might earn a passing grade in the course were he/she to take a delayed examination; both conditions must exist, or the student is assigned the grade of F; student receiving the grade of X must file a written explanation for the absence with his/her college office.

*Carries no graduate credit. Refer to Audit, below.

**Signifies an official withdrawal with the approval of the vice provost for research and dean of the Graduate School.

Note that **grades of CD and D are not approved for graduate students, including those in undergraduate courses**.

ADW GRADE

This grade is assigned by the college office offering the course, and will take precedence over the W, WA or UW grade, should the student withdraw or be withdrawn from a course after the faculty or other university personnel initiated the administrative action which ultimately results in this grade.

AUDIT

Students must first register for a course via CheckMarq, then request the audit option from the Graduate School. The *Registration Change Request* form on the Graduate School's Web site www.marquette.edu/grad/forms_index.shtml is used for this request. The deadline to request the audit option for each session is listed on the University Academic Calendar. Classes being audited are not charged at the normal tuition rate. Refer to the Financial Information section of this bulletin for information on tuition rates.

CR/NC GRADING

Under no circumstances may the undergraduate CR/NC option be exercised by a graduate student taking an undergraduate course for graduate credit.

S/U GRADING

Graduate students required to take undergraduate courses as prerequisites or to remedy deficiencies may not take those courses for S/U grades, as this option is not available.

However, a few select graduate courses are offered for S/U grades only. Courses of this type usually are limited to practica, department colloquia, or special seminar courses. Students should check the individual course descriptions in this bulletin and the grading basis when conducting a class search in CheckMarq to determine whether a course is offered on this basis.

For the effect of U grades, refer to Academic Review.

GRADE CHANGES

There are two types of grade adjustments: changing a temporary grade (I, IC, IE, IX or X) to a permanent grade, and correcting a permanent grade.

TEMPORARY GRADES — I, IC, IE, IX OR X

Graduate students who do not complete course requirements during the term in which the class is offered may be given one of the following temporary grades after consultation with their instructor: X, when the final examination is missed; I, when the course work has not been completed; IE, when an I grade extension has been approved via student request (*Request for Extension of I Grade Deadline* form, found at www.marquette.edu/grad/forms_index.shtml); or

IX, a combination of missed final examination and incomplete course work. The temporary grade of IC is issued when the course extends beyond the grading period.

The faculty member must submit a grade change form, found in CheckMarq, to change an I, IC, IE, IX or X to a permanent grade. The grade change deadline listed in the Academic Calendar pertains to I, IX, and X grades. For these grades, the student is obligated to submit all missing work to the instructor by the deadline, or to issue an extension request to the Graduate School by the deadline.

It is the responsibility of the faculty member to initiate the grade change procedure for the I, IX, and X grades by the deadline listed in the Academic Calendar. Grades of I, IE, or IX or X that are not resolved by the deadline will become permanent grades of PI on the student's record. Change of the IC grade is faculty initiated, once the class is completed.

CORRECTING A PERMANENT GRADE

Changing a permanent grade, because of miscalculation on the part of the instructor or a misunderstanding between the instructor and the student, may be initiated by either the student or the instructor. Changing a permanent grade should be done within six months of the end of the term.

GRADUATE CREDIT

A graduate student who has been officially accepted into the Graduate School can earn graduate credit for a course if the course is a 6000-level course or higher, or the course is a 5000-level course that is cross-listed with a 4000-level undergraduate course. In the case of a 5000-level course, the student must document the additional academic work that is required to justify graduate credit by completing the *Graduate Credits Requested for Undergraduate Course* form, available online at www.marquette.edu/grad/forms_index.shtml. This form must be submitted by undergraduate or graduate students who wish to receive graduate credit for a 5000-level course. (Undergraduate students see section on Undergraduate Students in Graduate Courses.)

Graduate students taking courses while in a non-degree status may request subsequent transfer of credits to their degree program, once formally admitted to a degree program, by submitting a *Master's Degree Transfer of Credit Request Form*, available online at www.marquette.edu/grad/forms_index.shtml (see Transfer of Credit).

INDEPENDENT STUDY

Independent Study (6995 and 8995) courses provide students the opportunity to study and investigate areas of interest not available through normal course offerings. A 6995/8995 course is taken on the recommendation of the student's adviser and with the approval of the department chairperson. An approval form, which must be completed for each 6995/8995 course, is available on the Office of the Registrar's Web site at www.marquette.edu/mucentral/registrar/policy_forms.shtml. Normally, no more than six credits of 6995/8995 course work can be included in a master's degree program, no more than nine credits in a doctoral program.

INTER-UNIVERSITY VISITATION

Marquette University participates in two programs, detailed below, by which its students may take courses at another university or college in order to expand the breadth of their education.

MARQUETTE–UWM AND MARQUETTE–MEDICAL COLLEGE OF WISCONSIN

Marquette University has agreements with both the University of Wisconsin–Milwaukee and with the Medical College of Wisconsin. The course being taken at the host institution must not be available at Marquette. In no case will more than six credits taken at UWM or MCW be counted toward degree completion at Marquette, unless the courses are taken as part of a joint program. The students must apply for admission to the host institution as a special student; the application fee is waived. A Marquette student must complete the appropriate registration form, found online at www.marquette.edu/grad/forms_index.shtml, then get their adviser's approval, and finally submit the completed form to the Graduate School. This will register the student for the course GRAD 6933 (UWM course) or GRAD 6945 (MCW course), both of which are variable title and variable credit courses that reflect the title and number of credits of the course at the host institution. The student must also register for the course at the host institution. Tuition is paid at the home institution for the GRAD 6933 or GRAD 6945 course. The course at the host institution is tuition-free. Only degree-seeking graduate students in good standing are eligible to participate. *This program is not intended for students in joint programs*

such as bioinformatics, biomedical engineering, and healthcare technologies management, where the courses between Marquette and MCW are cross-listed. Interested students should contact the Graduate School office for additional information and enrollment forms.

MIDWEST CATHOLIC GRADUATE SCHOOLS CONSORTIUM

The consortium of Midwest Catholic Graduate Schools (MCGS) includes Loyola University, Chicago, Ill.; Marquette University, Milwaukee, Wis.; University of Notre Dame, South Bend, Ind.; and St. Louis University, St. Louis, Mo. MCGS has established the protocol whereby a degree-seeking student at one university may take course work at any of the other three universities to apply toward degree requirements at the *home* institution.

With prior approvals, the student enrolls at the *home* institution and makes financial arrangements there, but attends classes, on a short-term basis, as a visiting student at the *host* university. Final grades are forwarded from the host to the home university for listing on the student's permanent record. The following restrictions apply: 1) Participation is restricted to those fields of study which are under the academic jurisdiction of the graduate deans at both the home and the host institutions; 2) Non-degree or temporary students may not participate; 3) The degree-seeking student must have completed at least the equivalent of one full term at the home university before visiting one of the other institutions; 4) A student may gain approval for more than one visitation at more than one host institution, but no more than nine credit hours of courses from host institutions can become part of a degree program at the home institution.

To participate, a student must complete, for **each** course to be taken at a host institution, an *Inter-University Visitation Enrollment Form* and the applicable registration form, found online at www.marquette.edu/grad/forms_index.shtml, both of which require signatures of approval. Because of the paperwork involved and the number of approvals that must be obtained, the student must begin the inter-university visitation application process no later than June 1 for a fall term visitation, October 1 for the spring term, or March 1 for the summer term. Interested students should contact the Graduate School office for additional information and enrollment forms.

LEAVE OF ABSENCE

Marquette University supports a leave of absence policy to assist graduate students who are temporarily unable to continue their programs. The leave of absence may extend for up to one academic year. Under unusual circumstances, a second year of absence may be requested. Reasons for requiring such a leave may include: bereavement, illness, injury, care giving, military service, maternity, and paternity. Students requesting a leave of absence must submit an application to the Graduate School via their department/school/unit chairperson or director. Students granted a leave of absence will not have the right to use university facilities during the time of their leave. This includes the library, the recreation center, and any other resources normally granted to enrolled students. Leaves of absence must be requested prior to the start of a term, and will not be approved retroactively.

PREPARING THE APPLICATION FOR LEAVE OF ABSENCE

In consultation with the supervising faculty member, the *Request for Leave of Absence* form found at www.marquette.edu/grad/forms_index.shtml is to be completed by the student, and signed by both the student and the adviser or supervising faculty member. The application is to be submitted to the chairperson/director for review and signature before being forwarded to the dean of the Graduate School for consideration on a case-by-case basis. The application should be made in advance of the anticipated leave and the termination of the leave should coincide with the end of a semester or session. In situations where it is necessary for a student to leave during a term, the student should seek a late withdrawal for that term rather than a leave of absence. Leaves of absence will not be granted retroactively, i.e., for previous terms, unless the leave of absence approval process was initiated at the beginning of a term and the decision of the university was delayed.

It is the student's responsibility to ensure that the proposed leave is compatible with the regulations of any granting agency from which funding would normally be received during the leave period and that such agencies are informed of the proposed leave. Students on student loan programs are responsible for determining the consequences that such a leave may have on their repayment status prior to applying for a leave of absence. International students are advised to consult with the Office of International Education regarding their immigration status prior to applying for a leave of absence.

Students granted a leave of absence will have their time-to-completion of degree extended by the amount of time granted in the leave of absence. The continuous enrollment policy will also be held in abeyance during this time. Students granted a leave of absence are not held to the readmission process unless they do not enroll in the term indicated on the *Request for Leave of Absence* form.

Graduate student assistants who are granted a leave of absence will have their salary and stipend suspended during the period of their leave.

READMISSION

Students who have withdrawn from the university, failed to enroll for one or more academic-year terms, were administratively withdrawn from their program, or who were suspended for any reason must be formally readmitted to the Graduate School before resuming their studies. To be readmitted, students must receive departmental endorsement, pay all fees in arrears, and be in good financial standing with the Bursar. Furthermore, no application for readmission will be considered for any former Marquette student with an outstanding balance of $3,000 or more owed to the university. The vice provost for research and dean of the Graduate School and the major department jointly decide if a student will be readmitted.

In being readmitted, students face the possibility that previously completed work might not be accepted with the readmission decision, even if taken within the same program. The major department and vice provost for research and dean of the Graduate School may also set readmission conditions on the student's resumption of work toward a degree such as registering for additional course work, retaking examinations, completing the degree within in a specified time period, or other appropriate terms.

The request for readmission from students who have been suspended must include a statement by the student addressing previous weaknesses, steps taken to correct the weaknesses, and an explanation of why the student feels he or she has the ability to succeed in graduate studies. No student may be readmitted to a program that is no longer active at the time of readmission.

SUMMER STUDIES

During the summer term, Summer Studies offers graduate and selected undergraduate courses that may be taken for graduate credit. These courses are applicable to degrees in all colleges and schools of the university in the following modular formats: two consecutive six-week sessions and four additional sessions longer than the traditional six-week format. Several of the six summer sessions offer short courses varying in length.

For information, contact Marquette Central, Marquette University, Zilber Hall, 121, P.O. Box 1881, Milwaukee, WI 53201-1881; call (414) 288-4000; or visit the Summer Studies Web site at www.marquette.edu/mucentral/registrar/SummerStudieslandingpage.shtml.

ADMISSION TO SUMMER STUDIES

For information on admission to the summer term, contact the Marquette University Graduate School, Holthusen Hall, 305, P.O. Box 1881, Milwaukee, Wisconsin 53201-1881; call (414) 288-7137; fax (414) 288-1902; e-mail mugs@marquette.edu; or visit the Graduate School Web site at www.marquette.edu/grad.

TIME LIMITATIONS

Students are expected to complete all requirements for a master's or doctoral degree within six years of their first term of registration in the program. The six years begins with the date of admission to degree status or the date of admission to non-degree or temporary status in the same or a closely-related academic program. The start of the six year period is not affected by transfer credit that may have been taken prior to admission to Marquette.

Students who are unable to complete their degree within the six-year limit may petition the Graduate School for an extension; *Request for Extension of Time* forms are available online at www.marquette.edu/grad/forms_index.shtml. To ensure timely consideration, the *Request for Extension of Time* form should be filed early in the term in which the time limit expires. If the extension is approved, the student is notified of the expectations for progress toward completion of the degree. If the extension is denied, the student is terminated from the graduate program at the end of the term during which the time limit will expire.

Failure to complete the program or to obtain an approved extension of time may result in the student being administratively withdrawn from the program. In such cases, students must follow the guidelines for readmission in order to be considered for readmission to their program of study (see Readmission).

TRANSFER OF CREDIT

In order to protect the academic integrity and rigor of a Marquette graduate degree, limits are placed on the number of credit hours that may be transferred from other institutions, from Marquette in a different program, or from Marquette in the same program but in a different status (temporary or non-degree). Only credits directly applicable to a student's Marquette degree program will be considered for transfer, and there is no guarantee that a transfer request will be approved. Credits to be considered for transfer must be graduate-level credits or upper-level undergraduate credits that are acceptable for graduate credit at the institution offering the course.

Credits that are accepted for a Marquette degree, if transferred from another university, will not be included when calculating the student's GPA. However, credits taken at Marquette in another program or in the same program but in a different status (temporary or non-degree), if accepted for transfer into a degree program, will be included in the student's GPA. Only courses in which a grade of B or above has been earned may be transferred for credit into a master's program or used on a Doctoral Program Planning Form.

Credits approved for transfer from a school using a quarter-system will transfer as two-thirds credit each when converted to Marquette's term system. Transfers from schools using a trimester system will vary by school and must be evaluated individually.

Students are strongly urged to consult their advisers before submitting a transfer request and before taking any course for which they intend to request transfer credit.

MASTER'S PROGRAMS

Upon recommendation of the department and concurrence by the vice provost for research and dean of the Graduate School, 9-15 credit hours of the program's requirement for course work (exclusive of thesis) may be accepted for transfer depending on the total number of credits needed for the degree. The following limits apply:

9 credits into a degree program requiring 36 or fewer course credits;
12 credits into a degree program requiring 37-48 course credits;
15 credits into a degree program requiring 49 or more course credits.

Credits approved for transfer will normally have been earned within the six year period prior to admission to the Graduate School at Marquette. If the credits to be transferred are older than six years at the time of admission, the academic department to which the student is being admitted is expected to require evidence of proficiency with the material in the course(s) being considered for transfer. The six-year period that a master's student has to complete his/her degree will begin with admission to the Graduate School at Marquette and is not affected by prior transfer credit. There is no Graduate School requirement that a student must have completed a certain number of credits at Marquette prior to requesting transfer, but individual departments may have such a requirement. Students should consult their department adviser, director of graduate studies, or department graduate student handbook.

Only credit for courses directly comparable in content to the requirements of the current degree program, or comparable to elective courses available at Marquette, will be considered for transfer. No credits will be officially transferred into a degree program until the student has completed and submitted the *Master's Degree Transfer of Credit Request* form, found online at www.marquette.edu/grad/forms_index.shtml, and it has been approved by the Graduate School.

Graduate-level credits earned at Marquette, whether as a degree student in a different graduate program or as a non-degree or temporary student, may transfer following the same request and approval procedures outlined above. Students are responsible for initiating this process. Credits transferred between Marquette programs or statuses are included as part of the 9-15 credit transfer limit.

Master's thesis credits taken at another institution are not transferable to Marquette. The six thesis credits required for a thesis-option master's degree must be taken at Marquette.

DOCTORAL PROGRAMS

Graduate credits both from other institutions and from Marquette are accepted for a doctoral program when a *Doctoral Program Planning Form* is approved. Credits taken as part of an earned master's degree at another institution or at Marquette will normally be accepted and applied to the Marquette doctoral program up to a maximum of 30 credits. These credits must be specified on the Doctoral Program Planning Form. There is not normally an age limit for accepting credits from an earned master's degree.

Prior graduate-level credits taken, whether at another institution or at Marquette, that are not part of an earned master's degree are considered on a case-by-case basis in consultation with the student's adviser, the department, and the Graduate School. These credits must be specified on the *Doctoral Program Planning Form*. The number of credits that may be applied towards the doctorate are limited. Students should consult the Doctoral Degree Requirements – Credit Requirements section of this bulletin. Such credits will normally have been earned within six years of admission to the Marquette doctoral degree. In cases in which the age of the credits exceeds six years at the time of admission, the academic department shall require evidence of proficiency of the content contained in the courses to be accepted.

Doctoral dissertation credits taken at another university are not transferable to Marquette. All twelve dissertation credits required for completion of a doctoral (Ph.D.) degree must be taken at Marquette.

UNDERGRADUATE STUDENTS IN GRADUATE COURSES

An undergraduate student may, with the permission of his or her home college and the department offering the course, register for a 6000-level or higher graduate course if the student has a B (3.000) or above grade point average. To register for a graduate credit bearing course, the undergraduate student must complete the *Permission to Enroll in a Graduate Course* form, available online at www.marquette.edu/grad/forms_index.shtml. Once all signatures of approval have been obtained and the student has received the permission number from the department offering the course, a copy of the completed form must be forwarded to the Graduate School. The student must then register for the course online through CheckMarq.

An undergraduate student who enrolls in a 5000-level course with the intention of earning graduate credit that might, subsequently, be transferred to a graduate program, must complete the *Permission to Enroll in a Graduate Course* form following the above instructions. The *Graduate Credits Requested for Undergraduate Course* form, found online at www.marquette.edu/grad/forms_index.shtml, must also be submitted in order to receive graduate credit for a 5000-level course. On the form, the instructor of the course indicates the additional academic work that will elevate the course to graduate level. The course cannot be taken under the CR/NC option.

PROGRAMS AND COURSES OF THE GRADUATE SCHOOL

The following pages describe the graduate academic programs offered at Marquette University. Prospective students are reminded to read the preceding section of this bulletin for general information on Graduate School admission requirements, academic regulations, and graduate programs.

Please note:

a) The prerequisites for any graduate program include an undergraduate major which has qualified the student for either research or academic work at advanced levels.

b) The courses described for each program are graduate offerings. These are numbered 6000-9999. Courses numbered 5000-5999 are courses that are taken for graduate credit, cross-listed with 4000-level undergraduate courses. The last three digits and titles of the 4000-level and the 5000-level cross-listed courses are identical. Prerequisites for undergraduate 4000-level courses, found in the *Undergraduate Bulletin*, may also be required for the 5000-level cross-listed courses. Undergraduates who anticipate eventual graduate academic work are eligible to take 5000-level courses.

c) All 5000-level courses are based on upper-division undergraduate courses that have been approved for graduate credit. With the approval of their department and the Graduate School, students may take a limited number of 5000-level courses and count them toward their degree requirements. When a 5000-level course is taken, the student must complete a *Graduate Credits Requested for Undergraduate Course* form, available at www.marquette.edu/grad/documents/GradCreditsforUGCourse.pdf, to detail the additional work that will justify the granting of graduate credit.

d) Some courses are listed with a variable number of credits (e.g., 1-3 credit hours). Usually the department or college determines the specific number of credits for these courses each term. This information is published on CheckMarq at www.marquette.edu/mucentral/registrar/snapshot prior to each registration. For a few variable credit courses, (e.g., master's thesis, doctoral dissertation) the bulletin indicates the possible number of credits which might be taken during a given term. Students should consult with their adviser before registering for these types of classes to determine the appropriate number of credits for which to enroll.

e) The specific courses offered during any given term will be listed on CheckMarq for that term.

ACCOUNTING (ACCO)

See **GRADUATE SCHOOL OF MANAGEMENT SECTION**

BIOLOGICAL SCIENCES (BSCI)

FACULTY IN BIOLOGICAL SCIENCES
Chairperson and Professor: Fitts
Professor: Buchanan, Courtright, Downs *(Wehr Distinguished Professor)*, Eddinger, Karrer *(Clare Boothe Luce Professor)*, Munroe, Noel, Piacsek *(Emeritus)*, Stuart, Unsworth *(Emeritus)*, Waring
Associate Professor: Anderson, Maki, Mynlieff, Schläppi, Yang
Assistant Professor: Abbott, Blumenthal, St. Maurice, Wagner

FACULTY IN NEUROSCIENCE
Professor: Buchanan, Vaughn
Associate Professor: Baker, Cullinan, Lobner, Mantsch, Mynlieff, Peoples
Assistant Professor: Bluementhal, Choi, Gasser, Ghasemzadeh, Roseberry, Wagner
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, Plan A only; Doctor of Philosophy

SPECIALIZATIONS

Master's: Cell Biology, Developmental Biology, Ecology, Epithelial Physiology, Genetics, Microbiology, Molecular Biology, Muscle and Exercise Physiology
Doctoral: Cell Biology, Developmental Biology, Ecology, Epithelial Physiology, Genetics, Microbiology, Molecular Biology, Muscle and Exercise Physiology, Neuroscience

PROGRAM DESCRIPTION

The biological sciences graduate program aspires to train experimental scientists capable of teaching and directing independent research by providing a broad theoretical background and an appreciation for the rigor of the scientific method. Students are prepared for employment in faculty positions and research posts in academia and industry.

NEUROSCIENCE SPECIALIZATION

A specialization in neuroscience is offered within the Department of Biological Sciences in collaboration with the neuroscience faculty in the Department of Biomedical Sciences at Marquette University. In addition to general training in the biological sciences, students will receive specialized course work in the neurosciences and will choose a neuroscience laboratory from either department for their thesis research.

PREREQUISITES FOR ADMISSION

Applicants are expected to have completed 36 semester hours of biology, as well as two terms of organic chemistry, one term of calculus, and two terms of physics. Also, applicants are encouraged to take course work in physical chemistry and biochemistry.

As a general rule, preference will be given to applicants to the doctoral program.

APPLICATION DEADLINE

No official deadline exists for the master's or the doctoral programs; however, completed applications will be reviewed starting on December 15. Applications for admission received after this date will be considered as space permits.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. A statement of professional goals and aspirations.
4. Three letters of recommendation which give evidence of the applicant's scholarly promise.
5. GRE scores (General Test is required, Subject Test is recommended).
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

MASTER'S REQUIREMENTS

The program of course work and research for the master's degree is determined in consultation with the student's advisory committee. Each student is advised to take such courses as are properly related to academic background and research interests. All master's students are required to gain the equivalent of one year of teaching experience during the program.

A master's student must complete 24 credit hours of course work and six credit hours of thesis work. The student must pass a master's comprehensive examination and submit an approved thesis.

DOCTORAL REQUIREMENTS

The program of course work and research for the doctoral degree is determined in consultation with the student's advisory committee. Each student is advised to take such courses as are properly related to academic background and research interests. All doctoral students are required to gain the equivalent of one year of teaching experience during the program.

A doctoral student must complete a program of study defined, in conjunction with an adviser, on an approved *Doctoral Program Planning Form*. Advancement to candidacy for the doctoral degree is considered following successful completion of all requirements specified on the *Doctoral Program Planning Form* and after passing a qualifying examination. A typical doctoral student completes a minimum required 24 credit hours of course work and 12 credit hours of dissertation work. The student must submit and defend a dissertation after completing all other formal requirements for the doctoral degree.

COURSE DESCRIPTIONS

Biology (BIOL):

BIOL 5101. Biochemistry and the Molecular Basis of Biology 3 sem. hrs.
Major themes in biochemistry are examined in the context of mammalian physiology. Topics include: Protein structure and enzyme catalysis, carbohydrate and lipid metabolism in relation to energy production, protein and nucleic acid synthesis, and the nature of the genetic code. 3 hrs. lec., disc.

BIOL 5201. Genomics and Bioinformatics 3 sem. hrs.
The analysis of gene structure and genetic regulation in selected prokaryotes and plant and animal systems, as well as transgenic organisms. Introduction to the principles of bioinformatics and proteomics as applied to genome comparisons and protein structure and function. Models and algorithms for predictions of the biological properties of genetically modified neucleotide sequences and proteins.

BIOL 5703. Exercise Physiology 3 sem. hrs.
Study of the effects of acute and chronic exercise on selected organ systems. Particular emphasis will be placed on muscle, cardiovascular, respiratory, and environmental physiology.

BIOL 5802. Experimental Microbiology 3 sem. hrs.
Basic modern approaches to the laboratory investigation of microorganisms. Major component: in-depth analysis of unknown microorganisms that students isolate from the environment.

BIOL 5806. Immunobiology 3 sem. hrs.
Cellular and molecular mechanisms of the immune response. Nature of antigens and antibodies and their interactions. Special topics include complement, immediate and delayed hypersensitivity, transplantation and tumor immunobiology, immunosuppression, and immunological tolerance. 3 hrs. lec., disc.

BIOL 6001. Radioisotope Safety 2 sem. hrs.
Ionizing radiation: proper safety procedures in the independent use of radioisotopes and current regulatory guidelines and licensing procedures.
Prereq: BIOL 1002 and CHEM 1002; or BIOL 1009 and CHEM 1002; or cons. of dept. ch.

BIOL 6005. Scientific Writing Workshop 1-3 sem. hrs.
Designed to teach basics of clear and effective scientific writing with emphasis on preparing and evaluating research manuscripts and proposals. Students learn editing techniques through deconstructing and revising others' work.

BIOL 6096. Laboratory Rotations in Biology 1-3 sem. hrs.
Informal lab rotation of first-year graduate students based on mutual preferences of the student and faculty member including lab group meetings, literature research, bench work, presentation of findings and/or research plan to lab members. S/U grade assessment. *Prereq: Cons. of dept. ch.*

BIOL 6952. Department Colloquium 0 sem. hrs.
Scholarly reports on selected topics in modern biology by visiting and resident investigators and graduate students. Attendance required of all full-time students. Required of all full-time graduate students in biology. SNC/UNC grade assessment.

BIOL 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

BIOL 8101. Structure and Function of Proteins 3 sem. hrs.
Advanced protein biochemistry stressing methodology and primary literature. Topics include: properties of amino acids, peptide and proteins; protein folding and assembly; protein-protein interactions; allostery and regulation; enzyme kinetics and energetics;

protein-ligand interactions; and post-translational modification of proteins.
Prereq: BIOL 5101 or cons. of instr.

BIOL 8102. Biochemistry and Function of Nucleic Acids 3 sem. hrs.
The biochemistry of RNA and DNA with emphasis on biological function and evolution. Specific topics include: nucleic acid structure, biophysical properties, biosynthesis, and molecular function.
Prereq: BIOL 5101 or cons. of instr.

BIOL 8130. Enzyme Structure and Function 2 sem. hrs.
A survey of kinetic methods for the study of enzyme function and an introduction to the determination of protein structure. Topics include: protein-ligand binding equilibria, steady state kinetics of single-substrate and multi-substrate enzymes, enzyme inhibition, transient state kinetics, multi-site and cooperative enzymes, protein structure determination by X-ray crystallography. Uses examples from glycolytic and gluconeogenic metabolic pathways to highlight the structural basis for catalysis.
Prereq: BIOL 8101, or cons. of instr.

BIOL 8201. Developmental Genetics and Epigenetics 3 sem. hrs.
Analysis of genetic and epigenetic influences on development, looking at specific examples from yeast, plant and animal model organisms. Topics include: genetics of flower development, yeast mating type switching, DNA methylation, genomic imprinting, chromatin remodeling, permutation and prions. *Prereq: BIOL 2201 and 2301 or equiv.*

BIOL 8202. Eukaryotic Genetics and Chromosome Structure 3 sem. hrs.
Genetics of eukaryotic model organisms. Focus on genetic approaches to the analysis of contemporary biological problems related to eukaryotic chromosome structure and function.
Prereq: BIOL 2201 or equiv.

BIOL 8301. Signaling, Structure and Motility of Eukaryotic Cells 3 sem. hrs.
Discusses the dynamics, role, and regulation of cytoskeleton and molecular motors, as well as the principles and mechanisms of signal transduction in eukaryotic cells. *Prereq: BIOL 2301 or equiv.*

BIOL 8302. Protein Trafficking and Cellular Homeostasis 3 sem. hrs.
An in-depth analysis of protein trafficking, organelle identity, and cellular homeostasis. Discusses, in detail, mechanisms of protein translocation across biological membranes, analysis of membrane sorting and the function of plasma membrane transporter and channel proteins. Also covers in detail the proteins and pathways involved in the maintenance of cell volume, pH, and ionic balance.
Prereq: BIOL 2301 or equiv.

BIOL 8501. Cellular and Molecular Neuroscience 3 sem. hrs.
Comprehensive survey of nervous system function at the cellular and molecular levels.
Prereq: Cons. of instr.

BIOL 8502. Systems Neuroscience 3 sem. hrs.
Comprehensive survey of nervous system function at the systems level and includes motor, sensory and regulatory systems. *Prereq: Cons. of instr.*

BIOL 8503. Techniques in Neuroscience Research 1 sem. hr.
Laboratory course. Provides an introduction to important laboratory techniques in experimental neuroscience. S/U grade assessment.
Prereq: BIOL 8501 and 8502; or cons. of instr.

BIOL 8504. Advanced Survey in Neuroscience 1 1 sem. hr.
An introduction to current neuroscience literature with a focus on research at Marquette.
Prereq: Cons. of instr.

BIOL 8505. Advanced Survey in Neuroscience 2 1 sem. hr.
An introduction to current neuroscience literature with a focus on research at Marquette.
Prereq: Cons. of instr.

BIOL 8520. Behavioral Neuroendocrinology 2 sem. hrs.
Examines neuroendocrine systems as they relate to behavioral processes and their underlying neurobiological mechanisms with emphasis on the contribution of neuroendocrine dysfunction to neuropsychiatric disease. *Prereq: Cons. of inst.*

BIOL 8530. Glutamate Neurotransmission 2 sem. hrs.
Reviews critical aspects of glutamatergic signaling including an overview of glutamate receptors, transporter, and release mechanisms. The contribution of abnormal glutamatergic neurotransmission is discussed in light of a number of pathological states including stroke and schizophrenia. Students integrate course material into a novel research proposal. *Prereq: Cons. of inst.*

BIOL 8601. Advanced Developmental Biology 2 sem. hrs.
Covers aspects of early development, including gametogenesis, fertilization and early embryo development, with emphasis on cell cycle control and stem cell biology.
Prereq: BIOL 2301 or equiv.; or BIOL 3601 or equiv.

BIOL 8603. Cell and Molecular Biology of Early Development 3 sem. hrs.
Study of the molecular mechanisms underlying developmental pathways and processes in a variety of model organisms including fruit flies, nematodes, mice and zebrafish. Emphasizes genetic, biochemical and molecular techniques used in studying these complex systems.
Prereq: BIOL 2301 or equiv.; or BIOL 3601 or equiv.

BIOL 8702. Systems Physiology 3 sem. hrs.
The first third of the course focuses on renal physiology. Covers the physiology of the mammalian kidney in detail, including the transport functions of the segments of the nephron, the identification of the molecular components underlying such transport, and the analysis of genetic diseases affecting renal function. Also covers the interactions between the renal and cardiovascular systems. This section ends with vertebrates and invertebrates. The last two thirds of the course focus on muscle biology. Covers skeletal, cardiac and smooth muscle relative to their regulation, structure and function. Emphasizes structural organization, composition, mechanics and kinetics. In addition, covers development, regulation and disease states. Emphasis is placed on critical reading of the primary scientific literature.
Prereq: BIOL 3701 or equiv.

BIOL 8703. Advanced Physiology 5 sem. hrs.
Studies advanced mammalian physiology, including an analysis of muscle, cardiovascular, respiratory, neural, endocrine and renal functions. Emphasizes cellular mechanisms and the control and interaction of organ systems. *Prereq: Grad. stndg. and one year college-level biology.*

BIOL 8801. Bacterial Physiology 3 sem. hrs.
Diversity, mechanisms, regulation, and evolution of prokaryotic biological activities. Points of emphasis: 1) the use of bacterial genetics and molecular biology to study physiology; and 2) bacterial activities that are important to the rest of biology, including symbiosis. *Prereq: BIOL 5101 or equiv.; or BIOL 3801 or equiv.; or cons. of instr.*

BIOL 8802. Microbiology in the Environment 3 sem. hrs.
The effect of the environment on microbial growth and the role of microorganisms in the environment. Examines diversity, activity and abundance of microbes and involves examples from literature.
Prereq: BIOL 3801 or equiv. or cons. of instr.

BIOL 8931. Topics in Biology 1-3 sem. hrs.
Subject matter variable as determined by needs of biological sciences graduate students. Students may enroll more than once as subject matter changes.
Prereq: Cons. of dept. ch.

BIOL 8953. Seminar in Biochemistry and Genetics 1-3 sem. hrs.
Topics of current interest in biochemistry and genetics. *Prereq: Cons. of instr.*

BIOL 8954. Seminar in Plant Molecular Biology 1-3 sem. hrs.
Topics of current interest in plant molecular biology.
Prereq: Cons. of instr.

BIOL 8955. Seminar in Neuroscience 1-3 sem. hrs.
Topics of current interest in neuroscience.
Prereq: Cons. of instr.

BIOL 8956. Seminar in Cell and Developmental Biology 1-3 sem. hrs.
Topics of current interest in cell and developmental biology. *Prereq: BIOL 2301 or equiv.; or cons. of instr.*

BIOL 8957. Seminar in Physiology 1-3 sem. hrs.
Topics of current interest in physiology.
Prereq: Cons. of instr.

BIOL 8995. Independent Study in Biological Sciences 1-3 sem. hrs.
Investigations in selected areas of biology.
Prereq: Cons. of instr. and cons. of dept. ch.

BIOL 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIOL 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

The following courses are part of the neuroscience specialization.

Biomedical Sciences (BISC)

BISC 5140. Functional Neuroanatomy 3 sem. hrs.
Examines the basic structure and function of the central nervous system from spinal cord to cerebral cortex. Material will be presented within both clinical and basic contexts. Based on the understanding of the normal circuitry and function of the brain, clinically relevant neurological disorders and basic neuroanatomical methods explored. Laboratory included. Offered spring term.

BISC 5145. Human Physiology 4 sem. hrs. Studies blood and circulation, muscular, neuronal and sensory systems, renal and respiratory systems, digestion, metabolism, reproduction, their control by the endocrine and central nervous systems, and clinical correlates. Offered spring term.

BISC 5160. Molecular Pathology 3 sem. hrs. Cellular and molecular basis of human diseases, therapeutic interventions and current research efforts. Offered fall term.

BISC 6120. Medical Pharmacology 4 sem. hrs. Fundamentals of human pharmacology and basic principles dictating drug actions within the human body with emphasis on applications in general medicine. Focuses on the therapeutic actions and clinical applications of various drug classes. Topics include: cellular mechanisms, physiological responses, adverse reactions, drug-drug interactions, and clinical indications, accompanied by discussion on the pathological conditions for which common therapeutic agents are used. Applications of pharmacology commonly encountered by physician assistants are presented and are reinforced through interactive clinically correlated lectures presented by practicing physicians and physician assistants.

BIOMEDICAL ENGINEERING (BIEN)

Chairperson and Professor: Ropella
Professor: Clough, Harris, Jeutter, Josse, Seitz *(Emeritus)*, Winters
Associate Professor: Audi, Brown, Cariapa, Goldberg, Nagurka, Olson, Riedel, Scheidt, Schmit, Silver-Thorn
Assistant Professor: Beardsley, Gilat-Schmidt, LaDisa
Adjunct Professor: Battocletti, Cowley, Hoffman, Hudetz, Hyde, Krenz, Larson, Madden, Marklin, Merritt, Pintar, Sarna, Schwab, J.-Smith, Toth, Warltier, Wertsch, Yoganandan
Adjunct Associate Professor: Abler, Greene, Jodat, Schlager, Schmeling, Soto
Adjunct Assistant Professor: Bandettini, Boskamp, DeYoe, Donnell, Hause, Hubbard, Imas, Liebenthal, Liu, Lyon, Marks, Merker, Molthen, Ninomiya, P. Smith, Patel, Piacsek, Prieto, Rao, Rickaby, Schmainda, Shi, Stemper, Street, Tonellato, Ulmer, Wang
Research Assistant Professor: Johnson
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, Master of Engineering; Doctor of Philosophy

MISSION STATEMENT

The Department of Biomedical Engineering is a dedicated team committed to the Jesuit tradition of the pursuit of truth. We develop leaders and problem solvers skilled at applying engineering, science and design principles to improve health in the service of humanity by:

- Discovering and disseminating new knowledge;
- Promoting critical thinking and lifelong learning;
- Guiding students to meaningful and ethical professional and personal lives;
- Fostering interdisciplinary and collaborative research and education through academic and industrial alliances;
- Continuing innovative leadership in education, research and industrial relationships; and
- Inspiring faculty and students to serve others.

SPECIALIZATIONS

M.S.: Bioinstrumentation/Computers, Biomechanics/Biomaterials, Rehabilitation Bioengineering, Systems Physiology
M.E.: Biocomputing, Bioimaging, Bioinstrumentation, Biomechanics, Biorehabilitation
Ph.D.: Bioinstrumentation/Computers, Biomechanics/Biomaterials, Functional Imaging, Rehabilitation Bioengineering, Systems Physiology

PROGRAM DESCRIPTIONS

The biomedical engineering program is interdisciplinary in nature, involving the application of engineering and mathematics to the solution of problems related to medicine and biology. The faculty reflect this interdisciplinary nature in their courses and research. Marquette faculty are synergistically complemented by adjunct faculty from the Medical College of Wisconsin. The MU/MCW Center for Biomedical Engineering and Biomathematics fosters collaborative interactions between the two institutions. Research can be characterized by the general areas of bioinstrumentation/computers, biomechanics/biomaterials, rehabilitation bioengineering, and systems physiology. More specific areas of research include: artificial limbs/prostheses, biomaterials, biotelemetry, cell transport and metabolism, cardiac electrophysiology, computers in medicine, functional imaging (magnetic resonance, X-ray), head and spinal cord trauma, hemodynamics, human motion analysis, medical and biological image analysis, physiological signal processing, rehabilitation engineering, systems physiology (cardiovascular, gastrointestinal, musculoskeletal, neuroscience, pulmonary), telerehabilitation, tissue engineering, hard and soft tissue biomechanics, and transcutaneous power transfer.

FUNCTIONAL IMAGING SPECIALIZATION — MU/MCW JOINT PROGRAM

Functional imaging is the simultaneous quantification of the structural and functional aspects of a biological system. Modern X-ray, nuclear magnetic resonance, and other means of imaging in relatively noninvasive ways have made functional imaging increasingly practical. The doctoral program in functional imaging, a collaborative effort between Marquette University and the Medical College of Wisconsin, trains students in the use of these new technologies to obtain high-resolution structural, kinematic, and kinetic data from intact organs, and in the use of mathematical modeling to understand the organ physiology.

Special registration for this program is required, as courses are taken at both institutions. Students must register for BIEN 6947 through Marquette University **AND** for the matching MCW course through Medical College of Wisconsin.

PREREQUISITES FOR ADMISSION

Students with backgrounds in engineering, physical science, and life science disciplines are eligible for admission to the master of science, master of engineering and doctoral programs in biomedical engineering. A baccalaureate degree in an appropriate area with a minimum grade point average of 3.000

is required. For the master of engineering, at least one year of post-baccalaureate professional work experience is required prior to starting the program. Applicants who do not have an engineering degree must complete prerequisite engineering requirements. The list of prerequisites can be obtained from the department office.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Marquette University Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. GRE scores (General Test only).
5. A brief statement of purpose that includes the proposed area of research specialization.
6. *(For master of engineering applicants only)* an interview with the M.E. program director.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

GENERAL INFORMATION

All admitted students are required to obtain and read the department's *Graduate Student Handbook*, which contains complete details about the biomedical engineering programs and additional departmental degrees. This handbook is available through the Biomedical Engineering Office, (414) 288-3375.

BACHELOR'S-MASTER'S PROGRAM

This program allows Marquette University students to earn both their master of science degree in biomedical engineering and a bachelor of science degree in five years. Students currently enrolled in the undergraduate biomedical engineering program at Marquette University (with a GPA of 3.500 or above) may apply for admission to the five-year program during their junior year. Students must submit an application to the Graduate School, indicate their interest in the five-year program, and meet all other admission criteria as stated in the Application Requirements section. (GRE test scores must be submitted before the start of the fifth year.)

Students may take master's level courses in their senior undergraduate year. These graduate courses count towards both the undergraduate and graduate degrees. The remaining courses are taken during the students' fifth year. Work on the students' theses research begins the summer between the junior and senior years. Students will continue to gain research laboratory experience the summer between the senior and fifth year, continuing through the final year, culminating in preparation of a written thesis and defense. Upon completion of the first term as master's candidates, students must petition the Graduate School to transfer courses taken as undergraduates to the master's degree.

MASTER'S REQUIREMENTS

MASTER OF SCIENCE

Upon enrolling in the master of science program in biomedical engineering, a student selects one of four specializations. Faculty will design a curriculum and research program to address the specific goals of each student. Programs will include course work in engineering, biology, mathematics, and medicine, all of which will be integrated with research laboratory experience.

A master of science student must complete 24 credit hours of course work (including three credit hours of physiology) and six credit hours of thesis work. The student also must pass a comprehensive examination and submit an approved thesis.

MASTER OF ENGINEERING

Upon enrolling in the master of engineering program in biomedical engineering, a student selects one of five specializations and follows the curriculum designed for that specialization. The program includes course work in engineering, life sciences, mathematics, medicine and healthcare technologies management, all of which will be integrated in a capstone comprehensive written exam.

A master of engineering student must complete a total of 30 credit hours of course work, which includes three credits of independent readings and research. The student also must pass the capstone comprehensive examination.

DOCTORAL REQUIREMENTS

Upon enrolling in the doctoral program in biomedical engineering, a student selects his or her area of specialization. Faculty will design a curriculum and research program to address the specific goals of each student. Programs will include course work in engineering, biology, mathematics, and medicine, all of which will be integrated with research laboratory experience.

The doctor of philosophy degree is conferred in recognition of marked ability and high attainment in the advancement of knowledge and pursuit of truth. The comprehensive knowledge expected of the student in his or her major field is such that the requirements for the degree usually take no less than four years of full-time work, or the equivalent, beyond the baccalaureate degree.

A doctoral student must complete a program of study prepared in consultation with his or her dissertation adviser and outlined on an approved *Doctoral Program Planning Form*. The program normally requires 45 credit hours of course work beyond the baccalaureate degree (a minimum of 30 credit hours beyond the master's degree) plus 12 credit hours of dissertation work. Doctoral course work must include a minimum of three credit hours of graduate-level physiology. All doctoral students must complete at least 9 credits from research methodologies and teaching methodologies courses. The student also must pass a doctoral qualifying examination (DQE) and submit and successfully defend a dissertation.

The Doctoral Candidacy Examination consists of both written and oral components. Students entering the doctoral program with a master's degree are required to take the written portion within two terms after entering the program. Students entering the doctoral program with a bachelor's degree are required to take the written portion before or at completion of 30 graduate credit hours or completion of the master's degree, whichever comes first. Each student is expected to complete the oral portion by the end of his or her third year.

The dissertation must represent an original research contribution showing high attainment and clear ability to do independent research. A public defense of the dissertation (the final oral examination) is conducted after the student has completed all other formal requirements for the doctoral degree and has submitted a completed doctoral dissertation to his or her doctoral committee. The dissertation defense is conducted in the form of a department seminar.

COURSE DESCRIPTIONS

BIEN 5220. Embedded Biomedical Instrumentation 3 sem. hrs.
Fundamentals of digital circuit design and analysis and the application to embedded biomedical instrumentation. Topics include microprocessor principles and programming and system design constraints for medical electronics. Laboratory provides applications of concepts introduced in class. Offered spring term.

BIEN 5230. Intelligent Biosystems 3 sem. hrs.
Use of emerging tools in systems biology and soft computing to explore how biosystems with highly distributed "intelligence" are designed to adapt to self- and environmentally-induced perturbations. Students obtain a basic understanding of key soft computing tools and use fuzzy expert system models. Applications to smart healthcare monitoring and future product design will be explored.
Prereq: BIEN 4700/5700.

BIEN 5320. Biomedical Instrumentation Design 3 sem. hrs.
Problems in instrumentation relating to physiological measurements in the laboratory and clinic. Electronic devices for stimulus as well as measurement of physiological quantities. Design of actual instruments. Features include mechanical design, accessory design and safety requirements.

BIEN 5400. Transport Phenomena 3 sem. hrs.
Applications of mass, momentum, and mechanical energy balances to biomedical fluid systems. Study of physiological phenomena with an emphasis on cardiovascular systems and blood rheology.

BIEN 5410. Applied Finite Element Analysis 3 sem. hrs.
Introduces the finite element solution method for linear, static problems. Includes calculation of element stiffness matrices, assembly of global stiffness matrices, exposure to various finite element solution methods, and numerical integration. Although emphasis is on structural mechanics, heat transfer and fluid mechanics applications in finite element analysis is also discussed. Computer assignments include development of finite element code (FORTRAN or C) and also use of commercial finite element software (ANSYS and/or MARC).

BIEN 5420. Introduction to Biomaterials Science and Engineering 3 sem. hrs.
Introduces the uses of materials in the human body for the purposes of healing, correcting deformities, and restoring lost function. Encompasses topics including characterization of material properties, biocompatibility, and past and current uses of materials for novel devices that are both biocompatible and functional for the life of the implanted device. Projects allow students to focus and gain knowledge in an area of interest in biomaterials engineering.

BIEN 5500. Medical Imaging Physics 3 sem. hrs.
Examines how light, X-rays, radiopharmaceuticals, ultrasound, magnetic fields, and other energy probes are generated and how they interact with tissues and detectors to produce useful image contrast. Addresses practical issues such as beam generation, dose limitations, patient motion, spatial resolution and dynamic range limitations, and cost-effectiveness. Emphasizes diagnostic radiological imaging physics, including the planar X-ray, digital subtraction angiography mammography, computed tomography, nuclear medicine, ultrasound, and magnetic resonance imaging modalities.

BIEN 5510. Image Processing for the Biomedical Sciences 3 sem. hrs.
Introduces biomedical image processing. Topics explored include: the human visual system, spatial sampling and digitization, image transforms, spatial filtering, Fourier analysis, image enhancement and restoration, nonlinear and adaptive filters, color image processing, geometrical operations and morphological filtering, image coding and compression image segmentation, feature extraction and object classification. Applications in diagnostic medicine, biology and biomedical research are emphasized and presented as illustrative examples.

BIEN 5600. Neural Engineering 3 sem. hrs.
Basic principles of neural engineering, properties of excitable tissues, quantitative models used to examine the mechanisms of natural and artificial stimulation. Basic concepts for the design of neuroprosthetic devices for sensory, motor and therapeutic applications. Design issues including electrode type, biomaterials, tissue response to stimulating electrodes and stimulus parameters for electrical stimulation and artificial control. Examples of how engineering interfaces with neural tissue show increasing promise in the rehabilitation of individuals of neural impairment.

BIEN 5610. Introduction to Rehabilitation Robotics 3 sem. hrs.
Presents the fundamentals of robotics as it is applied to rehabilitation engineering. Specific topics include: the fundamentals of analysis and design of robot manipulators with examples and mini-projects taken from rehabilitation applications pertaining to robotic therapy devices and personal assistants. Additional topics include: overview of rehabilitation robotics field, human-centered design of rehabilitation robots issues and challenges, robot configurations, rigid motions and homogeneous transformations, Denavit-Hartenberg representation, robot kinematics, and inverse kinematics, Euler-Lagrange equations, trajectory generation, sensors, actuators, independent joint control, force control and safety.

BIEN 5620. Rehabilitation Engineering: Telerehabilitation Research Tools 3 sem. hrs.
Introduces rehabilitation science as the study of tissue and functional change, including: overview of key human sensory modalities and neuromotor systems in the context of functional capabilities and human performance metrics; review of spontaneous recovery mechanisms in response to various types of tissue trauma; review of roles of genetics and gene transcription networks in pathology and functional recovery prognosis; and the concept of rehabilitative assessment and therapeutic interventions as an optimization problem. Also focuses on the use of assistive technology to enhance access to independent living and to optimize the delivery of rehabilitative healthcare services. Includes rehabilitation biomechanics of physical interfaces, use of access and usability engineering in product design and innovative assessment and intervention strategies for neurorehabilitation.

BIEN 5630. Rehabilitation Engineering: Prosthetics, Orthotics, Seating and Positioning 3 sem. hrs.
Presents an overview of biomedical engineering as it applies to rehabilitation engineering, specifically, the design and prescription of prosthetic limbs, orthotic devices, and seating and positioning systems. Topics include: medical terminology, musculoskeletal anatomy, muscle mechanics, soft tissue mechanics, gait/locomotion, amputation surgery, lower extremity prosthetics, lower extremity orthotics, hand function, electromyography, upper extremity prosthetics, upper extremity orthotics, seating and positioning, and assistive devices.

BIEN 5640. Bioengineering of Living Actuators 3 sem. hrs.
Overview of muscle tissue as a living actuator from the perspective of engineering design, systems biology, muscle modeling and adaptive control.
Prereq: BIEN 4700/5700.

BIEN 5700. Systems Physiology 3 sem. hrs.
Analyses of the underlying physiologic and bioengineering aspects of the major cell and organ systems of the human from an engineer's point of view. Classic physiologic approaches used to introduce topics including: cell functions, nervous system, nerve, muscle, heart, circulation, respiratory system, kidney, reproduction and biomechanics. Design problems including models of cell-organ-system function and problems in biomechanics illuminate topics covered. Incorporates computer techniques and relevant instrumentation. Experts on related topics are invited to speak as they are available.

BIEN 5710. Analysis of Physiological Models 3 sem. hrs.
Development of continuous (compartmental) and distributed-in-space-and-time mathematical models of physiological systems and molecular events. Analytical and numerical methods for solving differential equations of the initial and boundary value types. Simulation of model response, and estimation of model parameters using linear and nonlinear regression analysis.

BIEN 5720. Cardiopulmonary Mechanics 3 sem. hrs.
Examination of the physiological behavior of the cardiovascular and pulmonary systems from an engineering perspective. Emphasis is on understanding the mechanical basis of physiologic phenomena via experimental models.

BIEN 5931. Topics in Biomedical Engineering 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. Possible topics include biomechanics, experimental methods, neuroanatomy, telemetry, etc.

BIEN 6120. Introduction to the Finite Element Method 3 sem. hrs.
Introduces finite element analysis as applied to linear, static problems. Application to problems in plane strain, plane stress, and axisymmetry. Development of shape functions and element stiffness matrices. Although primarily structural analysis, also considers problems in heat transfer and fluid mechanics. Use of user-written and packaged software. Offered fall term, alternate years.
Prereq: CEEN 2130 or MEEN 2130; and matrix/linear algebra or equiv.

BIEN 6121. Applied Finite Element Analysis and Modeling 3 sem. hrs.
Advanced finite element analysis as applied to nonlinear (both material and geometric nonlinearities), dynamic problems. Use of penalty methods and perturbed Lagrangian methods. Use of user-written and packaged software. Critical reviews of finite element analysis in biomechanical research.
Prereq: BIEN 6120; or CEEN 6120 or equiv.

BIEN 6200. Biomedical Signal Processing 3 sem. hrs.
Introduces students to statistical processing of biomedical data. Topics include: data acquisition, probability and estimation, signal averaging, power spectrum analysis, windowing, digital filters and data compression. Students complete several computer projects which apply these processing methods to physiologic signals. Offered alternate years.
Prereq: MATH 2451; and proficiency in C or FORTRAN.

BIEN 6210. Advanced Biomedical Signal Processing 3 sem. hrs.
Covers modern methods of signal processing encountered in the bio-medical field including parametric modeling, modern spectral estimation, multivariate analysis, adaptive signal processing, decimation/interpolation, and two-dimensional signal analysis. Students complete several computer projects which apply these modern techniques to physiologic data. *Prereq: BIEN 6200 or equiv.; knowledge of C or FORTRAN.*

BIEN 6220. Multidimensional Biomedical Time Series Analysis 3 sem. hrs.
Theory and implementation of methods used to collect, model and analyze multidimensional time series encountered in biomedical applications such as functional imaging, electrophysiologic mapping and the study of physiologic control systems.
Prereq: BIEN 6200; proficiency in C or FORTRAN.

BIEN 6300. Biomedical Instrumentation 3 sem. hrs.
Explores relationships between instruments for physiologic measurement and monitoring with living systems. Physiologic signals, noise, and available sensors and transducers and their characteristics are discussed from time and frequency domain points of view. Systems topics include various new and conventional medical instrumentation. Other topics include clinical and new clinical laboratory instrumentation, instrumentation for research, artificial organs and prostheses. Includes the use of scientific literature, literature searches, design projects, computer projects. Offered alternate years.
Prereq: BIEN 5700; or BIEN 5320; and high level computer language or equiv.

BIEN 6310. Microprocessor Based Biomedical Instrumentation 3 sem. hrs.
Discusses the application of microprocessors, microcontrollers, and digital signal processors to biomedical instrumentation. Complements BIEN 6300, which covers transducers, sensors, analog signal conditioning, and analog to digital conversion. Emphasizes evaluating the memory, power, resolution, cost, and computational requirements of a particular application, and then selecting a type (microprocessor, microcontroller, or digital signal processor) and particular model of processor to

satisfy the system requirements. Students design at least two complete processor based systems. *Prereq: Knowledge of digital electronics and microprocessors.*

BIEN 6320. Radio Frequency Applications in Biomedical Engineering 3 sem. hrs. Radio frequency design and applications for biomedical engineering and medicine. Circuit elements, equivalent circuits, impedance transformations, Smith Chart, two ports, scattering parameters, amplifiers, resonant circuits, mixers, receivers. Applications include telemetry, transcutaneous power transfer, hyperthermia, rf ablation, magnetic resonance imaging; HP-EESOF LIBRA and Ascent CAD are introduced as analysis and design tools. Guest speakers. Written and oral design reports. *Prereq: Undergraduate background in circuit theory and analog electronics.*

BIEN 6400. Biofluid Mechanics 3 sem. hrs. Development of the theory of fluid mechanics as applied to living systems. Considers both steady and unsteady flows of Newtonian and non-Newtonian fluids. Topics include: viscometry, blood flow, gas and aerosolflows, pulsatile flow and wave propagation and applications to the understanding of flows in organs and to the measurement of blood pressure and flow. Offered alternate years. *Prereq: BIEN 4400 or equiv.; or MEEN 3320 or CEEN 3150.*

BIEN 6410. Biological Mass Transfer 3 sem. hrs. Development of the theory of mass transfer. Fick's law and free diffusion. Osmosis, facilitated diffusion, active transport, transport across cell membranes and applications to cell biology and organ physiology. Offered alternate years.

BIEN 6420. Biomechanical and Biomaterial Systems Analysis 3 sem. hrs. Using fundamentals of biomaterials engineering and biocompatibility, analyzes the functions that organs serve and to analyze the efficacy and safety of artificial organs systems. Some organs/tissues discussed include the kidneys, liver, skeleton, skin, heart, muscles, eyes, and ears. Critically examines the suitability of state-of-the-art artificial organ systems, including artificial hearts, orthopaedic prostheses, kidney dialyzers, and cochlear devices to fulfill the functions of the replaced organs/tissues. *Prereq: BIEN 5420.*

BIEN 6440. Biomedical Engineering Analysis of Trauma 3 sem. hrs. An engineering analysis of the physiological changes following impact to the head, spinal cord, and limbs, and electrical events and effects on tissues are treated.

BIEN 6450. Musculoskeletal Biomechanics 1 3 sem. hrs. Emphasizes the interrelationship of force and motion as related to anatomic structure and function. Examines the forces and motions acting in the skeletal system and the various techniques used to describe them. Highlights current concepts as revealed in the recent scientific and engineering literature. Topics include: bone mechanics, joint mechanics, gait kinematics, instrumentation and measurement of biomechanical phenomena, and computer modeling of the musculoskeletal system. Offered alternate years. *Prereq: MEEN 2120 or CEEN 2120 and MEEN 2130 or CEEN 2130.*

BIEN 6451. Musculoskeletal Biomechanics 2 3 sem. hrs. Advanced concepts of kinematics and mechanics as they apply to the fields of biomechanics and rehabilitation. Covers aspects of gait, bone and joint surgery, and soft tissue surgery. Detailed study of joint mechanics, implant applications and mobility device function is performed. Includes advanced analysis and modeling as well as laboratory-based final project. Offered alternate years. *Prereq: BIEN 6450.*

BIEN 6470. Biomechanics of the Spine 3 sem. hrs. Analyzes anatomical and functional relationships among the hard and soft tissue structures of the spine as a function of vertebral column development, aging, disease and trauma. Emphasis given to the mechanisms of external and internal load transfer. Imaging (e.g. CT), experimental and finite element methods are used to study the effects of physiologic/traumatic loading, surgery and spinal disorders. Discusses current advancements in biomechanical/clinical literature.

BIEN 6500. Mathematics of Medical Imaging 3 sem. hrs. Begins with an overview of the application of linear systems theory to radiographic imaging (pinhole imaging, transmission and emission tomography), and covers the mathematics of computed tomography including the analytic theory of reconstructing from projections and extensions to emission computed tomography and magnetic resonance imaging. Topics may also include three-dimensional imaging, noise analysis and image quality, and optimization. Contains advanced mathematical content.

BIEN 6600. Neuromotor Control 3 sem. hrs. Overview of current issues in neuromotor control and movement biomechanics. Special emphasis on the study of normal and impaired human movement. Topics include: muscle mechanics, biomechanics of movement, neural circuitry, strategies for the neural control of movement (including a discussion of adaptation and motor learning) and potential applications of biomedical engineering techniques to the study and improvement of impaired motor function. *Prereq: BIEN 3300 which may be taken concurrently or equiv.; or cons. of instr.*

BIEN 6610. Rehabilitative Biosystems 3 sem. hrs. Examines the plastic changes in biological systems that occur in response to targeted stimuli. These processes involve responses by cells to chemical, mechanical, or electrical stimuli (which may be related), which may be influenced or directed using engineering techniques. Examines the homeostasis of physiologic systems and their response to pathologic and rehabilitative stimuli. Examines engineering applications involving the diagnosis and rehabilitation of musculoskeletal, neurologic and cardiopulmonary biosystems in the context of the underlying cellular mechanisms. *Prereq: BIEN 5700 which may be taken concurrently; and PHYS 1004.*

BIEN 6620. Modeling Rehabilitative Biosystems 3 sem. hrs. Introduction to large-scale mathematical models of various physiological systems of interest in rehabilitation (e.g., cardiovascular, pulmonary, musculoskeletal, etc.). Discusses mathematical modeling, a widely used tool for testing hypotheses regarding the underlying mechanisms of complex systems such as physiological systems in health, disease and recovery. For each, simulation is used to further our understanding of the adaptive processes of these systems in response to physiological/pathophysiological stresses and rehabilitative interventions. *Prereq: BIEN 5710 and BIEN 5700.*

BIEN 6700. Analysis of Physiological Systems 3 sem. hrs. Introduction to the use of mathematical models in quantifying physiological systems. Analyzes model formulation. Applications of analytical and numerical solution techniques and parameter estimation methods. *Prereq: BIEN 5710.*

BIEN 6710. Cellular and Molecular Bioengineering 3 sem. hrs. Main topics include: cellular biomechanics with an emphasis on the cardiovascular system, molecular bioengineering, biotransport phenomena, and tissue engineering with focus on artificial internal organs. Cellular biomechanics topics covered are biomechanics of the endothelium, endothelial-immune cell interactions, and blood cell structural biomechanics. Topics in molecular bioengineering include chemotaxis and chemokinesis, and modeling of receptor-mediated endocytosis. Biotransport and tissue engineering topics include bioreactor design and the analysis and development of artificial internal organs like the liver and pancreas.

BIEN 6720. Human Physiology 8 sem. hrs. Describes the normal function of cells and organs systems, laying a foundation for understanding the altered physiologic states of specific disease entities and human organism. Computer-simulated laboratory experiences, animal labs and discussion groups reinforce concepts. Offered at the Medical College of Wisconsin. Variable weekly schedule. (Course generally begins in the first week of January.) For planning purposes, MU students must register by December 15 of the previous year. *Prereq: Cons. of dept. ch.; taught at the Medical College of Wisconsin.*

BIEN 6931. Topics in Biomedical Engineering 3 sem. hrs. Subject matter variable as determined by needs of biomedical graduate students. Students may enroll more than once as the subject matter changes. Possible topics: biostatistics, experimental methods, neuro-anatomy, etc.

BIEN 6932. Advanced Topics in Biomedical Engineering 3 sem. hrs. Advanced topics in design and analysis of biomedical instruments, devices and interfaces. Project approach drawing from current literature and current projects of laboratories of affiliated institutions. Topics include bioelectronics, biomechanics, biomaterials, and rehabilitation engineering.

BIEN 6947. Medical College of Wisconsin/FUIM-Joint Degree 1-8 sem. hrs. Graduate-level course in selected areas of the life sciences offered at the Medical College of Wisconsin. May be taken by doctorate BIEN students at Marquette University. *Prereq: Cons. of dept. ch.*

BIEN 6953. Seminar in Biomedical Engineering 0 sem. hrs. Scholarly presentations on current topics in biomedical engineering and related areas by visiting professors, resident faculty and graduate students. Attendance is required of all full-time graduate students. Offered every term. SNC/UNC grade assessment. Mandatory for all full-time BIEN graduate students.

BIEN 6954. Seminar in Biomedical Computing 0 sem. hrs.
Scholarly presentations on current topics in biomedical engineering and related areas by visiting professors, resident faculty and graduate students. Attendance is required of all full-time graduate students. Offered every term. SNC/UNC grade assessment. Mandatory for all full-time BIEN graduate students.

BIEN 6960. Seminar: Journal Club 0-3 sem. hrs.
0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded.

BIEN 6995. Independent Study in Biomedical Engineering 1-3 sem. hrs.
Offered every term.
Prereq: Cons. of instr. and cons. of dept. ch.

BIEN 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of instr.

BIEN 8110. Research Methodologies 1 3 sem. hrs.
Development of research aims and hypotheses, identification of relevant scientific literature, experimental approaches, statistical design, and pilot work to obtain preliminary results. Emphasizes written communication of research theme. The course project consists of the development of a research proposal including research aims, background, pilot experiments, and experimental design and methodology.
Prereq: Accepted Ph.D. student in biomedical engineering. Offered fall and spring terms.

BIEN 8120. Research Methodologies 2 3 sem. hrs.
Oral and written communication of research results including graphics and text. Addresses graphical presentation of data and conceptual development of a scientific presentation and a manuscript. Emphasizes the basics of clear and effective scientific communication. Work culminates in the development of a scientific manuscript for peer review.
Prereq: Accepted Ph.D. student in biomedical engineering. Offered fall and spring terms.

BIEN 8210. Teaching Methodologies 3 sem. hrs.
Seminar aimed at issues important for teaching in a university setting. Topics include: development of teaching philosophy, planning a class, designing a syllabus, assessing student learning and using technology in the classroom. Taught in conjunction with the Preparing Future Faculty (PFF) program.
Prereq: Accepted Ph.D. student in biomedical engineering. Offered fall and spring terms.

BIEN 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of instr.

BIEN 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIEN 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BUSINESS ADMINISTRATION (BUAD)

See **GRADUATE SCHOOL OF MANAGEMENT SECTION**

CHEMISTRY (CHEM)

Chairperson and Professor: Hossenlopp
Professor: Cremer *(Emeritus)*, Donaldson, Haworth *(Emeritus)*, N. Hoffman *(Emeritus)*, Jache *(Emeritus)*, Kincaid, McKinney, Nakamoto *(Emeritus)*, S. Reid, Ryan, Schrader *(Research Professor)*, Steinmetz, Tran, Wilkie *(Emeritus)*
Associate Professor: Rathore, Sem, Yi
Assistant Professor: Babikov, Fiedler, Gardinier
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, students are admitted under Plan A (thesis option) but Plan B (non-thesis option) is also offered; Doctor of Philosophy

SPECIALIZATIONS

Analytical Chemistry, Bioanalytical Chemistry, Biophysical Chemistry, Chemical Physics, Inorganic Chemistry, Organic Chemistry, Physical Chemistry

Subspecialty areas of research within the Department of Chemistry include: photochemistry; molecular spectroscopy; organometallic, physical organic, bioorganic, polymer, and theoretical chemistry; and chemical dynamics.

PROGRAM DESCRIPTION The Department of Chemistry offers graduate degree programs for both full- and part-time students. Two tracks of study are offered: 1) Plan A: preparation for a career as a professional chemist and 2) Plan B: enhancement of scientific background for persons employed as high school science teachers. The heart of the professional track is research, conducted in concert with a faculty mentor. The focus of the background track is enrichment and strengthening of the skills that teachers bring to their students. Plan B, the background track, is offered only at the master's level.

PREREQUISITES FOR ADMISSION

Applicants should have graduated with, or be about to graduate with, a bachelor's degree from an accredited institution. The minimum prerequisite for any graduate course is one year of undergraduate physical chemistry. In addition, an undergraduate course in an area of study (e.g., analytical, inorganic, organic) appropriate to the graduate course involved

is required. A student's undergraduate grade point should be equivalent to a B (3.000) or above.

APPLICATION REQUIREMENTS

Applicants must submit a paper application (applicants may not apply online), directly to the Department of Chemistry:

1. A completed application form.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation from individuals familiar with the applicant's academic work.
4. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
5. GRE scores are optional, but it is to the applicant's advantage to have taken the Subject Test for chemistry.

GENERAL INFORMATION

For more detailed and comprehensive information about the master of science and doctoral programs in chemistry, students should consult the most recent edition of the Chemistry Department's *Graduate Student Handbook*. This publication defines the current rules and guidelines that govern department and program requirements.

FOREIGN LANGUAGE REQUIREMENTS

Normally, no reading knowledge of a foreign language is required in either the master's or doctoral programs. However, at the discretion of the student's thesis or dissertation committee, proficiency in a foreign language may be required if it is necessary in the student's research.

PROFICIENCY EXAMINATIONS

Incoming chemistry students must pass three proficiency examinations, which may be selected from among the four traditional areas of chemistry (analytical, inorganic, organic, and physical chemistry). Incoming chemical physics students must pass proficiency examinations in physics, physical chemistry, and one other area of chemistry. These examinations can be repeated up to two times each, and the student must pass three by the end of his/her second term of full-time study or the equivalent.

MASTER'S REQUIREMENTS

A program for the master's degree is determined by the student's research adviser in consultation with the student's thesis committee.

All students are admitted to the program under Plan A but may transfer to Plan B if a *Change of Plan* form is submitted and approved. In Plan A (research option), the student must complete 24 credit hours of course work and six credit hours of CHEM 6999 for a total of 30 credit hours. Six credit hours of course work may be CHEM 6995 (Independent Study). In addition, seminar course work (CHEM 6960) is required for the program but earns no credit. The student must submit a thesis describing a substantial research project completed by the student in a mentor-professor's laboratory. Public defense of the thesis constitutes a comprehensive examination.

In Plan B (essay option), the student must complete 24 credit hours of course work and six credit hours of CHEM 6999 for a total of 30 credit hours. An essay must also be submitted. Up to six credits of course work may be CHEM 6995. In addition, seminar course work (CHEM 6960) is required for the program but earns no credit. The essay will include a review of the literature of some area of chemistry and a proposal of how knowledge in that area might be extended by research. Public defense of the essay constitutes a comprehensive examination.

DOCTORAL REQUIREMENTS

A program for the doctoral degree is determined by the student's research adviser in consultation with the student's dissertation committee.

A doctoral student must complete a program of study defined on an approved *Doctoral Program Planning Form*. Normally, the student will be required to complete 24 credit hours of course work and 12 credit hours of CHEM 8999 for a total of 36 post-bachelor's degree credit hours. An intense program of laboratory instruction and research to begin no later than the second term of study is also required. Six credit hours of course work may be CHEM 6995 (Independent Study). In addition, seminar course work (CHEM 6960) is required for the program but earns no credit. A series of cumulative examinations constitutes a qualifying examination. Eight of these examinations are given each year. The student is expected to pass four exams by the end of the fifth semester of doctoral study. The student must submit a dissertation describing a significant body of independent research carried out in concert with a faculty mentor. The dissertation must be of a caliber that would be publishable in the leading scientific journals. A public defense of the dissertation is required.

COURSE DESCRIPTIONS

CHEM 5130. Characterization of Organic Compounds 3 sem. hrs.
Fundamental theory of spectral methods used to identify organic compounds. Structure elucidation through application of nuclear magnetic resonance, ultraviolet, infrared, and mass spectroscopy. Hands-on use of spectrometers for structural analysis of synthetic intermediates and products. Two hrs. lec., 4 hrs. lab.

CHEM 5330. Inorganic Chemistry 3 sem. hrs.
Structure and bonding as related to physical and chemical properties; concepts relating to mechanisms; metal complexes; organometallic chemistry; molecular symmetry; catalysis; and descriptive chemistry to demonstrate applications of principles. Offered annually.

CHEM 5430. Introduction to Quantum Chemistry 3 sem. hrs.
Elementary quantum theory and applications to atoms, molecules, and chemical bonding.

CHEM 5431. Physical Chemistry: Fundamentals with Applications in Biological Sciences 3 sem. hrs.
Focuses on basic principles, using examples drawn from applications to biological systems. Covers macroscopic, statistical, and microscopic descriptions of matter. Emphasis on thermodynamics, chemical and physical equilibria, transport properties, and kinetics. Offered fall term.

CHEM 5433. Physical Chemistry 1 3 sem. hrs.
Atomic and molecular structure, states of matter, spectroscopy, laws of thermodynamics, phase and chemical equilibrium, electrochemistry, transport properties, kinetics and macromolecules. Offered fall term. Three hrs. lec.

CHEM 5434. Physical Chemistry 2 3 sem. hrs.
Continuation of CHEM 5433. Offered spring term. Three hrs. lec.

CHEM 5530. Introduction to Biochemistry 3 sem. hrs.
Bioenergetics, glycolysis, oxidative degradation, enzymes, metabolic controls, metabolism of carbohydrates, lipids and amino acids.

CHEM 5630. Introduction to Polymer Science 3 sem. hrs.
Theory and practice of molecular weight determination for macromolecules. Characterization of polymers, including spectroscopic, chemical and mechanical procedures. Synthesis of polymers, including kinetics of reaction. Polymer additives and technology.

CHEM 5932. Advanced Topics in Chemistry 1-3 sem. hrs.
Advanced topics of current interest in inorganic, organic, analytical, physical or biochemistry.

CHEM 6101. Modern Concepts of Organic Chemistry 3 sem. hrs.
Stereochemistry, structure-reactivity, and linear free energy relationships. Chemistry of reaction intermediates and mechanistic approaches to problems. Offered fall term.

CHEM 6102. Organic Reactions 3 sem. hrs.
Scope and limitations of modern techniques of synthesis utilizing addition, elimination, oxidation, reduction, substitution, rearrangement, and concerted reactions. Attention to mechanisms and stereochemistry. Offered annually. *Prereq: CHEM 6101.*

CHEM 6103. Mechanisms of Organic Reactions 3 sem. hrs.
Fundamental principles of physical organic chemistry. Mechanisms of common organic reactions with emphasis on polar mechanisms. Introduction to Hückel and extended Hückel molecular orbital calculations. *Prereq: CHEM 6101.*

CHEM 6201. Physical Methods of Analysis 3 sem. hrs.
Review of equilibria, principles and practice of spectrophotometry, electroanalysis and separation methods. Offered spring term.

CHEM 6202. Spectrochemical Methods of Analysis 3 sem. hrs.
Discussion of modern instrumentation for spectrochemical analysis including conventional sources, lasers, monochromators and detection systems. Review and comparison of methods and applications of various spectrochemical techniques for the analysis of atomic and molecular species. Offered alternate years.

CHEM 6203. Electroanalytical Methods 3 sem. hrs.
Electroanalytical methods for analysis and as a probe of homogeneous and heterogeneous redox processes with major emphasis on voltammetric, coulometric, potentiostatic and potentiometric methods. Also the redox chemistry of important organic, inorganic and organometallic compounds. Offered alternate years.

CHEM 6204. Analytical Separations 3 sem. hrs.
Emphasis on gas chromatography and high performance liquid chromatography. Also included: other forms of chromatography, electrophoresis and related techniques, distillation, extraction, dialysis. Offered alternate years.

CHEM 6301. Advanced Inorganic Chemistry 1 3 sem. hrs.
Atomic and molecular structure, chemistry of the compounds of metals, transition metals and nonmetals, introduction to symmetry, ligand field theory, mechanisms, acids and bases, non-aqueous solvents, organometallic compounds, and applications of spectroscopy. Offered spring term.

CHEM 6302. Advanced Inorganic Chemistry 2 3 sem. hrs.
Special emphasis on such topics as non-aqueous solvents, mechanisms of inorganic reactions, inorganic polymers, descriptive chemistry, coordination chemistry, organometallic chemistry, point group classification, spectroscopy as applied to inorganic compounds, inorganic biochemistry, and current inorganic literature.

CHEM 6401. Computational Chemistry 3 sem. hrs.
Survey of the theories, models, and methods of modern computational chemistry. Topics include: molecular mechanics, semiempirical and *ab initio* molecular orbital theory, and Density Functional theory. Emphasizes applications in vibrational and electronic spectroscopy, thermodynamics, reaction dynamics, and condensed phase phenomena. Offered fall term. *Prereq: CHEM 5434.*

CHEM 6402. Introduction to Spectroscopy 3 sem. hrs.
Basic theory of chemical spectroscopy. Time-dependent Schrvdinger wave equation, and the emission and absorption of radiation. Group theory and selection rules. Electronic spectra and structure of atoms and molecules. Rotations and vibrations of molecules. Spin resonance spectroscopy.
Prereq: CHEM 6405.

CHEM 6403. Statistical Thermodynamics 3 sem. hrs.
Applications of statistical methods to chemical systems at equilibrium, including the calculations of thermodynamic functions, the properties of gases, and the theories of the liquid state. Introduction to non-equilibrium statistics and quantum statistics.

CHEM 6404. Chemical Kinetics 3 sem. hrs.
Mathematical and phenomenological description of chemical rate processes and application to the solution of chemical problems. Offered alternate years.

CHEM 6405. Advanced Physical Chemistry 3 sem. hrs.
Atomic and molecular structure and chemical bonding from the point of view of quantum mechanics; illustrations from spectroscopy. Offered alternate years.

CHEM 6406. Infrared and Raman Spectroscopy 3 sem. hrs.
General theories of molecular vibrations and applications of infrared and Raman spectroscopy to chemical problems.

CHEM 6407. Advanced Quantum Chemistry 3 sem. hrs.
The application of advanced topics and methods of quantum mechanics to chemistry.
Prereq: CHEM 6405.

CHEM 6931. Topics in Chemistry 1-3 sem. hrs.
Topics of current interest in biochemistry.

CHEM 6960. Departmental Seminar 0 sem. hrs.
Papers and discussions as a means of interpreting present trends in chemical research. Required of all full-time graduate students in chemistry. Offered every term. SNC/UNC grade assessment.

CHEM 6995. Independent Study in Chemistry 1-4 sem. hrs.
Prereq: Cons. of dept. ch.

CHEM 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

CHEM 8999. Doctoral Dissertation 1-9 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CHEM 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CIVIL ENGINEERING (CIEN)

Chair and Associate Professor: Wenzel
Director of Graduate Studies and Professor: Heinrich
Professor Emeriti: Faherty, Novotny, Zanoni
Professor: Federle, Foley, Karshenas, Melching, Switzenbaum, Vinnakota, Zitomer
Associate Professor: Crandall, Crovetti, Drakopoulos
Assistant Professor: Wan
Adjunct Professor: Kuemmel
Adjunct Associate Professor: Sonntag
Adjunct Assistant Professor: Meus
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science; Doctor of Philosophy; Certificate

MISSION STATEMENT

The mission of the Department of Civil and Environmental Engineering is to educate students in the Catholic, Jesuit tradition. These students will be competent in their technical fields, appreciate the moral and ethical impact of their professional work, and continue their professional development throughout their careers. They will advance the state of technical and scientific knowledge through research and provide service to civic and professional communities.

SPECIALIZATIONS

M.S., Ph.D.: Construction/Public Works Management, Environmental/ Water Resources Engineering, Structural/Geotechnical Engineering, Transportation Engineering and Planning
Certificate: Construction Engineering and Management, Structural Design, Transportation, Water and Wastewater Treatment Processes, Water Resources Engineering

PROGRAM DESCRIPTIONS

CERTIFICATE PROGRAMS

The Department of Civil and Environmental Engineering offers five non-degree graduate certificate programs. The certificate programs are designed for practicing engineers and other qualified individuals with bachelor's degrees, who wish to update and/or expand their knowledge in specific technical areas, but do not necessarily wish to pursue master's or doctoral degrees.

DEGREE PROGRAMS

The master of science and doctor of philosophy degree programs are designed to provide graduate students with both broad fundamental knowledge and up-to-date information on current and emerging technologies. Students may enroll on either a full-time or part-time basis. Doctoral students and research-oriented master's students (e.g., Plan A) engage in research activities under the close supervision of their advisers, gradually learning to become independent researchers. Their projects are often supported by government and industry grants. Courses and research projects make significant use of the department's extensive laboratory and computational facilities. Graduates find employment in industry, government, academia, and research laboratories.

PREREQUISITES FOR ADMISSION

Applicants should have graduated with, or be about to graduate with, a baccalaureate degree in an appropriate area of study from an accredited institution. In addition, doctoral applicants are required to have earned a master's degree in a related field. (In some instances, exceptional applicants may be considered for entry into the doctoral program without a master's degree.)

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
5. *(For doctoral and all international applicants)* GRE scores (General Test only).
6. The GRE is recommended for, and may be requested of, master's applicants with undergraduate grade point averages less than 3.000 out of 4.000.
7. *(For doctoral applicants only)* a brief statement of purpose.
8. *(For doctoral applicants only)* submission of any English-language publications authored by the applicant is optional, but strongly recommended; this includes any master's thesis or essay that the applicant may have written.

RESEARCH ACTIVITIES

The Department of Civil and Environmental Engineering maintains laboratories related to studies in hydraulics, environmental engineering, structural testing, geotechnical engineering, and concrete and asphalt, as well as computational facilities. Associated with the department are three research centers: Water Quality Center, Transportation Research Center, and the Institute for Urban Environmental Risk Management.

Research interests of the faculty include: retrofit and repair of structures, high-performance materials, prestressed concrete, non-linear analysis of steel frames, application of evolutionary computation in structural engineering, fatigue performance of auxiliary highway structures, microcantilever-based sensors, computer applications in construction, development of load resistance models for wood formworks, accident experience with ice control operations, accident analysis of abrasives or abrasive salt mixtures used as the general procedures for snow and ice control, real-time control of wastewater control systems, stochastic water quality models, optimization of the central control system—Milwaukee Metropolitan Sewerage District, residuals management, membrane water softening, rutting study of asphalt using the loaded wheel tester, use of recycled rubber in concrete pavement, impacts of pavement surface textures, effects of grinding on PCC pavements, pavement performance inputs for life cycle cost analysis, driver understanding of traffic signals, traffic accident relations with roadway geometry, finite element analysis of pavement structures, environmental risk management, nitrogen removal from septic tank effluents, biological treatment of papermill wastewater, using plants to remove soil pollutants: phytoremediation, detoxification of a broad range of chemicals: methanogenic, low aeration system, use of ceramic microfiltration for treatment of filter waste washwater.

BACHELOR'S-MASTER'S PROGRAM

The department offers a five-year combined bachelor's-master's program available to outstanding Marquette University undergraduate students. This program enables students to earn both their bachelor of science and master of science degrees in civil engineering in just five years. Students currently enrolled in the undergraduate program in civil and environmental engineering at Marquette University (with a GPA of 3.500 or above) may apply for admission to the five-year program during their junior year. Students must submit an application to the Graduate School, indicate their interest in the five-year program, and meet all other admission criteria as stated in the Application Requirements section.

In addition to completing their undergraduate degree requirements, students will take master's level courses in their senior year. *(Note that no course is permitted to satisfy both the undergraduate and graduate degree requirements in the Five-Year B.S.-M.S. program of the Department of Civil and Environmental Engineering.)* The remaining master's level course work is taken during the student's fifth year. Students are strongly encouraged to pursue Plan A (thesis option), in which case work on the thesis research should begin the summer between the junior and senior years. Students will continue to gain research experience during the summer between the senior and fifth years, continuing throughout the fifth year and culminating in preparation of a written thesis and defense. Combined bachelor's-master's programs following Plan B (course work option) may also be designed for completion in five years.

CERTIFICATE REQUIREMENTS

Each graduate certificate program requires completion of four courses (12 credits) selected from a prescribed list of courses pertinent to the area of study. All courses taken must be approved for graduate credit, and at least two of the courses must be strictly graduate level (courses numbered 6000 or above). Students must complete all courses within a three-year time period and must earn a grade point average of at least 3.000 with no grade below a C.

CONSTRUCTION ENGINEERING AND MANAGEMENT (12 credits)
CEEN 5840, 6310, 6830, 6932, and/or 6995.

STRUCTURAL DESIGN (12 credits)
CEEN 5145, 5411, 5431, 5441, 5442, 5450, 5460, 5650, 5660, 6110, 6120, 6121, 6310, 6410, 6415, 6420, 6425, 6430, 6435, 6440, 6450, 6650, 6932, and/or 6995.

TRANSPORTATION (12 credits)
CEEN 5660, 5670, 6310, 6550, 6610, 6615, 6620, 6630, 6635, 6640, 6645, 6660, 6932, and/or 6995.

WATER AND WASTEWATER TREATMENT PROCESSES (12 credits)
CEEN 5310, 5515, 5520, 5525, 5535, 5540, 6510, 6520, 6521, 6530, 6540, 6932, and/or 6995.

WATER RESOURCES ENGINEERING (12 credits)
CEEN 5240, 5250, 5310, 6220, 6230, 6240, 6310, 6932, and/or 6995.

MASTER'S REQUIREMENTS

Students may earn a master's degree under either Plan A (thesis) or Plan B (non-thesis). Regardless of the option chosen, at least one-half of the total course work requirement must be taken at the 6000-level. In most cases, master's students are admitted to the program under Plan B but may transfer to Plan A with permission from their adviser. Note that recipients of teaching or research assistantships are required to pursue Plan A (thesis option).

Plan A requires the student to complete 30 credit hours (24 hours of course work, 6 hours of thesis work), submit an approved thesis, and pass a final oral comprehensive examination (thesis defense). The comprehensive exam for Plan A is focused mainly on the student's thesis topic.

Under the Plan B option, students must complete 30 credit hours of course work and pass a final comprehensive examination. The comprehensive exam for Plan B is usually an oral exam, administered by the student's three-person master's committee. The scope of the Plan B comprehensive exam may span the student's entire body of course work.

Both Plans A and B require that at least 18 credit hours be from the Department of Civil and Environmental Engineering course offerings.

DOCTORAL REQUIREMENTS

A doctoral student must complete a program of study prepared in consultation with his or her doctoral adviser and outlined on an approved *Doctoral Program Planning Form*. This form must be submitted within the first year of the student's doctoral studies. The program normally requires a minimum of 45 credit hours of course work beyond the baccalaureate degree plus 12 credit hours of dissertation work. In cases in which the student enters the program with a master's degree in civil engineering or a closely related field, the student may request that the department and the Graduate School allow credits from the master's degree to satisfy up to 21 credit hours of the required course work. Thus, a minimum of 24 credit hours of course work exclusive of the dissertation must be taken at Marquette University while the student is in the doctoral program. The student must also pass a doctoral qualifying examination (DQE) and submit and successfully defend a dissertation.

The DQE normally consists of both written and oral tests and is administered after the student has completed 30 to 36 credit hours of graduate study (inclusive of any approved credit hours from a previous master's degree). Each faculty member on a doctoral candidate's committee may submit questions for the written examination. The doctoral committee, as a whole, gives the oral examination.

The dissertation must represent an original research contribution showing high attainment and clear ability to do independent research. A public defense of the dissertation (the final oral examination) is administered after the student has completed all other formal requirements for the doctoral degree.

COURSE DESCRIPTIONS

Civil Engineering (CEEN)

CEEN 5145. Advanced Strength and Applied Stress Analysis 3 sem. hrs.
Basic concepts of mechanics of deformable bodies. Two- and three-dimensional stress-strain relationships and theories of failure. Unsymmetrical bending analyses. Shear flow and shear center. Torsion of thin-walled sections (tubular and non-tubular). Composite beams. Stress concentration. Energy principles: strain and complementary energy. Castigliano's theorem. Offered fall term alternate years.

CEEN 5230. Urban Hydrology and Stormwater Management 3 sem. hrs.
Distribution and properties of waters on the earth. Concept of the hydrologic cycle, and basic principles of meteorology, precipitation, streamflow, evapotranspiration, and groundwater flow. Erosion and urban stormwater pollution. Design of urban flood protection and stormwater pollution abatement systems. Offered fall term.

CEEN 5240. Water Resources Engineering 3 sem. hrs.
Surface waters, groundwater yields, probability concept in water resources design, water laws, reservoirs and dams, open channels and flow regulation, irrigation and drainage, flood damage mitigation, hydroelectric power, water resources economy and planning. Offered spring term.

CEEN 5250. Groundwater Engineering 3 sem. hrs.
Physical and chemical properties and principles of groundwater. Groundwater geology and interaction with the hydrologic cycle. Groundwater movement and flow nets. Groundwater contamination.

CEEN 5310. Geographical Information Systems in Engineering and Planning 3 sem. hrs.
Topics covered include: fundamentals of GIS, databases, data management, map projections, representations of spatial attributes, GIS analysis and GIS software systems such as ArcInfo, ArcView, Grass. GIS use and expanded capabilities will be taught. Case studies including environmental, transportation and economic applications will be discussed. Offered spring term.

CEEN 5340. Urban Planning for Civil Engineers 3 sem. hrs.
Concepts and principles underlying urban planning and development. Land use, transportation, utility, community facility planning problems, procedures, and techniques. The master plan and implementation devices such as zoning, subdivision control, official mapping, capital budgeting, and urban renewal. Offered spring term.

CEEN 5350. Law for Engineers 3 sem. hrs.
Basic legal principles and awareness of typical legal questions that arise when engineers and law interact. Topics include: American judicial system, law of contracts, forms of association, construction contracts, professional liabilities of engineers, and torts.

CEEN 5411. Matrix Structural Analysis 3 sem. hrs.
Introduction to symbolic and numerical linear algebra computations using commercial software. Modeling axial, bending, and torsion deformations in structural members using polynomials. Application of the principle of virtual work to compute deflections for statically determinate and indeterminate problems. Formulation of the matrix stiffness method via the principle of virtual displacements and the matrix flexibility method via the principle of virtual forces. Application of the matrix stiffness method for solving statically indeterminate structural analysis problems. Use of approximate methods of structural analysis (cantilever and portal methods) for critical evaluation of software-generated solutions. Use of commercial software for structural analysis. Offered fall term.

CEEN 5431. Steel Design 2 3 sem. hrs.
Design of steel beam-columns, continuous beams, composite beams and composite columns. Design of bolted and welded joints, connections, and subassemblages. Design of steel building structures. Offered spring term.

CEEN 5441. Advanced Concrete and Masonry Design 3 sem. hrs.
Presents advanced concrete theory and design; introduction to masonry design. Emphasis on code requirements and use of various design aids, including computer-aided design. Design of two-way slabs and reinforced concrete structural systems. Design and layout of reinforced concrete and concrete masonry walls. Offered spring term.

CEEN 5442. Prestressed Concrete Design 3 sem. hrs.
Introduction to the philosophy and concepts of prestressed concrete design. Study of the historical background, materials and methods of prestressing. Use of current code and basic principles and procedures for the design and analysis of pretensioned and post-tensioned members including calculation of loss of prestress, flexural analysis and design, shear, bond and anchorage requirements, member deflections and cable layouts.

CEEN 5450. Bridge Design 3 sem. hrs.
Introduction to bridge engineering and construction including: an abbreviated history of bridge construction; bridge types; bridge nomenclature; lessons from failures; design philosophies; and the construction process. Analysis of single- and multi-span bridge superstructures using classical techniques and commercial software. Design of single-span reinforced concrete slab bridges; reinforced concrete bridge decks; and single-span slab-bridges in prestressed concrete. Offered spring term.

CEEN 5460. Foundation Engineering 3 sem. hrs.
Design of foundation members subjected to vertical and eccentric loads. The effects of soil origin and deposition and the current codes and conventions are analyzed in relation to bearing capacity and settlement of structures.

CEEN 5515. Environmental Chemistry 3 sem. hrs.
Chemical stoichiometry, equilibrium, and kinetics relating to natural and engineered environmental systems. Basic concepts from organic and inorganic chemistry, including: oxidation-reduction reactions, acid-base chemistry, the carbonate system, alkalinity, and acidity. Equilibrium and kinetic theories of chemical partitioning among gas, liquid and solid phases governing chemical fate and transport in the environment. Coordination chemistry describing metal-ligand interactions, precipitation, and bioavailability of materials. Offered fall term.

CEEN 5520. Industrial Wastewater Management 3 sem. hrs.
Review of federal legislation and state regulations with regard to industrial wastewater management practices. Consideration of industrial process modifications and wastewater treatment options with respect to their effect on industrial user fees. Pretreatment standards and discharge permit requirements. Case studies of specific industrial applications. Offered alternate spring terms.

CEEN 5525. Treatment Plant Design and Operation 3 sem. hrs.
Review of water and wastewater characteristics, drinking water, receiving water and effluent standards. Basic design methodology and operational features of common physical, chemical and biological processes for the treatment of waters and wastewaters. Introduction to the processing and disposal of sludges and other treatment plant residuals. Offered fall term.

CEEN 5530. Hazardous and Industrial Waste Management 3 sem. hrs.
Overview of hazardous waste management, disposal and soil and ground water remediation. Review of RCRA, CERCLA-SARA, TSCA and Wisconsin's NR 700 and other regulations. Definition of hazardous wastes and characterization of industrial waste stream. Chemical, physical and biological properties of hazardous wastes. Introduction to hazardous waste remediation/treatment methods and technologies. Landfills and the RCRA Land Ban regulations. Site assessments, field investigations and laboratory analytical techniques. Environmental risk assessments, cleanup objectives and waste minimization. Offered alternate spring terms.

CEEN 5535. Environmental Engineering Microbiology 3 sem. hrs.
Includes microbiological and biochemical properties of microorganisms important in environmental engineering practice. General fundamentals of environmental microbiology and their application to drinking water treatment and distribution, water pollution control, and natural systems. Offered alternate spring terms.

CEEN 5540. Municipal Solid Waste Management 3 sem. hrs.
Introduction to municipal solid waste management and hazardous wastes associated with municipal solid wastes. Emphasizes the relationship between the properties of wastes, the techniques and hardware used for waste handling and processing and the ultimate disposal (containment) of waste and other residual materials. Covers remediation of orphaned landfills. Examines the design of systems for the management and disposal of solid and hazardous wastes subject to economic factors, safety, reliability and ethical and social implications. Offered alternate spring terms.

CEEN 5545. Air Pollution Engineering 3 sem. hrs.
Topics covered include: public health aspects of air pollution, stationary and traffic sources, chemistry of air pollutants and aerosols, air pollution meteorology, dispersion modeling, regulations and criteria regarding pollution emissions and pollution control engineering.

CEEN 5650. Pavement Design 3 sem. hrs.
Study of the behavior and properties of pavements with emphasis on asphalt and Portland cement concrete pavements. Structural design of pavement systems using current design methods. Use of computer programs and their application in the design of pavements. Offered fall term.

CEEN 5660. Pavement Management 3 sem. hrs.
Study of the performance of pavement systems based on design, traffic and maintenance activities. Methods for evaluating in-service pavements including condition surveys, nondestructive testing and destructive testing. Development of maintenance strategies for highway and airfield pavements and life cycle cost analysis of these strategies. Offered spring term.

CEEN 5670. Advanced Transportation Materials 3 sem. hrs.
Advanced study of materials used for constructing transportation facilities, with particular emphasis on subgrade soils, bound and unbound aggregates, hot mix asphalt and Portland cement concrete. Examines laboratory test methods and analytical models used for characterizing transportation materials. Addresses variations in material properties as a result of loading and environmental factors. Offered fall term.

CEEN 5715. Sustainable Engineering 3 sem. hrs.
Overview of sustainable engineering principles including environmental, economic and social equity issues. Covers tools, such as mass and energy balances and life cycle assessment. Other topics include: global warming, green house gases, green engineering, clean manufacturing, and sustainable management of energy and natural resources.

CEEN 5740. Health, Environment and Infrastructure in Latin America 3 sem. hrs.
Explores the relationship between Latin American culture and engineering infrastructure. Emphasis on alleviation of poverty and international development. Studies (1) Latin American culture, history, and politics, (2) peace and justice issues, (3) water treatment, wastewater treatment, and environmental protection (4) engineering infrastructure, and (5) health care issues. Highlights the needs of developing countries and the advantages and disadvantages of highly developed infrastructure systems. Reflection on the importance of engineering works in light of lecture and reading viewpoints, with the goal of gaining a richer understanding of the implications of culture within infrastructure development. Culminates with each student writing a paper combining information gained through reading, lecture, and service learning to emphasize a course-related topic. Requires participation in an international or domestic service learning project. A variety of projects are made available by the instructor.

CEEN 5815. Mechanical and Electrical Systems for Buildings 3 sem. hrs.
Provides basic knowledge of electrical, plumbing and HVAC systems used in residential, commercial and industrial buildings. Studies the advantages and disadvantages of various systems, and how their design and installation integrates into the management of the building process. Particular attention is given to soliciting and managing mechanical and electrical subcontractors.

CEEN 5820. Construction Operations and Productivity 3 sem. hrs.
Study of construction operations with emphasis on productivity measurement and enhancement. Application of an integrated approach to planning, analysis and design of construction operations. Application of simulation models and other analytical tools for modeling construction operations. Study of productivity improvement strategies, including lean construction principles.

CEEN 5825. e-Business in the Construction Industry 3 sem. hrs.
Explores the ways in which information technology and its Internet components help to provide competitive advantage for construction companies. Selection/implementation of Web-based project management tools. An investigation of digital technologies in construction industry. Wire/wireless communication, online plan/bid rooms, mobile computing, and video conferencing.

CEEN 5830. Construction Planning, Scheduling, and Control 3 sem. hrs.
A study of principles and techniques used to plan, schedule and control costs on building construction projects. Network and linear scheduling models, resource allocation and time-cost analysis. Develops an appreciation of the resources required in a project and their limitations and introduces the techniques for analyzing and improving their use. Develops an understanding of the correlation between project planning and control and cost estimating and scheduling.

CEEN 5840. Construction Cost Analysis and Estimating 3 sem. hrs.
Study of various cost estimating methods and their applications. Topics include: labor, material, equipment and indirect costs; quantity takeoff; analysis of historical cost data; forecasting and computerized estimating methods. Offered spring term.

CEEN 5931. Topics in Civil Engineering 1-3 sem. hrs.
Course content announced each term.
Prereq: Cons. of instr.

CEEN 6110. Theory of Elasticity 3 sem. hrs.
Mathematical preliminaries (indicial notation, vectors, Cartesian tensors, coordinate transformations, eigenvalue problems, divergence theorem); kinematic relations (strain-displacement and compatibility); stress tensor and traction vector; differential and virtual work expressions of equilibrium; constitutive relations; stored energy functions; formulation of elastostatics boundary value problems; uniqueness theorems; theorem of minimum potential energy; Saint-Venant's principle; Saint-Venant beam theory; plane stress and plane strain. Offered spring term.

CEEN 6120. Introduction to the Finite Element Method 3 sem. hrs.
Theoretical development of the finite element method (FEM) of analysis, with particular emphasis on problems of solid mechanics; development of element stiffness matrices for axial, beam, plane stress, plane strain, plate, shell, and solid elements; synthesis of global stiffness matrix, solution of the finite element equations; introduction to numerical implementation of FEM and general purpose FEM software. Offered alternate fall terms.

CEEN 6121. Applied Finite Element Analysis and Modeling 3 sem. hrs.
Review of linear elastic finite element analysis (FEA) theory in solid/structural mechanics; review of commercial FEA code use (ANSYS®) in linear elastic applications; introduction to advanced theories, including theories of vibration, material nonlinearities, geometric nonlinearities, structural instabilities, and/or time-dependent deformations (creep); use of ANSYS® to simulate complex structural behavior; model development, verification, and improvement. Offered alternate spring terms.
Prereq: CEEN 6120 or equiv.

CEEN 6130. Geotechnical Aspects of Waste Disposal 3 sem. hrs.
Review of basic soil mechanics, use of soil maps and boring logs. Site investigations using soil borings, test pits, and laboratory and field permeability tests. Basic geological and hydrogeological considerations in site selection. Geotechnical aspects of landfill design, including clay and synthetic membrane liners, cover soil, leachate collection, and cut-off walls, among others.

CEEN 6210. Advanced River Engineering 3 sem. hrs.
Offers a solid background in the basic principles of open-channel hydraulics, gradually-varied flow, rapidly-varied flow, hydrologic and hydraulic flood routing, and river restoration/naturalization. Hand calculations of numerous open-channel flow problems, and application of the HEC-RAS program for backwater analysis and for flood routing in combination with HEC-1. Includes concepts for stream restoration/naturalization.

CEEN 6220. Advanced Hydrology 3 sem. hrs.
Development, calibration, and application of rainfall-runoff models. Submodels available to simulate abstractions, hydrograph generation, and flow routing discussed in detail. Design storm and continuous simulation approaches described and compared. Hands on applications of commonly applied computer simulation models. Model capabilities and limitations discussed.
Prereq: CEEN 5230; or cons. of instr.

CEEN 6230. Watershed Planning 3 sem. hrs.
Relation between water quality and quantity and economical development. Effect of urbanization and industrialization on water resources. Special topics include: water demand, pollutant loads from point and nonpoint sources, watershed planning and management process. Total Maximum Daily Load (TMDL) process, economic principles in planning, water quantity and quality modeling, benefit cost ratio in water resources, optimization, objective function in water resources planning, institutions, legislation and laws. *Prereq: CEEN 5230; or cons. of instr.*

CEEN 6240. Water Quality Modeling and Management 3 sem. hrs.
Water and environment. Water quality criteria and standards. Attainability of water quality goals. Oxygen balance and self-purification. River, estuaries, and reservoirs water quality modeling. Toxicity and bioassays. Limnological aspects, waste assimilative capacity. Groundwater protection, river and estuary and groundwater quality management systems. Offered alternate fall terms.
Prereq: CEEN 3210; or cons. of instr.

CEEN 6310. Engineering Decisions Under Uncertainty 3 sem. hrs.
Application of probability and statistics to modeling, analysis and design of civil engineering systems. Topics include: probability theory, decision theory, utility theory, and simulation. Offered spring term.

CEEN 6320. Object-Oriented Analysis and Design for Engineers 3 sem. hrs.
Application of the engineering systems development model to software analysis and design. Object-oriented concepts including classes, inheritance, polymorphism, and relationships. Component-based design. Application of object technology in modeling and implementation of large engineering systems using a modern object-oriented language.
Prereq: Familiarity with a computer language.

CEEN 6410. Numerical Analysis with Structural Application 3 sem. hrs.
Interpolation polynomials; numerical integration and differentiation; Taylor series, Fourier, cubic spline, and least-squares polynomial approximations; numerical solution of initial-value problems by Prediction-Correction and Runge-Kutta methods; numerical solution of boundary-value problems by finite difference method; numerical solution of integral equations; approximate solution of ordinary differential equations by weighted residuals and Galerkin methods; approximate solution of variational problems by Rayleigh-Ritz method. Offered alternate spring terms.

CEEN 6415. Plastic Analysis of Structures 3 sem. hrs.
Plastic analysis of beams and frames. The plastic hinge as influenced by shear and axial force. The tools of plastic design: virtual work, upper and lower bound methods. The combination of mechanisms. Limit analysis of plates. Elastic-plastic analysis of multi-story frames.

CEEN 6420. Nonlinear Structural Analysis 3 sem. hrs.
Application of the principle of virtual displacements in the formulation of element stiffness equations that include geometric and material nonlinearity. Determination of critical (buckling) loads of structural systems using eigenvalue analysis. Formulation and application of algorithms for nonlinear structural analysis. Application of commercial software in geometrically nonlinear analysis, materially nonlinear analysis, and critical load (buckling) analysis. Offered alternate spring terms.
Prereq: CEEN 5411 or equiv.

CEEN 6425. Structural Engineering for Natural Hazard Mitigation 3 sem. hrs.
Introduction to the mechanics of ground motion (earthquake), the nature of wind (hurricane and tornado) and the effects of these phenomena on building and bridge structures. Introduction to structural dynamic principles in relation to structural analysis for wind and earthquake generated forces. Lessons learned from past earthquakes and extreme wind events. Discussion of the philosophies upon which code mandated earthquake and wind design forces are based (IBC, NEHRP). Introduction to state-of-the-art methods for estimating forces generated by tornadic winds and design of tornado shelter. Offered alternate spring terms.
Prereq: CEEN 3410 and CEEN 3430 and CEEN 3440 and CEEN 5411; or cons. of instr.

CEEN 6430. Advanced Steel Design 3 sem. hrs.
Selected topics in advanced steel structural design; interpretation of specifications and codes for the elastic and plastic design of steel buildings. Discussion of the behavior of steel connections, members and structures; the relationship between behavior and design specifications. Offered fall term.
Prereq: CEEN 5431.

CEEN 6435. Structural Dynamics 3 sem. hrs.
Formulation of single-degree-of-freedom (SDOF) equation of motion; generalized SDOF systems; free-vibration response; harmonic excitation; periodic loading and Fourier series; impulsive loads; response (shock) spectra; general response by Duhamel and Fourier integrals; non-linear dynamic analysis; Rayleigh's method; formulation of multiple-degree-of-freedom (MDOF) equations of motion; structural property matrices and load vectors; eigenvalue problem for natural frequencies and mode shapes; orthogonality of mode shapes; mode superposition. Offered fall term.

CEEN 6440. FRP in Civil Engineering Infrastructure 3 sem. hrs.
Introduces Fiber Reinforced Polymer (FRP) material properties, FRP reinforced concrete, FRP prestressed concrete, FRP repaired and retrofitted structures, and pure FRP structures.
Prereq: CEEN 3440 or equiv. reinforced concrete design course.

CEEN 6450. Stability of Structures 3 sem. hrs.
Elastic in-plane stability of columns, beams, frames, and trusses. Flexural-torsional buckling of beams. Stability of plates. Application of finite difference methods to stability problems. Offered alternate fall terms.

CEEN 6510. Biochemical Transformations in the Environment 3 sem. hrs.
Study of biologically catalyzed chemical transformations in natural and engineered environments. Presentation of microbiology, biologically important oxidation-reduction reactions, bioenergetic principles, fermentation kinetics, and toxicity considerations relating to wastewater treatment and remediation of contaminated groundwater and soil. Review of aerobic processes for biochemical oxygen demand reduction and ammonia oxidation, anoxic processes for denitrification, and anaerobic processes for reductive dechlorination. Offered alternate spring terms.
Prereq: CEEN 5525; or cons. of instr.

CEEN 6520. Environmental Laboratory 1 - Analyses 3 sem. hrs.
Physical, chemical and biological analyses for the characterization of waters, wastewaters, solid wastes, sludges and leachates. Use of modern instrumentation in laboratory analyses. Applicability of analytical results to the environmental field. Offered fall term.
Prereq: CEEN 3510 or equiv. and CEEN 5515 or equiv.

CEEN 6521. Environmental Laboratory 2 - Processes 3 sem. hrs.
Theoretical principles and laboratory experimentation governing the processes of settling, coagulation, adsorption, flotation, disinfection, oxygen transfer, biological treatment, and sludge conditioning, thickening and dewatering. Offered alternate spring terms.
Prereq: CEEN 5525 and CEEN 6520; or cons. of instr.

CEEN 6530. Hazardous Waste Remediation Technologies 3 sem. hrs.
Hazardous waste remediation technology selection. Chemical kinetics, equilibria and mass transfer. Aqueous phase treatment and solid/liquid separation processes. Physical, chemical and biological interactions under environmental conditions. Specific technologies will include: physical barriers, bioremediation, and soil vapor extraction, soil flushing and chemical extraction, immobilization and chemical and thermal destruction technologies. Multi-media, multi-contaminant treatment approaches. Computer model simulations and case studies.
Prereq: CEEN 5515 and CEEN 5525; or cons. of instr.

CEEN 6540. Physical and Chemical Processes of Environmental Engineering 3 sem. hrs.
Theory and design of unit operations and processes utilized for the treatment of water and wastewater, including coagulation, flocculation, sedimentation, filtration, adsorption, ion exchange and aeration.
Prereq: CEEN 5515 and CEEN 5525.

CEEN 6550. Environmental Impacts of Transportation 3 sem. hrs.
Environmental impact analysis, including air quality analysis, noise impact methodology, energy policy issues, water quality and transportation impacts on wetlands and land use impacts of transportation. Offered alternate spring terms.
Prereq: CEEN 3610; or cons. of instr.

CEEN 6610. Advanced Traffic Characteristics and Design 3 sem. hrs.
Components of the traffic system: vehicle and road user characteristics, geometric design, traffic controls. Intersection types, cross-section design elements and typical dimensions. Basic variables of traffic flow, observed traffic flow values. Freeway operations. Signalized intersection: flow, capacity, level of service. Projects addressing: intersection existing conditions (traffic, geometry, signalization); approach delay; safety performance; capacity; suggestions for improvements. Use of the Highway Capacity Manual and the Highway Capacity Software. Emphasis on technical report-writing and presentation. Offered fall term.
Prereq: CEEN 3610 or equiv.

CEEN 6615. Advanced Urban Street Design 3 sem. hrs.
Planning considerations, highway system components, design elements, including horizontal and vertical alignment, cross sectional elements, sight distance, intersections, parking, one way streets, mass transit and bicycle considerations. Offered fall term.
Prereq: CEEN 3610 or equiv.

CEEN 6620. Advanced Highway Interchange Design 3 sem. hrs.
Planning, analysis, design and operational analysis of highway interchanges. Determination and adaptability of interchange types for freeway-to-freeway and service interchanges. Offered alternate fall terms.
Prereq: CEEN 3615 and CEEN 3640; or cons. of instr.

CEEN 6630. Advanced Airport Planning and Design 3 sem. hrs.
Introduction to airport planning and design parameters, aircraft characteristics, payload versus range, runway length requirements, air traffic control, wind analysis, airside capacity and delay, airside separation criteria, terminal analysis and delay, airport access flow and capacity, ramp charts. Economic analysis of facility improvements. Offered fall term.
Prereq: CEEN 3610 or equiv.

CEEN 6635. Advanced Traffic Engineering 3 sem. hrs.
Design, analysis and use of traffic control devices. Traffic administration, traffic flow theory, and highway capacity. An introduction to computer aided traffic engineering. Offered alternate spring terms.
Prereq: CEEN 3640; or cons. of instr.

CEEN 6640. Advanced Traffic Management 3 sem. hrs.
Planning and operational considerations of advanced freeway traffic management, incident management and traffic signal control systems, freeway corridor management, integration of transportation control systems, interrelationships and deployment of key elements of Intelligent Transportation Systems (ITS). Offered alternate spring terms.
Prereq: CEEN 3640; or cons. of instr.

CEEN 6645. Advanced Highway Planning and Design 3 sem. hrs.
Highway planning. Alternative highway alignments. Alternative evaluation. Geometric design of highways: horizontal and vertical alignment, cross-section design. Projects on detailed design or reverse curves (plan and profile views); intersection design; cross-section and earthwork quantities. Legal aspects of engineering. Use of the American Association of State Highway and Transportation Officials (AASHTO) design guidelines, the Manual on Uniform Traffic Control Devices (MUTCD), Wisconsin Department of Transportation Facilities Development Manual (FDM) and CalTRANS Design Manual. Technical literature review on geometric design topic. Offered spring term. Two hrs. lecture, 2 hrs. lab. *Prereq: CEEN 3610; or cons. of instr.*

CEEN 6650. Bituminous Materials 3 sem. hrs.
Study of the behavior and properties of asphalt cement and hot mix asphalt pavement materials. Examines the chemistry and rheological properties of asphalt cement as well as the physical properties of aggregates. Studies aspects of pavement performance related to asphalt and aggregate properties. Examines mix design methods currently utilized for hot mix asphalt production and performance-based laboratory tests. Offered alternate spring terms. *Prereq: CEEN 3320 and CEEN 5670; or equiv.*

CEEN 6660. Advanced Pavement Design 3 sem. hrs.
Study of the behavior and properties of pavements with emphasis on asphalt and portland cement concrete pavements. Structural design of pavement systems using current design methods. Use of computer programs and their application in the design of pavements. Offered alternate fall terms. *Prereq: CEEN 5650 or equiv.*

CEEN 6810. Public Works Administration 1 3 sem. hrs.
Study of the duties and responsibilities of Public Works Administration. Covers internal management and organizational requirements and procedures for the operations of the organization.

CEEN 6820. Public Works Administration 2 3 sem. hrs.
Study of the duties and responsibilities of Public Works Administration. Covers the managerial requirements and procedures of external relations, along with political, social and ethical considerations.

CEEN 6830. Construction Equipment and Methods 3 sem. hrs.
Construction equipment cost and productivity analysis. Design of equipment fleet operations. Building construction methods and design of temporary structures used during construction such as earth-retaining structures, formwork systems, and temporary bracing systems. Safety standards related to earthwork, concrete, masonry, carpentry and steel operations. Offered fall term.

CEEN 6932. Advanced Topics in Civil Engineering 1-3 sem. hrs.
Course content announced each term. Topics may include: structural optimization, design of structures for random loads, transportation systems analysis and design, water and wastewater systems analysis and design, and soil-structure interaction.

CEEN 6953. Graduate Seminar in Civil Engineering 0-3 sem. hrs.
Review of current literature. Group discussion of recent work and current research by students and staff. 0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded.

CEEN 6995. Independent Study in Civil Engineering 1-3 sem. hrs.
Offered every term.
Prereq: Cons. of instr. and cons. of dept. ch.

CEEN 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

CEEN 8953. Doctoral Seminar in Civil Engineering 0-3 sem. hrs.
0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded.

CEEN 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CEEN 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Construction and Engineering Management (CEMA)

CEMA 5931. Topics in Construction Engineering and Management 1-3 sem. hrs.
Course content announced each term.
Prereq: Cons. of instr.

CLINICAL MENTAL HEALTH COUNSELING (CMHC)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

CLINICAL PSYCHOLOGY (CLPS)

Chairperson and Associate Professor: Nielson
Assistant Chair and Professor: Franzoi
Director of Clinical Training and Associate Professor: Saunders
Professor: Grych, Guastello, Sheikh
Associate Professor: Czech *(Emeritus)*, de St. Aubin, Oswald, Wierzbicki
Assistant Professor: Gerdes, Gordon, Kaugars, Kuchan, Sanders, Siderits, Torres, Van Hecke
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREE OFFERED

Doctor of Philosophy

PROGRAM DESCRIPTION

The clinical psychology program offers courses and training leading to the degree of doctor of philosophy (Ph.D.) in clinical psychology. Students in the doctoral program acquire a master of science degree as they progress toward their doctoral degree. The doctoral program is accredited by the American Psychological Association (APA). Courses cover scientific areas of psychology, the historical foundations of psychology, research methods, and professional practice skills. Supervised clinical experiences are planned throughout the curriculum. Practica are available at the Department of Psychology's Center for Psychological Services and with collaborating agencies in the Milwaukee urban area.

PREREQUISITES FOR ADMISSION

The applicant is expected to show evidence of adequate preparation in psychological and related sciences. The following courses are prerequisites to graduate study in clinical psychology: general psychology, psychological measurements and statistics, experimental psychology (with laboratory), personality theory, abnormal psychology, plus two additional courses chosen from the following: psychology of learning, psychological testing, history and systems of psychology, biopsychology (physiological psychology), social psychology, and developmental psychology.

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by December 15.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. A statement of purpose, in letter form, briefly indicating educational and vocational plans.
4. Three letters of reference from individuals familiar with the applicant's academic work and/or research experience.
5. Graduate Record Examination (GRE) test scores (General Test and Subject Test in psychology).
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

The highest ranking applicants will be invited to an interview.

DOCTORAL REQUIREMENTS

A doctoral student must complete a program of study defined, in conjunction with the director of clinical training, on an approved *Doctoral Program Planning Form.* Students obtain a master's degree while in the doctoral program. The program requires a total of 84 credit hours of course work beyond the baccalaureate degree including: semesterly enrollment in and attendance at a non-credit colloquium (PSYC 8952), 6 credit hours of master's thesis work, completion of an approved master's thesis, successful completion of a doctoral qualifying examination (DQE), 12 credit hours of dissertation work, submission of an approved dissertation and an approved internship.

Required courses are: 21 credit hours in substantive core courses (PSYC 8401, 8511, 8525, 8630, 8660, 8740, 8780), 6 credit hours in assessment (PSYC 8301, 8302), 12 credit hours in intervention (PSYC 8321, 8322, 8332, elective), 6 credit hours in practice core courses (PSYC 8965), 3 credits of consultation/supervision (PSYC 8360), 6 credit hours in professional practice (PSYC 8201, 8202), 9 credit hours in the research core courses (PSYC 8101, 8102, 8125), 6 credit hours of master's thesis work (PSYC 6999), 12 credit hours of dissertation work (PSYC 8999), and 3 credit hours of graduate-level electives.

The student is required to complete a satisfactory master's thesis and pass an oral defense. The defense is overseen by a committee of three department faculty and the defense constitutes the master's comprehensive exam. Students who successfully defend their master's thesis and who have completed at least 36 credit hours of study are awarded the master's degree. Students must successfully complete the DQE to be advanced to doctoral candidacy.

Requirements to earn the master of science degree on the way to earning the doctoral degree total 42 credit hours: 30 credit hours of required course work (PSYC 8101, 8102, 8201, 8202, 8301, 8302, 8321, 8322, 8332, 8401), 6 credit hours of electives (PSYC 8511, 8525, 8630, 8660, 8740, and/or 8780), 6 credit hours of PSYC 6999 (master's thesis), a completed master's thesis, and public defense of the thesis.

The doctoral student must complete an internship approved by the Psychology Department. Before the student is permitted to apply for internship, personal and professional readiness must be verified. Readiness is evaluated by both a review of the student's graduate study portfolio and a "clinical exam," which entails an oral examination of necessary clinical skills. Permission will be granted only to students whose proposal has been approved.

A public defense of the dissertation will be conducted only after the student has completed all other formal requirements for the doctoral degree, with the possible exception of the internship. To conduct research projects, permission from the university Institutional Review Board must be obtained.

COURSE DESCRIPTIONS

Psychology (PSYC)

PSYC 5330. Human Factors Engineering 3 sem. hrs.
Person-machine interactions, including sensory and motor phenomena and human limitations, controls and displays for computer-based and conventional machines, human information processing and artificial intelligence, workspace and environmental factors that influence optimal performance, relevant legal issues and human functioning in outer space. Offered annually.

PSYC 5350. The Psychology of Death and Dying 3 sem. hrs.
Review of the psychological literature on death. Social and individual attitudes toward death. Reactions to the anticipation of the death of self and of significant others. Ways of responding to loss and death including grief, mourning, and bereavement. A survey of the various theories of death and suicide. Offered annually.

PSYC 6998. Professional Project in Psychology 0 sem. hrs.
SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PSYC 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 8101. Advanced Statistics and Design 1 3 sem. hrs.
Covers inferential statistics commonly used in psychological research. Topics include: probability and hypothesis testing; t-tests; one-way, two-way, and repeated measures analysis of variance; post-hoc and planned comparisons; correlation; bivariate regression; nonparametric statistics; power and effect size. Emphasizes identifying the appropriate statistical model for a research question, understanding the assumptions underlying the tests, and being able to compute and interpret the test statistics accurately. Use of statistical packages. Offered fall term. *Prereq: Admission to clinical program or cons. of dept. ch.*

PSYC 8102. Advanced Statistics and Design 2 3 sem. hrs.
Statistics covered include: multiple regression, logistic regression, multivariate analysis of variance and covariance, principal components analysis, and exploratory factor analysis. Covers psychometric concepts and procedures related to item selection, scale construction, reliability and validity. Emphasizes identifying the appropriate statistical model for a research question, understanding the assumptions underlying the tests, and being able to compute and interpret the test statistics accurately. Continued use of statistical packages. Offered spring term. *Prereq: PSYC 8101 and admission to clinical program or cons. of dept. ch.*

PSYC 8125. Advanced Research Methods 3 sem. hrs.
Focuses on research design principles relevant to psychology and related disciplines. Emphasizes the development of skills in logic, critical analysis, and scientific writing. Covers basic principles of experimental and non-experimental design; principles of reliability and validity; strategies of data analysis and data collection methods. Students evaluate existing research and generate an original research proposal. *Prereq: PSYC 8101 or equiv. and cons. of instr. or admission to clinical program.*

PSYC 8201. Ethics and Professional Issues in Clinical Psychology 3 sem. hrs.
A study of professional ethics drawing on APA guidelines, state statutes, research and case studies. Consideration of practice issues relevant to clinical psychology. Active participation in seminar presentations and formulation and resolution of ethical dilemmas. Offered annually. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8202. Multicultural Issues in Clinical Psychology 3 sem. hrs.
Designed to provide training in the culturally informed practice of clinical psychology. Students learn to recognize and understand dimensions of cultural diversity in our communities, including, but not limited to: race, ethnic background and identity, sexual orientation, and religion. Trains students in developing culturally competent psychological interventions with individuals from diverse groups. Offered annually. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8301. Psychological Assessment 1 3 sem. hrs.
Development of skills in the administration, scoring, interpretation, and integration of individual intelligence and achievement tests. Development of basic clinical assessment skills and understanding of the nature, development, etiology, and implications of individual differences in intelligence. Offered annually. *Prereq: Admission to clinical program.*

PSYC 8302. Psychological Assessment 2 3 sem. hrs.
Extension of the assessment skills developed in PSYC 8301; the administration and interpretation of projective technique with emphasis on the Rorschach and TAT; special emphasis on the MMPI and report writing. Offered annually. *Prereq: PSYC 8301 and admission to clinical program.*

PSYC 8321. Clinical Interviewing 3 sem. hrs.
Basic listening skills, interviewing to establish diagnoses and treatment goals and plans, and the development of the therapist-client relationship. *Prereq: Admission to graduate program or cons. of instr.*

PSYC 8322. Theories of Psychotherapy 1 3 sem. hrs.
Focuses on interpersonal, client-centered, and psychodynamic models of psychotherapy. Covers conceptual foundations, intervention strategies, and empirical research on effectiveness.
Prereq: PSYC 8321; admission to graduate program or cons. of instr.

PSYC 8332. Theories of Psychotherapy 2 3 sem. hrs.
Focuses on the cognitive, behavioral, and cognitive-behavioral models of psychotherapy. Covers conceptual foundations, intervention strategies, and empirical research on effectiveness.
Prereq: PSYC 8321; admission to graduate program or cons. of instr.

PSYC 8340. Theories of Psychotherapy 3 3 sem. hrs.
Elective course covering complementary, alternative and cross-cultural approaches to psychotherapy.
Prereq: PSYC 8321; admission to graduate program or cons. of instr.

PSYC 8341. Family Therapy 3 sem. hrs.
Focuses on the evaluation and treatment of problems in couple and family functioning. Introduces family systems theory and evaluates different models for assessing and intervening with couples and families. *Prereq: Cons. of dept.*

PSYC 8360. Consultation and Supervision Strategies 1-3 sem. hrs.
Students attend weekly seminar on supervision and consultation strategies and models. Students conduct supervision of other clinical students under supervision of instructor or other clinical faculty. Offered annually; students attend both terms.
Prereq: Cons. of dir. of clinical training.

PSYC 8401. Abnormal Psychology 3 sem. hrs.
Scientific overview of psychopathology. Diagnostic criteria, etiology, and current treatments of important psychological disorders, including anxiety disorders, mood disorders, personality disorders, schizophrenia. Offered annually. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8420. Principles of Child Psychopathology and Intervention 3 sem. hrs.
Introduces research on the development of psychopathology in childhood, including attention to biological, family, and sociocultural influences on maladjustment. Describes approaches for intervening clinically with childhood problems such as Attention Deficit Hyperactivity Disorder, conduct disorder, depression, and anxiety. *Prereq: Cons. of dept.*

PSYC 8511. History and Theoretical Foundations of Psychology 3 sem. hrs.
The history of psychology as a scientific discipline and of clinical psychology as a profession. Current relevant issues in the philosophy of science. Relationship between different basic theoretical assumptions, personality theories, and perspectives on treatment. Theoretical issues in the study of individual differences and clinical interventions. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8525. Advanced Personality Psychology 3 sem. hrs.
Covers major theoretical models and empirical approaches to the study of the person. Emphasis is placed on the current science of personology, the study of the whole person in context and over time. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8630. Advanced Developmental Psychology 3 sem. hrs.
Presents a wide variety of theoretical and empirical approaches to understanding the development of the human being over the entire life course. Class readings and discussions provide the debates, concepts, methods, and findings present in the current scholarly dialogue concerning life-span developmental psychology. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8660. Advanced Social Psychology 3 sem. hrs.
Analysis of social psychological theory and research, including self processes, attitudes, persuasion, social influence, prejudice, group behavior, interpersonal relationships, aggression, and helping behavior. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8665. Industrial Psychology and Organizational Development 3 sem. hrs.
An experiential seminar for in-depth study of organizational diagnosis, change and development processes, motivation dynamics, creativity and innovation, leadership and group processes, negotiation, organizational culture and structure. Workshop format features interactive learning. Includes new trends from organizational research.
Prereq: Cons. of instr.

PSYC 8668. Personnel Selection 3 sem. hrs.
Theory and contemporary applications concerning job analysis; ability, aptitude, and personality, and other forms of pre-employment testing; racial fairness and bias in testing; performance appraisal; utility analysis for selection techniques; special selection requirements for management, sales, creative people, and other professionals; career choice and planning composition of work groups.
Prereq: Cons. of instr.; completion of B.A. or B.S. in management, social sciences, or engineering.

PSYC 8740. Foundations and Processes of Human Cognition 3 sem. hrs.
Examines the history, current theories and methods of cognitive psychology and cognitive neuroscience with emphasis on perception, attention, memory, language, and executive functions. Discusses the relevance of gender, age, and culture to cognitive process, as well as clinical applications. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8745. Introduction to Neuropsychological Assessment 3 sem. hrs.
Prereq: PSYC 8740, PSYC 8780 or equiv., PSYC 8301 and PSYC 8302 or equiv., and cons. of instr. or admission to clinical program.

PSYC 8780. Biological Bases of Behavior 3 sem. hrs.
The nervous system as the mediator of behavior. Physiological and neural factors in sensation, motor response, instinct, emotion, learning, and thinking. Offered biennially. *Prereq: Cons. of instr. or admission to clinical program.*

PSYC 8787. Psychopharmacology 3 sem. hrs.
Study of the major classes of drugs, their physiological mechanisms of action, and their efficacy in the treatment of mental disorders.
Prereq: PSYC 8780 or equiv., PSYC 8401, and cons. of instr. or admission to clinical program.

PSYC 8931. Topics in General Psychology 3 sem. hrs.
Contemporary theoretical and research trends, particularly in areas of experimental, social, developmental, abnormal, quantitative or physiological psychology. *Prereq: Cons. of dir. of clinical training.*

PSYC 8932. Advanced Topics in Clinical Psychology 3 sem. hrs.
Seminar format that examines special topics related to the assessment, etiology, or treatment of psychological problems. A maximum of 3 credit hours can be applied to the degree.
Prereq: Cons. of dir. of clinical training.

PSYC 8952. Colloquium in Psychology 0 sem. hrs.
Research and scholarly reports on selected topics in scientific and professional psychology by visiting investigators, departmental faculty and graduate students. Offered every term. SNC/UNC grade assessment. Attendance required of all full-time regular students.

PSYC 8953. Introduction to Professional Practice 0 sem. hrs.
Seminar for first-year graduate students. Introduces the clinical program expectations and requirements, including participation in group supervision, assistantship duties, and adjusting to graduate school.
Prereq: First year student in CLPS or cons. of dept. ch.

PSYC 8954. Advanced Professional Practice Seminar 0 sem. hrs.
Seminar for second-year graduate students. Reviews clinical program expectations and requirements, including material related to clinical evaluations and interventions, externships, master's theses, and assistantship duties. Focuses on professional identity development. *Prereq: Second year student in CLPS or cons. of dept. ch.*

PSYC 8955. Seminar in Teaching of Psychology 0 sem. hrs.
Covers some of the theories and strategies of effective teaching, including creating syllabi, course management, lecture styles, student management issues, creating tests, and grading and assessment strategies. Available to third and fourth year students. Meets all year, once or twice per month. Incorporates practice lectures with feedback. For students who plan to teach for the department or who plan on teaching as part of their careers. Offered annually; students must attend both terms. SNC/UNC grade assessment. *Prereq: Cons. of instr. and admission to clinical program.*

PSYC 8965. Advanced Practicum in Clinical Psychology 0-6 sem. hrs.
Supervised experience in psychological assessment, interventions, and consultation. Students enroll in 6 credit hours over the course of study. A maximum of 6 credit hours can be applied to the degree. 0 credit will be SNC/UNC grade assessment; 1-6 credits will be graded. Offered every term.
Prereq: Admission to clinical program.

PSYC 8986. Internship in Clinical Psychology 0 sem. hrs.
All students in the doctoral program in clinical psychology are required to complete a full-year (2000 hours) internship program that meets the requirements for internship training as stipulated by the American Psychological Association. Registration for this full-time non-credit course in each of three terms during the internship year is obligatory. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 8995. Independent Study in Psychology 1-3 sem. hrs.
Prereq: Cons. of dir. of clinical training.

PSYC 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PSYC 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

PSYC 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dir. of clinical training.

COMMUNICATION (COMM)

Dean and Professor: Bergen
Associate Dean and Professor: Meyer
Associate Dean for Graduate Studies and Research and Associate Professor: Wolburg
Assistant Dean: Richard
Chair of Advertising and Public Relations and Associate Professor of Advertising: Wolburg
Chair and Associate Professor of Broadcast and Electronic Communication: Havice
Chair and Professor of Communication Studies: Shuter
Chair of Journalism and Associate Professor: Thorn
Professor: Badaracco, Brennen *(Lucius W. Nieman Chair)*, Goldzwig, Griffin, Helbert *(Emeritus)*, Soley *(Cyril & Gretchen Colnik Chair)*, L. Staudacher *(Emeritus), Turner*
Associate Professor: Ekachai, Garner, Grams, Grow, Price *(Emeritus)*, Scotton, Slattery
Assistant Professor: Berg, Byers, Chattopadhyay, D'Urso, Feldner, Holt, Nettleton, Ravel, Ugland
Adjunct Associate Professor: Krajec
Adjunct Assistant Professor: Campbell, Garinger, Hudson-Mairet, Loeffler-Bell
Lecturer: Volbrecht
Professional in Residence: Menck
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts; Certificate

SPECIALIZATIONS

Master's: Advertising and Public Relations; Broadcast and Electronic Communication; Communication Studies; Journalism; Mass Communication; Communication about Health Environment, Science and Sustainability
Certificate: Digital Storytelling, Professional Communication

PROGRAM DESCRIPTION

The J. William and Mary Diederich College of Communication graduate program prepares students for intellectual, artistic, professional and ethical leadership in a complex technological and multicultural world. It uses a core of common knowledge, values, and communication skills to improve understanding of communication as a cultural and social process and to develop the skills necessary for success in constantly changing information environments. Graduate students are partners in the production of knowledge and are actively involved in systematic research and professional development which enables them to develop a mastery of the intellectual and professional content of the discipline. All students complete a core curriculum and develop a specialization in areas such as: advertising and public relations; broadcast and electronic communication; communication studies; journalism; mass communication; and communication about health, environment, science and sustainability.

The program offers an interdisciplinary bridge between courses in a variety of areas and individual interests and goals. For example, students might wish to develop emphasis in such areas as health

communication, visual communication, or global communication. Faculty advisers assist students in course planning and approve the final programs of study which are custom-tailored to meet individual needs. Advisers help students develop programs that can include supplements from health care, business, marketing, English, psychology, sociology, political science and others.

The program can be tailored for students who have undergraduate training in their field of choice, who are working as practitioners, as well as those who wish to teach or conduct research.

The program prepares students to work in a variety of settings from education to industry. Students study and work in an urban laboratory with a wide array of advertising, publications, and communications consulting firms, network television stations, leading radio stations, and one of the world's most respected newspapers. Marquette alumni work in many of these organizations, which offers enriching opportunities for graduate students.

Core courses broaden knowledge about current communication theory and professional and research practices. Other courses examine social issues, help prepare students for industry leadership, and sharpen the students' professional skills.

Upon the completion of the master of arts degree program in communication, graduates will be able to:

1. Apply research-based, theory-informed knowledge to the identification and solution of real-life issues in the field.
2. Apply ethical decision-making skills in a variety of communication situations.
3. Integrate knowledge from the discipline of communications with a particular specialization area (advertising and public relations; broadcast and electronic communication; communication studies; journalism; mass communication; communication about health, environment, science and sustainability).

PREREQUISITES FOR ADMISSION

For all master of arts specializations in communication, the certificate in digital storytelling and the certificate in professional communication, the applicant should have graduated with, or be about to graduate with, a bachelor's degree from an accredited institution and must have an undergraduate grade point average equivalent of at least a 3.000 on a 4.000 scale. Master of arts applicants without sufficient academic or professional background will be required to take some undergraduate courses with no graduate credit to satisfy deficiencies.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation, specifically in letter format.
4. A 300-word statement of academic and professional goals.
5. *(For M.A. applicants only)* GRE scores (General Test only). Minimum GRE scores are as follows: verbal 450, quantitative 450, and analytical 4.5; however, verbal plus quantitative scores must be at least 1,000.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency. A minimum score of 600 on the paper-based version, 250 on the computer-based version, or 100 on the Internet-based version is required.

GENERAL INFORMATION

All papers and oral presentations produced by students in all classes are expected to conform to professional standards of lucidity, coherence, grammar, and syntax. All instructors in all classes in communication will consider the factors listed above, as well as substance, in grading written and oral presentations. Integrity is essential to any communication professional and is expected of students in communication. The worst offenses are plagiarism, unapproved collaboration, or falsifying work in whole or in part.

JOINT PROGRAM OF STUDY

M.A. IN COMMUNICATION AND IN POLITICAL SCIENCE OR IN INTERNATIONAL AFFAIRS

The J. William and Mary Diederich College of Communication, in conjunction with the Department of Political Science, offers a program of joint study leading to a master of arts degree in communication and a master of arts degree in political science or international affairs. The program is designed for students whose interests overlap aspects of communication such as advertising, journalism, or broadcasting and politics. Joint degree students are able to complete both degree programs in less time than if both degrees were pursued separately.

Students seeking admission into the joint degree program must submit to the Graduate School separate applications for admission to both programs, including two sets of required documentation, and must meet the admission requirements of each program. Acceptance into one program does not guarantee acceptance into the other. If a student is accepted into one program and not the other, the student can still choose to accept the admission offer from the first program but would not be considered a joint degree student. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

Joint degree students count 9 credits of course work in each program toward the required course work credits of the other program. Thus, 9 of the 30 credits required for the thesis track, or 9 of the 36 credits required for the non-thesis track for the master of arts degree in communication will come from POSC courses, and 9 of the 30 credits required for the master of arts degree in political science or international affairs will come from COMM courses.

MASTER'S REQUIREMENTS

THESIS TRACK (PLAN A)

Students must complete 24 credit hours of course work and 6 credit hours of thesis work (a total of 30 credit hours), and submit an approved thesis. Students are required to orally defend their theses.

NON-THESIS TRACK (PLAN B)

All students are admitted to the program in Plan A (thesis) but may transfer to Plan B (non-thesis) with approval of the program.

Non-thesis track students must complete 36 credit hours of course work and pass a comprehensive examination. A professional project of 3 credit hours (COMM 6998) can fulfill 3 of the 21 non-core credit hours of course work.

Non-thesis track students are required to pass a comprehensive examination which tests their abilities to integrate theory and research methods in subject areas within their specializations. The exam normally is taken during the student's final term and cannot be scheduled until the student has completed COMM 6000 and 6050.

REQUIRED CORE COURSES

All Plan A and Plan B students are required to take the following college core courses (15 credit hours total) in addition to those required for their areas of specialization.

COMM 6000 Theories of Communication
COMM 6050 Research Methods in Communication
COMM 6250 Ethics in Communication

and at least one of the following:
COMM 6100 Qualitative Research Methods in Communication
or
COMM 6150 Quantitative Research Methods in Communication

and at least one additional COMM course at the 6000-level.

PROGRAM DETAILS

Upon admission to the graduate program, students are assigned faculty advisers to work with throughout their time at Marquette. Students work with their advisers to select courses that will meet their needs. Students must earn a grade point average of at least 3.000 with no grades below a C.

The specializations are described below along with any required course work.

ADVERTISING AND PUBLIC RELATIONS

Advertising and public relations is designed for those who wish to learn theory, research and professional skills needed to succeed in the new world of marketing communications. Students are required to take three of the following courses: ADPR 6400, ADPR 6500, ADPR 6600, and ADPR 6931. ADPR 6931 may be counted twice toward this requirement as long as the topics vary.

BROADCAST AND ELECTRONIC COMMUNICATION

This specialization is designed to provide students with the knowledge and skills necessary for the creative extension and application of theory to the development and utilization of audio and video messages in a variety of settings, particularly news and entertainment. Students may study in areas such as broadcast communication or broadcast journalism. Broadcast journalism is offered in conjunction with journalism.

COMMUNICATION STUDIES

Communication studies is designed for those interested in applying theory and research in the analysis of a variety of messages from diverse sources including organizations, families, media and political leaders, enabling graduates to work

in a variety of careers from education to industry. Students must complete at least three of the following: COMM 6200, COMM 6400, COMM 6450, CMST 6100, or CMST 6200.

JOURNALISM

The journalism specialization is designed to provide students with the theory, research and professional skills needed for the many varieties and media of journalism in the information age. Students may study in areas such as journalism, broadcast journalism or public affairs. Broadcast journalism is offered in conjunction with the broadcast and electronic communication academic area. Students with Plan A (thesis) emphasis complete a Plan of Study with the help of their adviser to specify course selections in the specialization. Students with Plan B (non-thesis) emphasis must complete COMM 6800, JOUR 6800 and JOUR 6850. Recommended electives are: COMM 6500 (preferred), 6550, 6600, 6650 and 6750.

MASS COMMUNICATION

This interdisciplinary specialization is designed to provide students with both the theoretical background to understand mass communication phenomena and the specialized knowledge and skills necessary for professional work in a variety of mass communication fields.

For students who want to tailor their program to meet their individual needs, the mass communication specialization allows maximum flexibility. Students work with an adviser to design their program, which may include diverse areas such as global studies, visual communication, and media effects.

COMMUNICATION ABOUT HEALTH, ENVIRONMENT, SCIENCE AND SUSTAINABILITY

This interdisciplinary specialization provides students with the theory, research and fundamental professional knowledge needed to (1) understand the processes, roles and effects of communicating about health, environment, science, and sustainability interpersonally, in organizations and in society, and (2) apply this understanding to the task of communicating technical, specialized information to a variety of audiences, especially non-expert, lay audiences.

Students following the Plan A master's thesis track must complete a total of 30 credits: the required core courses (15 credits), JOUR 5330 (3 credits), the master's thesis (COMM 6999 for 6 credits), health communication (COMM 6931 or CMST 5500 for 3 credits) and an additional course from relevant college and university courses that complement this specialization (3 credits).

Students following the Plan B non-thesis track must complete a total of 36 credits: the required core courses (15 credits), JOUR 5330 (3 credits), the professional project (COMM 6998 for 3 credits), health communication (COMM 6931 or CMST 5500 for 3 credits) and additional course work from relevant college and university courses that complement this specialization (12 credits). The all-course option (no thesis or professional project) is not available in this specialization.

CERTIFICATE IN DIGITAL STORYTELLING

The J. William and Mary Diederich College of Communication also offers a 15 credit hour, non-degree graduate certificate in digital storytelling. The certificate is for those who want to understand the theoretical foundation of storytelling, apply it to the various disciplines in communication, and learn the applied skills in multimedia technology that enable them to be competitive in the converged job market. Students who complete the certificate learn different types of storytelling, such as informational, persuasive, and historical, and different forms of storytelling, such as public affairs journalism, fundraising, advertising, public relations, entertainment, as well as family stories. Students also learn different means for doing storytelling through documentaries, blogs, Web sites, print media, etc. Woven into the program are ethical considerations regarding who tells the story. The certificate can stand alone or can be applied toward the master's degree in communication for students admitted to the degree program.

CERTIFICATE REQUIREMENTS

The certificate in digital storytelling requires the completion of three required courses (9 credits) and two elective courses (6 credits) for a total of 15 credits. One of the required courses is a capstone. Students should consult their adviser or the associate dean for graduate studies and research when deciding upon electives.

Required Courses

All students must complete COMM 6850, COMM 6900, and COMM 6997 (capstone).

Elective Courses

Students select two courses in consultation with their adviser and/or the associate dean for graduate studies and research.

CERTIFICATE IN PROFESSIONAL COMMUNICATION

The J. William and Mary Diederich College of Communication also offers a non-degree, graduate certificate program in professional communication for those who want to strengthen their communication skills in the workplace to solve professional communication challenges. The 15 credit hour certificate can stand alone or can be applied toward the master's degree in communication for students admitted to the degree program.

CERTIFICATE REQUIREMENTS

The certificate in professional communication requires the completion of four courses (12 credits) plus a capstone course (3 credits) for a total of 15 credits. Students select specific courses in consultation with the associate dean of graduate studies and research in the Diederich College of Communication in order to best meet their needs and career goals. Students submit their plan of study, which must be approved by the associate dean.

Capstone Course

Students must also complete the capstone course COMM 6997 to develop a professional communication project that will allow them to integrate learning across their classes. COMM 6997 is supervised by a faculty member from the Diederich College of Communication.

COURSE DESCRIPTIONS

Following is a listing of all J. William and Mary Diederich College of Communication courses followed by area specialization courses.

Communication (COMM)

COMM 5100. Mass Media and the American Family 3 sem. hrs.
The impact of the mass media on family communication patterns, familial value structures, development of children, and orientation to news media. Examination of news, advertising, and entertainment content from educational, cultural and economic perspectives. Emphasis on empirical social science research which examines relationships between media and families. Offered spring term.

COMM 5200. International Communication 3 sem. hrs.
History of the comparison among present structures of national media systems and the role of journalism within them. Principles of international news flow, gatekeeping, impact of technology, and the relationship between developing countries. Exploration of various models of press-government relationships. Offered annually.

COMM 5300. Introduction to Survey Research in the Communications Media 3 sem. hrs.
How to conduct and understand the results of political polls and other forms of sample surveys in the communications media. Includes a discussion of ethical considerations in survey research, an introduction to principles and techniques of sampling, questionnaire construction and interviewing, practice in data analysis and related reasoning, and the presentation of results for various audiences. Offered spring term in even-numbered years.

COMM 5500. Race and Gender Issues in Mass Media 3 sem. hrs.
Surveys the past and present relationship between women and racial and ethnic minorities in the United States and the mass media. Specifically, studies the issues of how women and people of color are portrayed in the news and entertainment media, the role of ownership, employment and access to the media institutions. Women's Studies elective. Offered annually.

COMM 5600. Media Management 3 sem. hrs.
Staffing, organization, economics, salaries, law, labor negotiations and community relations as involved in the mass media. Theoretical and practical approaches to the problems of management. Offered spring term.

COMM 5700. Media and Politics 3 sem. hrs.
How the news media cover politics and how politicians deal with news coverage. Emphasizes recent presidential campaigns, with special attention to ethical issues, the impact of new media, campaign advertising and strategies used by politicians and journalists. Offered fall term in even-numbered years.

COMM 5951. Marquette Led Travel and Study Abroad 3 sem. hrs.
Course taught in an international setting by Marquette professors and where students earn Marquette credit. Study Abroad expenses apply.

COMM 5953. Seminar in Communication 1-3 sem. hrs.
Special topics of seminar to be announced in the *Schedule of Classes*. Variable topics.

COMM 6000. Theories of Communication 3 sem. hrs.
Introduction to the theories used to understand the communication process. Students learn to recognize, analyze and apply theory to communication-related problems or settings. Offered fall term.

COMM 6050. Research Methods in Communication 3 sem. hrs.
Introduction to the characteristics of qualitative and quantitative methods used by professionals and scholars in communication. Students learn to identify and analyze communication-related problems and derive research questions and appropriate methods. Offered spring term. *Prereq: COMM 6000.*

COMM 6100. Qualitative Research Methods in Communication 3 sem. hrs.
Study of theory-based qualitative research applied to professional and scholarly problems and the effective communication of research results. Based on the fundamentals of theory and research methods offered in COMM 6000 and COMM 6050. Offered fall term. *Prereq: COMM 6000 or equiv. and COMM 6050 or equiv.; or cons. of instr.*

COMM 6150. Quantitative Research Methods in Communication 3 sem. hrs.
Study of theory-based quantitative research applied to professional and scholarly problems and the effective communication of research results. Based on the fundamentals of theory and research methods offered in COMM 6000 and COMM 6050. Offered fall term. *Prereq: COMM 6000 or equiv. and COMM 6050 or equiv.; or cons. of instr.*

COMM 6200. Rhetorical Criticism 3 sem. hrs.
Explores the nature, function, principles, and methods of contemporary rhetorical criticism. Interrogates a variety of critical approaches useful in describing, analyzing, interpreting and evaluating a variety of persuasive messages and contexts. Offered once every two years.

COMM 6250. Ethics in Communication 3 sem. hrs.
Explores the role of ethics in professional and scholarly life. Students will learn ethical theories, how to analyze a communication related ethics problem, derive and answer a normative-question related to the problem and learn to critically analyze and evaluate texts from a variety of communicative settings. Offered spring term. *Prereq: Cons. of instr.*

COMM 6300. International Communication 3 sem. hrs.
Development of international communication systems; flow of information, including news, entertainment and advertising. Influence of media systems upon international relations and national development. Comparison of media systems. Offered once every three years.

COMM 6350. Communication Analysis and Design 3 sem. hrs.
Advanced study of human and mass communication content, audience analysis, public opinion formation, effects, message design and related topics. Offered once every three years. *Prereq: Cons. of instr.*

COMM 6400. Intercultural Communication 3 sem. hrs.
Examines the influence of culture on communication in international transactions and cross-cultural encounters within the United States. Explains the dynamics of intercultural communication between people from different societies as well as the interpersonal patterns of selected ethnic groups and races within the United States. Provides an analytical framework for analyzing intercultural exchanges. Offered once every three years.

COMM 6450. Theories of Persuasion 3 sem. hrs.
Identification and examination of the role and influence of communication variables central to the process of persuasion in human and mass communication. Offered once every three years.

COMM 6500. Media Law 3 sem. hrs.
Constitutional and administrative law principles affecting freedom of expression and mass communication. Laws and regulations which pertain to media management and business practices explicitly and exclusively applied to mass communication. May be taken in place of JOUR 6956. Offered once every three years.

COMM 6550. Communication History 3 sem. hrs.
Analysis of the origins and development of human and mass communication. Social, technological, political and economic influences of the growth and development of communication. Offered once every three years.

COMM 6600. Media Economics and Management 3 sem. hrs.
Examines problems and issues in media economics and management. Emphasis on finance, personnel, advertising, audience promotion and research. Offered once every three years.

COMM 6650. Sociology of Communication 3 sem. hrs.
The nature and function of human and mass communication as a function of sociological concepts. The role of social institutions and systems in forming the human response to communication. Offered once every three years.

COMM 6700. Psychology of Communication 3 sem. hrs.
The nature and function of human and mass communication as a function of psychological concepts. Perception, cognition, comprehension, dynamics, semantics and symbols as related to human response. Offered once every three years.

COMM 6750. Media and the Information Society 3 sem. hrs.
Media as cultural forces associated with the diffusion of technological development and their economic, political and social consequences. Offered once every three years.

COMM 6800. Proseminar and Multimedia Technology 3 sem. hrs.
Requires students to read and respond to texts on program recommended reading list and hands on training in all aspects of media editing and production (e.g. print and Web page construction, audio production, video production). Offered fall term.

COMM 6850. The Craft of Digital Storytelling 3 sem. hrs.
Introduces students to the use of technology in storytelling in various forms, including but not limited to persuasion, history, and entertainment. Includes hands-on practice in constructing multimedia messages, and students learn the art of storytelling using print, visual and aural media.

COMM 6900. Storytelling in Public Life 3 sem. hrs.
Explores the basic narrative structure of storytelling and provides a theoretical basis for ways of gaining effectiveness, given who tells the story, who the intended audience is, the purpose of the story and the means for telling the story.

COMM 6931. Topics in Communication 3 sem. hrs.
Directed individual/group investigation of a selected topic or problem in communication. May be taken more than once when topics vary.
Prereq: COMM 6000 and COMM 6050; cons. of the associate dean for graduate studies.

COMM 6961. Special Institute/Workshop/Project 1-3 sem. hrs.

COMM 6995. Independent Study in Communication 1-3 sem. hrs.
Prereq: Cons. of dept. ch.; cons. of the associate dean for graduate studies.

COMM 6997. Capstone in Communication 3 sem. hrs.
Students integrate what has been learned across previous courses and create a microsite devoted to a subject that is relevant to personal or career goals.

COMM 6998. Professional Project 1-3 sem. hrs.
S/U grade assessment. *Prereq: Cons. of dept. ch., approved project proposal, and cons. of the associate dean for graduate studies.*

COMM 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.; approved thesis outline and cons. of the associate dean for graduate studies.

COMM 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

COMM 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

COMM 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

COMM 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COMM 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COMM 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COMM 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

COMM 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of associate dean for graduate studies.

Advertising and Public Relations (ADPR)

ADPR 5100. Advertising Media Planning 3 sem. hrs.
Provides the skills for evaluating traditional and non-traditional media to strategically reach and influence target audiences and to fulfill specific advertising objectives. Also provides a foundation for understanding the motivations and behavior of consumers, given the various cultural, psychological, and social influences that affect them. Students develop media plans that not only apply the principles of scheduling and buying but also incorporate the findings from primary and secondary research. Additional topics are discussed including ethical forms of targeting, economic trends, etc.

ADPR 5200. Business to Business Marketing Communication 3 sem. hrs.
Study of how businesses promote their goods and services to other businesses. Examines products, markets, objectives, strategies, media techniques and evaluation. Covers advertising, public relations, direct marketing and sales promotion. Includes case studies, outside speakers and field trips.

ADPR 5300. Emerging Media in a Dynamic Marketplace 3 sem. hrs.
Expands students' knowledge of emerging media and their application to advertising and public relations challenges in order to find more strategic and effective ways to communicate with clients, public, target markets, and other stakeholders. Specifically, examines the strategic uses, impact, and implications of emerging media such as social media, advergaming, mobile communication, search engine optimization, and other web-based technologies. Also addresses the need to adapt to digital, networked marketplace in which change is the rule rather than the exception.

ADPR 5400. Advanced Advertising Copywriting 3 sem. hrs.
A continuation of ADPR 3400. Emphasis on formulating strategy and producing executions for coordinated, multi-media campaigns. Each student creates a portfolio which showcases his or her talent and ability to work as a professional copywriter.

ADPR 5500. Advertising and Public Relations Account Management 3 sem. hrs.
Presents fundamentals of management in both the client and agency environments. Analyzes client and agency structures and functions. Explores project estimating, budgeting and time management. Examines account profitability maintenance and account team productivity. Reviews techniques for agency and supplier selection. Special emphasis on the ethical aspects of account work.

ADPR 5600. Multicultural and International Advertising and Public Relations 3 sem. hrs.
Develops knowledge and enhances skills necessary for advertising and public relations professionals for communication with diverse audiences. Topics include: the role of culture, unique characteristics of groups, and effective strategies when communicating with multicultural audiences within the U.S. Teaches navigation of the cultural, regulatory, and media environment for effective communication with audiences in countries outside the U.S.

ADPR 5700. Cultural Identity, Media and World Religions 3 sem. hrs.
Framed through a media lens, studies the diversity of ethnic and spiritual beliefs that make America multicultural and religiously pluralistic. Examines manifestations of religion in print and electronic news, advertising and public relations, the uses of media by religious groups, bias and prejudice about religion in the secular media, and bias about secularism in religious media. Deconstructs consumer and material culture, and offers a critique of cultural consumption based on philosophies embedded in world religions. Uses a variety of media in instruction.

ADPR 5953. Seminar in Advertising and Public Relations 1-3 sem. hrs.
Specific subjects are announced in the *Schedule of Classes*. Variable topics.

ADPR 6400. Advertising and Public Relations Management 3 sem. hrs.
Intensive analysis of advertising and public relations theory and the factors affecting their management. Study of issues and situations in advertising and public relations decision-making, such as defining objectives, planning and strategy, budgeting, media selection, and agency/client relations. Offered fall term.

ADPR 6500. Advertising and Public Relations in Society 3 sem. hrs.
Study of the origin and development of advertising and public relations. Analysis of their social, economic, and political influences. Special attention given to ethical issues. Offered spring term.

ADPR 6600. Integrated Marketing Communication Campaigns: Merging Theory with Practice 3 sem. hrs.
Clarifies the fundamentals of integrating advertising and public relations into a marketing communications program. Integrates professional skills with theory through readings, professional speakers and the completion of an integrated marketing communications plan for a real client. Offered spring term.

ADPR 6931. Topics in Advertising and Public Relations 3 sem. hrs.
Directed individual/group investigation of a selected topic or problem in advertising and/or public relations. May be taken more than once when topics vary.

Broadcast and Electronic Communication (BREC)

BREC 5275. Advanced Television Production and Direction 3 sem. hrs.
Development of program-length dramatic and non-dramatic productions for television, cable, educational, and corporate distribution. Particular attention to the integration of the various media used in television production and to legal and financial considerations. Offered fall term.

BREC 5345. Advanced Scriptwriting 3 sem. hrs.
Development and writing of full-length scripts for entertainment television or feature film. Includes development of concepts for new television series, miniseries, and movies-for-television, and study of their specific writing requirements, as well as writing for current television series. Writing workshop approach. Offered spring term in even-numbered years.

BREC 5440. Multimedia News 3 3 sem. hrs.
Students learn the process of shooting and editing video for use in news stories. Students practice writing news stories for a variety of media distribution outlets. Students gather, analyze and report news within the context of socially responsible journalism.

BREC 5450. News and Information Gathering 3 sem. hrs.
Analysis of the community with a view to the problems and opportunities for the broadcast media on the political, public, administrative, financial and commercial, labor, social welfare, and educational affairs of the community.

BREC 5615. Radio Programming 3 sem. hrs.
Examination and case study analysis of the contemporary radio industry. Emphasis on music formats, news, talk, sports, syndication, and other sources of

program material. Audience demographics, profiles, ratings, and promotions. Practical experience in applying for FCC license. Offered spring term.

BREC 5620. Television Programming 3 sem. hrs.
Analysis of television programming theories. Includes data-based criticisms of different programming strategies. Primary emphasis on prime-time network entertainment programming; includes consideration of effective programming for other "day parts" and news. Students will program their own network on the basis of theories and data provided.

BREC 5810. American Television: 1946-Present 3 sem. hrs.
Historical, cultural and commercial growth of American television, with special emphasis on programming, from pre-commercial beginnings to the present. Key genres, persons, issues and trends in the development of American prime-time television. Offered spring term.

BREC 5830. Early History of Broadcasting 3 sem. hrs.
History of the American system of broadcasting from its inception to approximately 1950. Examination of the technological, social, cultural, economic and political forces which shaped the industry. Emphasis on the roles of the broadcasters as agents of information and entertainment by an analysis of trends in radio and early television programming. Offered fall term.

BREC 5850. Television Criticism 3 sem. hrs.
Examination of the major critical approaches which have historically been applied to television programming. Study of major television critics whose work appears in academic publications and the mass media. Offered fall term.

BREC 5855. Communication and Social Issues of the Internet 3 sem. hrs.
Examines the ways in which online communication impacts the daily lives of our society and its individual members. Focuses on the use of online communication to build community and social life and to the ways in which online communication is similar to or different from other forms of mediated communication. Culminates with the presentation of a major original research project. Offered spring term.

BREC 5910. Technology and Learning 3 sem. hrs.
Learning theories applied to design, use and evaluation of electronic communication technologies in instructional settings. Offered fall term.

BREC 5920. Multi-Media Authoring 3 sem. hrs.
Study of electronic media within the context of training/learning systems. Multi-media authoring software used to design, produce and evaluate instructional lessons. Offered spring term.

BREC 5931. Topics in Broadcast and Electronic Communication 1-3 sem. hrs.
Various topics to be announced in the *Schedule of Classes*. Includes extensive screening and/or other activities. Lecture/lab format.

BREC 6220. Media and Public Policy 3 sem. hrs.
Analysis of the public policy process and its impact on the development of media systems. Examination of current policy issues relating to content, structure, economics, and technological change.

BREC 6250. Multimedia Communication 3 sem. hrs.
Surveys the technology, role and management of electronic media in education, business and industry. Emphasizes design and evaluation of purposive communication through electronic media. Offered once every three years.

BREC 6931. Topics in Broadcast and Electronic Communication 1-3 sem. hrs.
Topics of current interest in broadcast and electronic communication. May be taken more than once when topics vary.
Prereq: Enrolled in Graduate School.

BREC 6955. Seminar in Broadcast and Electronic Communication 3 sem. hrs.
Directed individual/group investigation of a selected topic or problem in broadcast communication. May be taken more than once when topics vary.

BREC 6995. Independent Study in Broadcast and Electronic Communication 1-3 sem. hrs.
Student projects in designated areas of special interest. *Prereq: Cons. of dept. ch.; cons. of the associate dean for graduate studies.*

Communication Studies (CMST)

CMST 5110. Family Communication 3 sem. hrs.
Introduces communication phenomena in the family setting. Examines how communication affects the development, maintenance, and enhancement of family relations. Offered annually.

CMST 5120. Gender and Communication 3 sem. hrs.
Examines the relationship between gender and communication. Includes discussion of verbal and nonverbal communication patterns of males and females, various explanations for these patterns, perceptions of gender differences and the implications these perceptions have for people in several contexts (public, interpersonal, and organizational). Offered annually.

CMST 5130. Communication and Urban Families 3 sem. hrs.
Investigates communication about urban families, the communication links between urban families and institutions, and communication practices within urban families. Emphasizes the diversity among urban families as well as the stressors and strengths found in the urban context.
Prereq: CMST 1000.

CMST 5220. Communication Approaches to Training and Development 3 sem. hrs.
Emphasizes development of training sessions within organizations. Diagnostic methods for assessing needs and determining the utility of specific training are explored. Roles of consultant, in-house human resource trainer, and liaison with subject matter experts are differentiated. Students develop training modules for communication skills training. Offered annually.

CMST 5230. Managerial Communication 3 sem. hrs.
Looks in-depth at the unique and challenging circumstances which affect communication between managers and their employees as well as at a number of theories and strategies for improving communication in the workplace.

CMST 5250. Leadership and Communication 3 sem. hrs.
Explores communication variables involved when leaders attempt to influence members to achieve a goal. Topics include: power, credibility, motivation, research on leader traits, styles and situations, and current models of leadership such as transactional, transformational, charismatic, and functional approaches. Also explores the different leadership challenges posed by community and institutional settings.

CMST 5260. New Communication Technologies in the Workplace 3 sem. hrs.
Presents a historical and theoretical review of the impact of new communication technologies on organizations and their membership. Focuses on the organizational, social and communicative implications of new communication technologies across a broad range of contexts in the organizational setting, including interpersonal, groups and teams, management, and technological innovations. Includes some special topics particularly relevant to new communication technologies including anonymity, privacy and surveillance, and technology apprehension. Offered annually.

CMST 5270. Communicating in Multinational Organizations 3 sem. hrs.
Examines the influence of culture on communication in organizations. Global comparisons in organizational communication including analysis of European, Asian, and Latin American corporate cultures. Explores intercultural communication in U.S. organizations.

CMST 5320. Philosophy of Communication 3 sem. hrs.
Outlines foundational theories and concepts regarding rhetoric's contribution to our understanding of reality, knowledge, truth, and certainty. Topics include the role of rhetoric in the construction of our knowledge of science, politics, ethics, religion, law, gender, and culture.

CMST 5330. Freedom of Speech 3 sem. hrs.
Examines definitions, issues, problems, and requirements for protecting or curbing free expression of speech in areas such as defamation and invasion of privacy; religious-moral heresy; provocation to anger; commercial speech; time, place, manner and institutional constraints; and prior restraint. Analysis of landmark cases and contemporary public arguments.

CMST 5360. Rhetoric of Social Movements 3 sem. hrs.
Examines the rhetoric of social change and methodologies for analysis and appraisal of social movement discourse. Traces rhetorical strategies through contemporary movements including civil rights, feminism, Native American, anti-nuclear, abortion, gun control, Ku Klux Klan, and others.

CMST 5400. Cross-Cultural Communication in the United States 3 sem. hrs.
Explores the dynamics of cross-cultural communication in the U.S. and obstacles to effective interaction across American co-cultures. Examines the interpersonal patterns of selected ethnic groups, races, religions, and social classes in the U.S. with the aim of improving cross-cultural understanding and communication. Offered annually.

CMST 5500. Health Communication 3 sem. hrs.
Provides an introduction to the field of health communication. Examines the role of communication in health care with a focus on provider training and the provider-patient relationship. Discusses and applies theoretical models for developing effective health communication programs within a variety of health care settings.

CMST 5600. Communication Consulting 3 sem. hrs.
Introduces communication consulting and the design implementation of communication audits for corporate and non-profit settings. Surveys various models of consulting. Teaches how to design and implement a communication audit that includes needs assessment, interpretation, and recommendations. Methods of audits include survey design, interviews and focus groups. Offered fall term.

CMST 5810. Directing Speech Activities 3 sem. hrs.
Theory and practice in the organization and management of co-curricular speech activities in high school and college.

CMST 5953. Seminar in Communication Studies 1-3 sem. hrs.
Special subjects of seminar to be announced in the *Schedule of Classes*. Variable topics.

CMST 6100. Interpersonal Communication 3 sem. hrs.
Explores new directions in research in interpersonal communication. Focuses on communication in the following relationships: friendships, dating, and marriage. Emphasizes the theoretical perspectives and the methodological approaches that enable us to understand how communication processes and relationship development inform each other. Offered once every three years.

CMST 6200. Organizational Communication 3 sem. hrs.
Explores historical, contemporary and ideological approaches to the study and practice of organizational communication. Topics include: organizational culture, workplace relationships, participation and decision-making, organizational change, organizational justice, and organizational communication consulting. Offered once every three years.

CMST 6931. Topics in Communication Studies 3 sem. hrs.
Directed individual/group investigation of a selected topic or problem in communication and rhetorical studies. May be taken more than once when topics vary. *Prereq: COMM 6000 and COMM 6050; approval of the associate dean for graduate studies.*

Journalism (JOUR)

JOUR 5110. Persuasive Writing 3 sem. hrs.
An advanced writing course giving directed practice in the work of moving readers to assents and to acts according to the principles of Aristotle's rhetoric as they apply to the instruments and techniques of journalism. Offered fall term.

JOUR 5120. Feature Writing 3 sem. hrs.
Writing a range of features for newspapers and magazines, from short stories to profiles, using narrative nonfiction and literary journalism techniques.

JOUR 5130. Critical Writing 3 sem. hrs.
An advanced writing course giving understanding and directed practice in the arts criticism function in the mass media. Reviewing books, plays, films, television, music, restaurants primarily for print media. Development of critical theories for evaluation of the arts. Offered spring term.

JOUR 5140. Depth Reporting 3 sem. hrs.
In-depth research, analysis and reporting on a problem, issue or situation in the political, public, administrative, financial, educational, social or welfare aspects of a community. Use of public records, interviews, and observations. Building a news series, creating a package of news and editorial material. Offered fall term.

JOUR 5150. Investigative Reporting 3 sem. hrs.
Identification and development of a story or series or events exploring a problem in a public institution. Use of computer data bases, printed records and interviews to analyze a current situation. Developing a series which presents the problem and the perspectives of individuals involved and affected. Offered spring term.

JOUR 5160. Narrative Nonfiction 3 sem. hrs.
Emphasizes longform journalism, stresses strong reporting, immersion in a single subject over the entire term, in-depth interviews and detailed observation. Students work individually, turning in portions of their work weekly, and produce a publishable 10,000 to 15,000 word article as the final project. *Prereq: Cons. of instr.*

JOUR 5200. Publications Editing 3 sem. hrs.
Editing principles and practices for print and online news publications. Editing copy, photos, charts and graphs; verification of information; writing headlines and captions. News judgment, wire services, backpack journalism, digital newsroom; digital production software.

JOUR 5310. Communication of Urban Issues 3 sem. hrs.
Study and practice of communicating urban issues with public with an emphasis on reporting in various forms of media. Scope and types of media in the modern metropolis. Media interaction with political and social forces in the urban environment. Audience use of news media and other sources of information about urban issues.

JOUR 5320. Religious Journalism 3 sem. hrs.
Study of, and practice in, mass media coverage of contemporary religion with an emphasis on the Catholic Church. Purposes and practices of religious publications; religion coverage in the secular media.

JOUR 5330. Health, Science, and Environmental Communication 3 sem. hrs.
Study of and practice in communication of health, science, environmental, and risk information with the public and other non-experts, especially through mass, specialized and new media. Includes overview of some current issues. Usually offered spring term of odd-numbered calendar years.

JOUR 5340. Business and Economic Journalism 3 sem. hrs.
Study of, and practice in, mass media coverage of business and economic issues. Survey of business publications and business reporting; economic publications and economic reporting. Corporate reports, forecasting, market information, and other publicized data. Management, labor, and other corporate problem areas.

JOUR 5500. Newspaper Design and Production 3 sem. hrs.
Fundamentals of design and production for print and online newspapers. Develops skills in working with separate and integrated print and online delivery systems. Introduction to digital forms of news content for online news publications: audio, video, slide shows and podcasts. Digital production software. Offered fall term.

JOUR 5510. Magazine Design and Production 3 sem. hrs.
Fundamentals of magazine design and production. Develops understanding of basic elements of publication design and critical skills through analysis of various design problems. Offered spring term. *Prereq: Computer workshop or demonstrated proficiency on the Macintosh computer with current design software.*

JOUR 5520. Web Design and Production for Journalists 3 sem. hrs.
Fundamental principles of processing and managing information in verbal and visual forms for Web publication. An emphasis on special editing and design issues created by the online environment and internet technology. Legal and ethical issues on the Internet. Offered annually.
Prereq: Computer workshop or demonstrated proficiency on the Macintosh computer with current design software.

JOUR 5600. History of American News Media 3 sem. hrs.
The origin and development of journalism in the United States considered in relation to American political, social and economic history. Consideration of newspapers, magazines, the electronic media, and important figures within each field. Offered fall term.

JOUR 5700. News Media and Foreign Policy 3 sem. hrs.
Examines how media affect the design and implementation of foreign policy. Analyzes history of this process and issues of professional responsibility in relation to news coverage and humanitarian emergencies.

JOUR 5800. School Publications 3 sem. hrs.
The special nature and functions of school publications. Their educational value. Projects in planning publications to fit their nature and functions. The role of the publication adviser. Lecture/lab format.

JOUR 5953. Seminar in Journalism 1-3 sem. hrs.
Specific subjects of seminars to be announced in the *Schedule of Classes*. Variable topics.

JOUR 6500. Journalism as Literature 3 sem. hrs.
Study of major British and American literary works which have been produced by journalists. Contribution of journalists to literary developments in U.S. and Britain. Offered once every three years.

JOUR 6600. Religious Communication 3 sem. hrs.
Relationship between mass mediated religious content and audience; methods for developing communication within religious institutions and communities and between religious institutions and society; small group, print, electronic, and public information systems; structure of church communi-

cation systems at local, regional, and national levels. Communication of religious concepts through media to different audiences and age groups. Offered once every three years.

JOUR 6700. Political Analysis 3 sem. hrs. Principles which enable the observer and commentator to distinguish between public debate and underlying trends and to identify issues moving society as opposed to those that are only being discussed. Analysis of levels of political activity, federal, state, and local; effective patterns of relation between layers of government. Social forces which tend to convert political debate into ritual observances with no apparent connection to the forces moving the electorate. Offered once every three years.

JOUR 6800. Processes and Strategies in Public Affairs Reporting 3 sem. hrs. Processes and strategies for developing public affairs news content for print and multimedia distribution. Students research and produce stories. Offered spring term. *Prereq: COMM 6800.*

JOUR 6850. Specialized Reporting 3 sem. hrs. Overview of various reporting areas (health/science/environment, business/economic, religion) with required application in each of the areas. Five weeks are devoted to each area. The end of each section requires a final news project. Students have the ability to work/write across media. Offered fall term. *Prereq: COMM 6000 and JOUR 6800.*

JOUR 6931. Topics in Journalism 1-3 sem. hrs. Directed individual/group investigation of a selected topic or problem in journalism. May be taken more than once when topics vary.

JOUR 6953. Seminar in Media History 3 sem. hrs. Historical methods for analyzing the origins and development of the American media. Social, technological, political, and economic influences on the development of the media and the practice of journalism. Offered once every three years.

JOUR 6956. Seminar in Media Law 3 sem. hrs. Constitutional and administrative law principles affecting freedom of expression and mass communication. Laws and regulations which pertain to media management and business practices as explicitly and exclusively applied to mass communication. COMM 6500 may be substituted for JOUR 6956. Offered once every three years.

JOUR 6959. Seminar on Mass Media in Contemporary Society 3 sem. hrs. Advanced study of issues and problems in the major media as social forces. Cultural origins and influence on culture. Responsibility, media organization, influence on social process. Media as a social institution. Offered once every three years.

Theatre Arts (THAR)

THAR 5200. History of Theatre 3 sem. hrs. A chronological survey of theatre history from its origins to 1914. Particular emphasis paid to major periods of theatrical achievement, studying conjectural and documented styles in acting, design and production methods. Offered spring term.

THAR 5210. Contemporary Theatre 3 sem. hrs. A survey of 20th century theatre practice from modern European theories of the late 19th century through Postmodernism. Special attention given to innovative aspects, such as surrealism and expressionism, epic theatre, the absurd movement, multimedia presentations, environmental theatre and multi-media presentations. Offered spring term of even-numbered years.

THAR 5220. History of Clothing 1 3 sem. hrs. The study of clothing from historical perspectives. Clothing examined within sociological, artistic, and economic context. Clothing regarded as essential to Western culture, studied for a better understanding of peoples in different cultures and epochs. Offered fall term of odd-numbered years.

THAR 5230. History of Clothing 2 3 sem. hrs. The study of clothing from historical perspectives. Clothing examined within sociological, artistic, and economic context. Clothing regarded as essential to Western culture, studied for a better understanding of peoples in different cultures and epochs. Offered fall term of even-numbered years.

THAR 5240. Period Styles 3 sem. hrs. Period movements as they relate to period clothing, decorative arts, architecture, music, etc., as they relate to different styles of theatrical performance and apply to actors, directors and designers.

THAR 5320. Crafts for the Theatre 3 sem. hrs. Studies techniques that encompass traditional and new materials, which may be used in special projects often encountered in the creation of props and costumes. Includes casting and molding, thermoplastics, mask making, foam carving, jewelry, armor, etc.

THAR 5340. Advanced Costume Technique 3 sem. hrs. Covers advanced methods of costuming such as beginning pattern drafting, basic tailoring techniques, fabric modification through dyeing and painting, millinery, and costume crafts construction. Offered spring term.

THAR 5360. Theatre Management 3 sem. hrs. Study and practice of theatre management and publicity. Lab requirement in production and/or stage management. Offered fall term.

THAR 5400. Costume Design 3 sem. hrs. Study of the aesthetic and practical application of costume design and how it relates to the theatrical production process. Includes research, script analysis and costume renderings for in-class projects. Offered alternate spring terms.

THAR 5420. Lighting Design 3 sem. hrs. The study and practice of theatrical lighting script analysis, research and planning techniques. Culminates in a realized collaboration. Offered spring term.

THAR 5440. Scenery Design 3 sem. hrs. Study of the principles and practices of designing scenery for the stage. Offered fall term of even-numbered years.

THAR 5500. Advanced Play Direction 3 sem. hrs. Study of interpretative styles of play direction, rehearsal techniques, audience analysis, and contemporary trends. Opportunity to test principles in assigned laboratory productions. Offered spring term.

THAR 5600. Playwriting 3 sem. hrs. Study of the structure and execution of dramatic scripts for theatre. Assignments to write and analyze scenes and one-act plays. Offered fall term of odd-numbered years.

COUNSELING (COUN)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)

Chair and Associate Professor: Burkard
Professor: Bloom, Fox, Ivanoff *(Emeritus)*, Nordberg *(Emeritus)*, Wiener
Associate Professor: Bardwell, Campbell, Knox, Melchert
Assistant Professor: Edwards
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts; Master of Science; Doctor of Philosophy

PROGRAM DESCRIPTIONS

The Department of Counselor Education and Counseling Psychology offers **master of arts** degree programs in counseling and educational psychology, a **master of science** degree program in clinical mental health counseling, and a **doctoral** degree program in counseling psychology.

CLINICAL MENTAL HEALTH COUNSELING

Our master of science in clinical mental health counseling is dedicated to training professional counselors in evidence-based and emerging best practices. The program emphasizes treatment for addiction and co-existing disorders. Course work focuses on human development, psychopathology, diagnostic systems, medical and psychosocial aspects of disabilities, consultation, crisis and disaster response, advocacy, ethical and legal issues, multicultural issues, and counseling research, as well as individual, group, family, community, and other counseling interventions. Field experiences, small group experiences, practicum and internship are required, and lead to the development of science-practice integration in all of our graduates. Currently, all students in the master of science in clinical mental health counseling are enrolled in the addiction-mental health counseling specialization.

COUNSELING

Our master of arts in counseling program includes a variety of courses, practicum, internship, and other training experiences which offer comprehensive preparation for professional practice as a counselor. Course work focuses on human development, psychopathology, psychological research, and ethical and legal issues as well as individual, group, and other counseling interventions. Training in counseling skills begins right in the first semester, and formalized internship usually begins in the second year. Specializations are offered in community counseling (including emphasis in child and adolescent counseling) or school counseling.

COUNSELING PSYCHOLOGY

Our doctoral program in counseling psychology is based on a scientist-practitioner model for training professional psychologists, and is fully accredited by the American Psychological Association. Students acquire a solid foundation of knowledge

in the biological, cognitive, affective, individual, and social bases of human behavior. Through course work in research design, measurement, and statistics, students develop the skills needed to critically evaluate psychological research and to conduct their own independent research. Training in diagnosis, assessment, psychotherapy, consultation, practica, internship, and ethics provides students with the necessary professional skills to practice as competent and ethical counseling psychologists. Supervised practica and internship experiences are available through the university's Counseling Center and at a wide variety of community sites. Graduates are prepared to practice as psychologists, professors, consultants, administrators, and researchers.

EDUCATIONAL PSYCHOLOGY

The objectives of the master of arts program in educational psychology are to provide knowledge and skills in the principal content areas of basic and applied psychology as required for the preparation of researchers and consultants for work in diverse settings, such as private and public schools, colleges and universities, research centers, and business and industry. **Moratorium on admissions.**

PREREQUISITES FOR ADMISSION

Applicants to all graduate programs in the Department of Counselor Education and Counseling Psychology should have graduated with, or be about to graduate with, a bachelor's or a master's degree from an accredited institution appropriate to their chosen field of graduate study. Students applying to a doctoral program without a master's degree must complete leveling courses as part of their doctoral program requirements.

The following courses are prerequisite courses for graduate study for all programs in the Department of Counselor Education and Counseling Psychology: introduction to psychology, introduction to statistics, research methods in behavioral sciences, abnormal psychology, human development, multicultural/diversity, human service (field work, or service learning, or volunteer, or employment).

Applicants not meeting all prerequisites may still be considered for admission, but must meet all prerequisites prior to starting the program.

APPLICATION DEADLINES

Students are admitted to the department in the spring term to begin their programs the following summer or fall. To be considered for admission, all application requirements must be completed and received in the Graduate School by the deadlines listed below:

December 1	For admission to the doctoral program in counseling psychology.
February 1	For admission to the master's programs in clinical mental health counseling and in counseling.

APPLICATION REQUIREMENTS

Applicants, regardless of program, must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation along with recommendation forms.
4. A statement of purpose. (See department Web site for instruction.)
5. A resume/vita.
6. GRE scores (General Test only).
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

See department Web site for more details.

After all applications are reviewed, the highest ranking applicants will be contacted for an interview with the faculty. This is required for admission. International applicants residing in foreign countries and applicants with extenuating circumstances may conduct their interviews over the phone.

MASTER'S REQUIREMENTS

CLINICAL MENTAL HEALTH COUNSELING

The master of science degree program in clinical mental health counseling is offered with a specialization in addiction–mental health. The program requires 60 credit hours and successful completion of a comprehensive examination. The following core courses are required: COUN 6002, 6003, 6020, 6030, 6040, 6051, 6060, 6070, 6080, 6110, 6120, 6200, 6220, 6961, 6965, and 6986; and COPS 6410 or 8100.

As part of their course work, students must also complete field experiences, practicum and an internship in an approved clinical setting. More detailed requirements can be obtained from the department office. The master of science degree can be completed under Plan A, which requires a thesis, or Plan B, which does not require a thesis.

COUNSELING

The master of arts degree program in counseling is offered with specializations in community or school counseling. Both specializations require a minimum of 48 credit hours and successful completion of a comprehensive examination.

Community counseling requires the following core course work: COUN 6000, 6020, 6030, 6040, 6051, 6060, 6070, 6080, 6110, 6120, 6965, and 6986.

School counseling requires the following core course work: COUN 6000, 6001, 6020, 6030, 6040, 6051, 6060, 6070, 6080, 6110, 6120, 6300, 6931 (specific topic: educational and school counseling leadership), 6970, and 6986.

As part of their course work, students in each specialization must also complete field experiences, practicum and an internship in a clinical or educational setting. More detailed requirements for each of the specializations can be obtained from the department office. The master of arts degree can be completed under Plan A, which requires a thesis, or Plan B, which does not require a thesis.

EDUCATIONAL PSYCHOLOGY

The master of arts degree in educational psychology requires a minimum of 30 credit hours and successful completion of a comprehensive examination. The program requires 18 credits of core course work in human development; the theories, philosophies, and psychology of learning; intermediate-level statistics and research methods; and measurement. The remaining elective course work allows students to tailor their program to be consistent with a variety of educational and career goals. The master of arts degree can be completed under Plan A, which requires a thesis, or Plan B, which does not require a thesis. **Note: Moratorium on admissions to EDPS.**

DOCTORAL REQUIREMENTS

COUNSELING PSYCHOLOGY

The counseling psychology program consists of 30 credits of course work in psychological foundations, 46 credits of course work in the counseling psychology professional core, a minimum of 1600 hours of clinical practicum, a collaborative research project and a 12-credit dissertation, and an approved 2000-hour clinical internship typically completed in one calendar year. Students are required to participate in faculty research teams throughout the program and are also required to participate in department seminars and colloquia. Specific course and other program requirements can be obtained from the department office. Students who have completed relevant graduate course work prior to entry into the program may have some of their requirements waived if the previous course work is equivalent to the courses currently required by the program.

Students must also pass a portfolio doctoral qualifying examination (DQE) which is evaluated near the end of their course work in the program. Students must pass the portfolio DQE and have their dissertation proposals accepted before they can apply for an internship. To be advanced to candidacy, students must pass the DQE, have their dissertation proposal accepted, and complete all program course work and the Graduate School's residency requirement.

COURSE DESCRIPTIONS

Counseling (COUN)

COUN 6000. Introduction to Counseling 3 sem. hrs.
Introduction to the philosophical bases, history, and development of counseling as a profession. Includes an emphasis on ethical and legal issues in the practice of counseling, as well as a focus on counselor roles and functions in various settings, and current issues in professional practice. Usually offered fall term. *Prereq: Cons. of dept. ch.*

COUN 6001. Introduction to School Counseling 3 sem. hrs.
Focuses on the principles and techniques of counseling and developmental guidance with children. Covers consultation with parents and school personnel, program planning and curriculum intervention, roles and functions of counselors and other school personnel, and contemporary school counseling issues. Usually offered spring term. *Prereq: COUN 6000 and COUN 6020 and cons. of dept. ch.*

COUN 6002. Introduction to Addiction-Mental Health Counseling 3 sem. hrs.
Introduction to the prevention and treatment of substance abuse disorders. Emphasizes research-supported prevention and intervention strategies, and counseling skills and approaches designed to meet individual client needs. Appropriate for students in behavioral health and related fields. Usually offered summer term.

COUN 6003. Foundations of Clinical Mental Health Counseling 3 sem. hrs.
Examines the history and philosophy of the counseling profession including the history, philosophy and trends in clinical mental health counseling. Examines ethical and legal considerations for counseling with and emphasis related to the practice of clinical mental health counseling. Addresses the roles and functions of clinical mental health counselors in various practice settings. Introduction to the professional organizations, preparation standards, and credentials relevant to the practice of clinical mental health counseling. *Prereq: Cons. of dept. ch.*

COUN 6020. Counseling Across the Life-Span 3 sem. hrs.
An examination of the interaction among biological, psychological, social and cultural factors that influence human development over the life-span. Discusses educational and counseling implications of these issues. Offered fall term.

COUN 6030. Theories of Counseling and Psychotherapy 3 sem. hrs.
Review and critical analysis of major theoretical systems of counseling and psychotherapy. Focus on comparative evaluation of theoretical orientations as they apply to counseling. Usually offered spring term.

COUN 6040. Multicultural Counseling 3 sem. hrs.
Explores the topic of cultural diversity. Sensitizes students to influence of culture on human behavior and its implications for professional practice as counselors and psychologists. Concurrent field experiences and/or small group experiences may be required. Usually offered spring term.
Prereq: COUN 6000 and COUN 6030.

COUN 6051. Introduction to Research Methods in Counseling 3 sem. hrs.
Theories underlying various research methodologies and the research process. Development of a research proposal including the identification of a research problem and preparation of a research plan. Offered fall term.

COUN 6060. Psychopathology and Counseling Processes 3 sem. hrs.
Introduction to psychopathology and its treatment. Emphasis on the DSM diagnostic system and implications for treatment planning. Includes review of case studies. Usually offered spring term.
Prereq: COUN 6000 and COUN 6020 and concurrent or previous enrollment in COUN 6030.

COUN 6070. Assessment in Counseling 3 sem. hrs.
Introduction to assessment for counselors. Provides knowledge needed to evaluate tests and other assessment data and interpret assessment reports. Develops skills for screening and evaluating counseling effectiveness. Includes discussion of legal and ethical issues. Usually offered fall term.
Prereq: COUN 6000 and COUN 6030 and COUN 6051.

COUN 6080. Career Development 3 sem. hrs.
Theoretical approaches of career counseling. Psychological and sociological factors in life-long career-vocational development. Components of career development process and programs. Uses of occupational and educational information. Usually offered summer term. *Prereq: COUN 6000.*

COUN 6110. Individual Counseling 3 sem. hrs.
Examines the theory and research on individual counseling and therapy. Also emphasizes skill development in the techniques and methods of counseling and psychotherapy. Concurrent field experiences may be required. Usually offered spring term.
Prereq: COUN 6000 and COUN 6020 and cons. of instr.; or COPS 8000 and COUN 6020 and cons. of instr.; admission to degree program.

COUN 6120. Group Counseling 3 sem. hrs.
Purposes, functions, types, and principles of group counseling. Dynamics of group interaction. Leadership of groups. Understanding of and ability to engage in and evaluate small group processes and relationships. Students experience group processes and the therapeutic value of groups by participating as members of an in-class group. Usually offered fall term. *Prereq: COUN 6000 and COUN 6030; concurrent field experiences may be required.*

COUN 6130. Introduction to Family Counseling 3 sem. hrs.
Introduction to theoretical approaches and methods of family counseling. Overview of the history and current issues in family counseling. Usually offered spring term. *Prereq: COUN 6000; and concurrent or previous enrollment in COUN 6030.*

COUN 6140. Medical and Psychosocial Aspects of Disability 3 sem. hrs.
Explores the medical aspects relevant to chronic illness and disability (CID). Designed to prepare counselors to become interpreters of medical information concerning major disabilities integrated with psychosocial context to inform assessment of functional limitations and return-to-work and community re-entry rehabilitation plans. Topics include: concepts of medical and psychosocial aspects of disability relation to societal attitudes, family dynamics, sexuality, and mental health issues.
Prereq: Cons. of dept. ch.

COUN 6200. Advanced Issues in Counseling and Psychotherapy 3 sem. hrs.
Prereq: Cons. of instr.

COUN 6210. Behavior Therapy 3 sem. hrs.
Learning theory applied in home, school, and other settings. Includes behavioral assessment (interviewing, checklists, observation) and intervention procedures (reinforcement, token economies), maintenance and generalization issues, single subject research design, self-control.

COUN 6220. Consultation Strategies 3 sem. hrs.
Analysis of consultation models; designing and implementing intervention strategies; evaluation of the total process. Introduction to the role and functions of a consultant. Analysis of current conceptual models, overview of design and implementation of intervention strategies, and evaluation methods. Usually offered summer term.
Prereq: COUN 6000 and cons. of instr.

COUN 6300. Counseling with Children and Adolescents 3 sem. hrs.
Developmental stages and tasks of children and adolescents; theories and techniques of developmental and remedial counseling with children and adolescents; warning signs, possible causes, and prevention and intervention strategies of behavior problems. Usually offered summer term.
Prereq: COUN 6000 and COUN 6030 and COUN 6110.

COUN 6931. Topics in Counseling 2-3 sem. hrs.
In-depth study of theories and concepts in counseling which, because of their topicality, are not the subject of a regular course. Specific topics will be designated in the *Schedule of Classes*.
Prereq: Cons. of instr.

COUN 6961. Institutes in Counseling 1-3 sem. hrs.
Topical institutes on various issues and problems in counseling. Scheduled according to need and demand.

COUN 6965. Counseling Practicum 1-4 sem. hrs.
Supervised practicum experiences that total a minimum of 100 clock hours must be completed over the minimum of an academic term. Practicum includes all of the following: 1. 40 clock hours of direct service that leads to the development of counseling skills; 2. Weekly interaction with an average of one (1) hour per week of individual and/or triadic supervision throughout the practicum by a program faculty member, a student supervisor, or a site supervisor working in bi-weekly consultation with a program faculty member; 3. An average of one and one half (1 ½) hours per week of group supervision that is provided on a regular schedule throughout the practicum by a program faculty member or a student supervisor; 4. Opportunity for the student to develop program-appropriate audio/video recordings for use in supervision, and/or to receive live supervision of the student's interactions with clients; and 5. Evaluation of the student's counseling performance throughout the practicum including documentation of a formal evaluation after the student completes the practicum. S/U grade assessment.
Prereq: Cons. of dept. ch.

COUN 6970. School Counseling Practicum 1-4 sem. hrs.
Supervised practicum experiences that total a minimum of 100 clock hours must be completed over the minimum of an academic term. Practicum includes all of the following: 1. 40 clock hours of direct service that leads to the development of counseling skills; 2. Weekly interaction with an average of one (1) hour per week of individual and/or triadic supervision throughout the practicum by a program faculty member, a student supervisor, or a site supervisor working in bi-weekly consultation with a program faculty member; 3. An average of one and one half (1 ½) hours per week of group supervision that is provided on a regular schedule throughout the practicum by a program faculty member or a student supervisor; 4. Opportunity for the student to develop program-appropriate audio/video recordings for use in supervision, and/or to receive live supervision of the student's interactions with clients; and 5. Evaluation of the student's counseling performance throughout the practicum including documentation of a formal evaluation after the student completes the practicum. S/U grade assessment.
Prereq: Cons. of dept. ch.

COUN 6986. Internship in Counseling 1-6 sem. hrs.
Supervised counseling experiences in assessment, diagnosis, intervention, prevention, and consultation. Students engage in their practicum activities at approved sites in the greater Milwaukee area and meet on campus weekly for a didactic seminar and group supervision. Also requires attendance at the monthly departmental colloquium. Three credits of internship require a minimum of 300 clock hours of practicum activities. S/U grade assessment.
Prereq: COPS 6010 and COUN 6000 and COUN 6020 and COUN 6030 and COUN 6060 and COUN 6110 and cons. of dept. ch.; COUN 6040 and COUN 6070 and COUN 6120 must be taken prior to or concurrently with COUN 6965; additional prerequisites may be required within each area of specialization.

COUN 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COUN 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COUN 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Counselor Education and Counseling Psychology (CECP)

CECP 6995. Independent Study in Counselor Education and Counseling Psychology 1-3 sem. hrs.
Provides opportunities to investigate and study areas of interest through readings, research, field experience, projects, and/or other educational activities under the direction of a faculty adviser. Normally on advanced or specialized topics that are not covered by regularly offered courses.
Prereq: Cons. of instr. and cons. of dept. ch.

CECP 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of instr. and cons. of dept. ch.

CECP 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of instr. and cons. of dept. ch.

CECP 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

CECP 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Counseling Psychology (COPS)

COPS 6010. Professional Ethics and Legal Issues 3 sem. hrs.
Examines the ethical foundations and current ethical and legal guidelines for professionals in the behavioral health field. *Prereq: Cons. of instr.*

COPS 6410. Psychopharmacology 3 sem. hrs.
Introduction to psychopharmacology including central nervous system, basic drug mechanisms, modes of drug action, medication treatment for psychological/psychiatric disorders, efficiency of drugs. Offered every other spring term.
Prereq: COUN 6060.

COPS 8000. Introduction to Counseling Psychology 3 sem. hrs.
The history of psychology as a scientific discipline. Current relevant issues in the philosophy of science. Relationship between different basic theoretical assumptions, personality theories, and perspectives on treatment. Theoretical issues in the study of individual differences and clinical interventions. Introduction to the specialization of counseling psychology, including the history, philosophical bases, and current and emerging directions. Emphasis on critically reviewing literature in the field and examining psychologist roles and functions. All first-year COPS students required to attend all sessions. Offered summer, fall, and spring terms. SNC/UNC grade assessment. *Prereq: Cons. of instr.; admission to counseling psychology program.*

COPS 8010. Behavior Disorders in Children and Youth 3 sem. hrs.
Advanced study of emotional, cognitive, behavioral, and social problems of childhood and adolescence. Major topics include: (a) nature, etiology, and incidence within a developmental/interactionist framework; (b) diagnostic and classification systems; (c) psychological, educational, and medical intervention-management approaches; and (d) research and program evaluation methods. Usually offered spring term. *Prereq: COUN 6020 or equiv.*

COPS 8030. Theories of Learning 3 sem. hrs.
Systematic survey of theories, methods, and research findings in learning. Advanced treatment of selected topics.

COPS 8031. The Development of Memory and Cognition 3 sem. hrs.
Advanced study of normal development of memory and cognition and instructional strategies useful for importing memory abilities in retarded and learning disabled children and young adults.
Prereq: COUN 6020 or equiv. and COPS 8030 or equiv.

COPS 8032. Counseling Psychology of Motivation 3 sem. hrs.
Classical and contemporary theory and practices. Motivation in complex situations, including set, level of aspiration, frustration. Consumer motivation. Usually offered fall term.
Prereq: Minimum of 15 graduate credits.

COPS 8040. Social Basis of Behavior 3 sem. hrs.
Advanced study of the problems and paradigms of social psychologists and how they are used by the practitioner. Major topics include: socialization, value and attitudes, social comparison, conformity, and group dynamics. Usually offered alternate spring term.

COPS 8081. Organizational Counseling and Consultation Strategies 3 sem. hrs.
Focuses on the theory and methods relevant to the assessment, design, implementation, and evaluation of clinical interventions in organizational settings. Addresses both individual and organizational interventions and evaluation methods.
Prereq: COUN 6220 and cons. of instr.

COPS 8100. Neuropsychology 3 sem. hrs.
Introduction to discipline of neuropsychology, brain-behavior relationships, neuropsychological mechanisms in neuropathological conditions, neuropsychological assessment and treatment. Offered every other fall term.
Prereq: COPS 8210 and cons. of instr.

COPS 8210. Cognitive Assessment 3 sem. hrs.
Introduction to the theory and practice of cognitive assessment. Development of skills in administration and interpretation of intelligence and achievement tests and writing testing reports; introduction to special topics of testing children and neuropsychological assessment. Usually offered fall term.
Prereq: Cons. of instr.

COPS 8220. Personality Assessment 3 sem. hrs.
Extension of assessment skills developed in COPS 8210. Development of skills in selection and interpretation of objective personality assessments and self-report inventories, integration of results in testing reports, and an introduction to projective personality assessment. Usually offered in spring term.
Prereq: COPS 8210 and cons. of instr.

COPS 8230. Projective Assessment 3 sem. hrs.
Supervised study in administration, interpretation, and application of projective techniques.
Prereq: COPS 8220 and cons. of instr.

COPS 8240. Advanced Assessment 3 sem. hrs.
Survey of specialized areas of psychological assessment for infants, children and adults. Focuses on psychological testing in developmental, educational, occupational/career, hospital/disability, mental health, medical and legal contexts.
Prereq: COPS 8220 and COPS 8100.

COPS 8310. Intermediate Research and Statistics 3 sem. hrs.
Advanced topics in univariate and bivariate statistical analyses and related methodological issues.

Covers analysis of variance, correlation, nonparametric statistics, and multiple regression. Includes use of statistical software. Usually offered fall term. *Prereq: COUN 6051 or equiv. and EDPS 6050 or equiv.*

COPS 8311. Advanced Statistics and Research 3 sem. hrs.
A comprehensive survey of multivariate data analysis. Reviews multiple regression and proceeds through an introduction to structural equation modeling. Includes use of statistical software. Usually offered fall term. *Prereq: COPS 8310 or equiv.*

COPS 8320. Measurement and Evaluation 3 sem. hrs.
Psychometric theory, test construction, and evaluation procedures. Includes use of statistical software for investigating the reliability and validity of educational and psychological instruments. Usually offered spring term. *Prereq: COPS 8310 or equiv.*

COPS 8330. Qualitative Research Methods in Psychology 3 sem. hrs.
Survey of qualitative research methods used in psychology. Includes discussion of the evolution of qualitative research in counseling psychology, as well as other related fields, and the controversies therein. *Prereq: COPS 8311; and cons. of instr.*

COPS 8931. Topics in Counseling Psychology 2-3 sem. hrs.
In-depth study of theories and concepts in counseling psychology which, because of their topicality, are not the subject of a regular course. The special topics will be designated in the *Schedule of Classes*. *Prereq: Cons. of instr.*

COPS 8953. Seminar in Counseling Psychology 1 sem. hr.
Examines trends in the field with emphasis on current practices in professional psychology. *Prereq: COPS 8965; and cons. of instr.*

COPS 8954. Seminar and Practicum in Supervision 1-3 sem. hrs.
Examines theory, research, and the practice of supervision in counseling psychology. Reviews ethical and professional guidelines for the training and supervision of counselors and psychologists. Includes practicum experiences supervising master's and/or doctoral students. Continues over two consecutive terms for a total of 3 credits, and includes weekly seminar and group supervision meetings. *Prereq: COPS 8965 and cons. of instr.*

COPS 8955. Internship Preparation Seminar 0 sem. hrs.
Assists advanced students in making appropriate plans and developing strong applications for their predoctoral psychology internships. Monthly meetings are required of all students in the year prior to applying for internship. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; cons. of dir. of training.*

COPS 8965. Counseling Psychology Practicum 1-4 sem. hrs.
S/U grade assessment.
Prereq: COUN 6965 or equiv. and cons. of dir. of training.

COPS 8986. Internship in Counseling Psychology 0 sem. hrs.
Supervised experiences in professional psychology. Internships must be planned in accordance with the departmental Counseling Psychology Internship handbook. A minimum of 2000 hours over one calendar year required. S/U grade assessment.
Prereq: Cons. of dept. ch.; cons. of dir. of training.

COPS 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COPS 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COPS 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Educational Psychology (EDPS)

EDPS 6050. Introduction to Statistics 3 sem. hrs.
Introduction to descriptive and inferential statistics including parametric, non-parametric techniques, correlation, etc. Use of computers to analyze statistical data. Usually offered spring term.

EDPS 6961. Institutes 1-3 sem. hrs.
A series of institutes on various problems in educational psychology. Scheduled according to need and demand.

EDPS 8600. Psychology in Education 3 sem. hrs.
Advanced survey of selected topics in educational psychology: measurement, personality, the school as a social system, learning, theories of instruction.

EDPS 8601. Psychology of Classroom Learning 3 sem. hrs.
Consideration of classroom learning and instructional methods in the light of theories of learning and research findings concerning readiness, motivation, guidance and reinforcement, retention and transfer.

EDPS 8932. Advances in Educational Psychology 3 sem. hrs.
Current topics, problems, research trends and methods in the field of educational psychology: measurement and evaluation of human abilities; the study and modification of cognitive, affective and psychomotor behaviors; and present and projected issues facing professional development in educational psychology.

EDPS 8961. Topics in Educational Psychology 1-3 sem. hrs.
In-depth study of theories and concepts in educational psychology which, because of their topicality, are not the subject of a regular course. The special topics will be designated in the *Schedule of Classes*. *Prereq: Cons. of instr.*

EDPS 8986. Internship in Educational Psychology 3-6 sem. hrs.
Supervised experiences in educational psychology. Internships must be identified and planned by the student with an appropriate faculty member. Supervision should normally be by a College of Education faculty member. Each individual internship plan must be approved by the dean or designee. Offered annually. S/U grade assessment.
Prereq: Cons. of instr.; post-master's stndg.; on program at Marquette.

EDPS 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EDPS 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EDPS 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

COUNSELING PSYCHOLOGY (COPS)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

DENTISTRY (DENT)

Dean: Lobb
Associate Dean for Academic Affairs: Lynch
Associate Dean for Research and Graduate Studies: Hefti
Program Directors: Berzins (Dental Biomaterials), Bahcall (Endodontics), Bradley (Orthodontics), Ziebert (Prosthodontics), Vitolo (Advanced Education in General Dentistry)

For the complete 2009–2010 faculty listing, please see the University Directory section in the back of this publication.

DEGREES OFFERED

Master of Science, Plan A only, with two options (see the Master's Requirements section for details); Certificate

SPECIALIZATIONS

Master's: Dental Biomaterials, Endodontics, Orthodontics, Prosthodontics
Certificate: Advanced Education in General Dentistry, Endodontics, Orthodontics, Prosthodontics

GRADUATE PROGRAM OVERVIEW

The School of Dentistry offers graduate programs in dental biomaterials, and the ADA-accredited programs in advanced general dentistry (AEGD), endodontics, orthodontics, and prosthodontics. These programs can be modified to allow conjoint interdisciplinary graduate work to be undertaken in any other unit of the university, and a master of science or doctoral degree can be obtained through an appropriate graduate degree-granting department of the university or through the interdisciplinary Ph.D. program. Faculty for each dental graduate program are drawn both from full-time Dental School faculty and from practicing specialists in the field who serve as adjunct faculty (part-time faculty).

The AEGD program is an ADA-accredited one-year clinical program with a non-accredited two- or three-year option. Upon successful completion of all clinical and didactic requirements, a certificate is issued. There is no tuition for this program and the resident receives a generous stipend. The dental

biomaterials program is a non-accredited 2-year program leading to a master's degree and is comprised of courses from the School of Dentistry and the College of Engineering.

The specialty programs of endodontics, orthodontics, and prosthodontics are clinically and research based, offering a specialty certificate and a master's degree. Graduates are prepared to handle complex clinical cases and to work effectively with both general dentists and other dental specialists. For all the specialty programs, the master's degree is required (certificates will not be awarded without the master's degree). The endodontics and orthodontics programs are two-year programs and the prosthodontics program is a three-year program. Tuition for the specialty programs is charged at a flat rate (20% during the summer term, 40% during the fall term, and 40% during the spring term). Any applicable instrument or service fees are charged during the fall term each year.

SPECIALTY CERTIFICATE REQUIREMENTS

Course work requirements for each graduate specialty program (endodontics, orthodontics, and prosthodontics) are determined by the director of the specific program in accordance with accreditation standards. Courses include study in basic health sciences, dental biomaterials, research methodology, clinical dental specialties and other related science disciplines, as appropriate. In addition to course work, students also must complete patient care requirements, pass a comprehensive clinical examination, and submit all required evaluation data to receive the certificate.

MASTER'S REQUIREMENTS

Master of science degree applicants may only be admitted to the program under Plan A, which has two options: the traditional *thesis option* and the *publication option*. In partial fulfillment of the requirements to obtain the master of science degree, all candidates must complete the biostatistics and research design and methodology sections of the graduate core curriculum with a grade of BC or above, conduct a research project on an appropriate clinical or basic science topic, and successfully defend their research project. Format and content of the public defense is determined by the advisory committee.

Candidates are encouraged to pursue research that originates in their chosen dental specialty. Research projects are selected in consultation with the graduate program directors and the associate dean for research and graduate studies. Where possible, students in endodontics, orthodontics, and prosthodontics are encouraged to do clinically relevant research. Graduate students in dental biomaterials pursue the application of scientific principles to the study of dental biomaterials including relationships among compositions, physical properties, and clinical properties for dental biomaterial systems.

Graduate students who choose the *thesis option* will have their research and thesis preparation supervised and approved by a primary mentor and a thesis advisory committee that consists of at least three members. The *publication option*, in addition, culminates in the acceptance of a first author, original, peer-reviewed publication based on a research project. Selection of the publication option requires completion of a traditional thesis in the event the submitted manuscript is not accepted by the submission deadline listed in this bulletin.

ADVANCED EDUCATION IN GENERAL DENTISTRY

The School of Dentistry offers an Advanced Education in General Dentistry program that provides clinical experiences in all phases of general dentistry. The clinical training is complemented by a graduate didactic core curriculum that provides interdisciplinary education in the specialties of dentistry, and comprehensive diagnosis and treatment planning. The AEGD program is an intensive 12-month clinical care program. Successful completion of the program requires positive assessment of the resident's diagnostic and clinical skills as well as completion of the graduate core curriculum. Successful completion of the clinical and didactic components of the program results in a certificate of completion through the Marquette University Graduate School. No thesis is required. Additionally, there are non-accredited optional second and third years of training available. During these years, students may work toward a fellowship in the Academy of General Dentistry.

To qualify for an AEGD program stipend, applicants must be graduates of U.S. or Canadian dental schools. Applicants who have graduated from dental schools other than U.S. or Canadian will only be eligible for non-stipend positions, in which the space is very limited. All applicants, including those who have graduated from dental schools other than U.S. or Canadian, must take and submit scores from Part I and Part II of the National Board Dental Examinations.

DENTAL BIOMATERIALS

A student in the dental biomaterials program must complete a minimum of 30 credit hours of course work, consisting of a curriculum of graduate dental biomaterials courses (24 credits) and six credit hours of thesis work. The dental biomaterials graduate program is an interdisciplinary program covering principles of materials science, engineering, chemistry, physics, biology, and dentistry. Satisfactory completion of the didactic and research components of the program results in a master's degree through the Marquette University Graduate School. In addition to the courses offered by the School of Dentistry (described in detail under the Dental Biomaterials course description section of this bulletin), master's candidates may be required by their program adviser to select courses offered through the Department of Mathematics, Statistics and Computer Science or other departments. Elective courses in appropriate areas such as the dental graduate core curriculum (from the School of Dentistry) or materials science (from the College of Engineering) may also be selected according to the backgrounds and interests of the individual students.

ENDODONTICS AND ORTHODONTICS

A student in the endodontics or orthodontics program must complete a minimum of 30 credit hours of course work, including four credit hours in clinical practice per academic year (a total of eight credit hours for the two-year program), and six credit hours of thesis work. The remaining credits may be divided among courses specific to the specialty discipline and elective courses. The endodontics and orthodontics programs each require two full years of patient care. Satisfactory completion of the didactic and clinical components of the programs results in a specialty certificate through the Marquette University Graduate School. Satisfactory completion of the research component of the programs results in a master's degree through the Marquette University Graduate School. The master's degree is required in order to receive the specialty certificate.

PROSTHODONTICS

The prosthodontic program is a three-year program. A student in the prosthodontic program must complete a minimum of 42 credit hours of course work, including 12 credit hours of clinical practice, and six credit hours of thesis work. The remaining credits will be from courses assigned by the program director. The prosthodontics program requires three full years of patient care. Satisfactory completion of the didactic and clinical components of the program results in a specialty certificate through the Marquette University Graduate School. Satisfactory completion of the research component of the program results in a master's degree through the Marquette University Graduate School. The master's degree is required in order to receive the specialty certificate.

PREREQUISITES FOR ADMISSION

Selection for admission is based upon the applicant's academic standing and clinical abilities. Competitive applicants will rank high in their dental school classes, have strong clinical skills and experiences, and have some experience with research. In general, to be admitted to any of the graduate programs in clinical dentistry, the applicant must have graduated from an accredited dental school.

For the dental biomaterials program, the applicant may be either a dental school graduate or have a baccalaureate degree in science or engineering. In special cases, a student with a baccalaureate degree in another area, but who has an appropriate background, may be admitted to the dental biomaterials program.

APPLICATION DEADLINES

September 1

For endodontics, orthodontics, and prosthodontics programs starting in June of the following year.

October 1

For first round interviews for the AEGD program starting June 1st of the following year. Applications will be accepted beyond this deadline until all available AEGD positions are filled. For information on position availability, applicants applying after October 1st should call (414) 288-3323 or e-mail jacqueline.webster@marquette.edu.

Note: No official deadline exists for the dental biomaterials program. The biomaterials program may begin during the summer session or during any semester. The program director notifies admitted students regarding the starting date for their program.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed Marquette University application form and application fee. Applicants *must* apply through Marquette, or they will not be considered for admission.
   In addition, applicants may also apply through the Postdoctoral Application Support Service (PASS) operated by the American Dental Education

Association (ADEA), but it is not required. The orthodontics program does not accept PASS.
2. Official transcripts from all current and previous colleges/universities except Marquette. International applicants must have course grades converted to numerical values of 4.000, 3.000, 2.000, and 1.000 or to corresponding letter grades of A, B, C, and D, respectively. Where such a conversion is not possible, an explanation of the grading system used in the foreign dental school and undergraduate institution should accompany the official English translation of the grade transcripts.
3. Undergraduate and dental school grade-point averages, and class rank in dental school.
4. Three letters of recommendation reflecting the applicant's clinical and academic abilities.
5. Scores from the National Board Dental Examinations, Part I and Part II. Not required from dental biomaterials applicants or from graduates of non-U.S./non-Canadian dental schools, except for AEGD applicants, for whom exam results are required.
6. *(For dental biomaterials applicants only)* GRE scores strongly recommended (General Test only).
7. *(For endodontics, orthodontics, and prosthodontics applicants)* a curriculum vitae and a personal statement.
8. *(For orthodontics applicants only)* registration with National Matching Service. The orthodontics program is part of the Postdoctoral Dental Matching Program. Details of this program can be obtained through the orthodontics department.
9. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

GENERAL INFORMATION

NON-DEGREE STUDENTS IN DENTISTRY COURSES

Normally, students with non-degree status are not permitted to enroll in dentistry courses; however, students from approved dental residency programs may enroll in dental graduate courses. Other students may be allowed to take dental graduate courses with prior approval from the School of Dentistry's associate dean for research and graduate studies.

D.D.S./GRADUATE PROGRAM

The School of Dentistry, in close cooperation with the Graduate School, offers a doctor of dental surgery/graduate program which allows qualified students to take selected graduate courses while still in dental school. Interested dental students must formally apply for entrance into the program. Information is available from the associate dean for research and graduate studies in the School of Dentistry.

Once accepted into the D.D.S./graduate program, students are eligible to register for graduate courses offered by the School of Dentistry and other units of the university. To enroll in graduate courses, D.D.S./graduate program students must have written consent from course directors, the associate dean for research and graduate studies in the School of Dentistry, and the vice provost for research and dean of the Graduate School. Students must also submit a request form (available in the Graduate School office). The amount of graduate work available to students is determined by ability and progress within the D.D.S. program.

D.D.S./graduate students may seek admission to the following certificate or graduate programs offered by the School of Dentistry: dental biomaterials, endodontics, orthodontics, or prosthodontics. Applications are subject to specified deadlines, and students are required to follow the normal competitive admission process. D.D.S./graduate students also may seek admission to other master's programs such as biological sciences, education, engineering, business administration, mathematics/statistics/computer sciences, clinical psychology or public service. Upon acceptance into a master's program, D.D.S./graduate students may formally request a transfer of completed graduate credits into the master's program. Normally, a maximum of 12 credits may be transferred. (Transfer of credit forms are available in the Graduate School office.)

Further information about the D.D.S./graduate program can be obtained from the School of Dentistry associate dean for research and graduate studies.

COURSE DESCRIPTIONS

Dentistry (DENT)

DENT 6000. Clinical Patient Care 1-7 sem. hrs. Designed to account for time dental graduate residents spend providing patient care. Ranges from 1-7 credit hours per term. S/U grade assessment.

DENT 6001. Dental Graduate Didactic Core Curriculum 1 1-3 sem. hrs.
Section credit hours range from 1-3 for sections comprising 12-36 class hours.

DENT 6002. Dental Graduate Didactic Core Curriculum 2 1-3 sem. hrs.
Section credit hours range from 1-3 for sections comprising 12-36 class hours.

DENT 6003. Dental Graduate Didactic Core Curriculum 3 1-3 sem. hrs.
Section credit hours range from 1-3 for sections comprising 12-36 class hours.

The Dental Graduate Didactic Core Curriculum (DENT 6001-6003) is designed to cover all didactic content areas applicable to the advanced practice of general dentistry and to each of the specialty areas of dentistry. The content areas are sequenced to present: 1) material of interest for the general dentist seeking additional training beyond predoctoral dental education; 2) material of interest for each of the dental specialty areas; and 3) advanced material of interest for those intending to pursue academic/research careers. The presentations are organized to emphasize the overlapping nature of scientific foundational material and each of the dental specialties. Additionally, the presentations are designed to accommodate those students entering the program immediately after undergraduate education as well as those students returning from varying years of private dental practice. The course of study is comprised of yearly repeating content cycles (sections) within the summer session and fall/spring terms. The Dental Graduate Didactic Core Curriculum (DENT 6001-6003) is offered from 8-9 a.m. Monday–Friday. Beyond the required classes for their program, students may register for as many DENT 6001-6003 sections as they wish during their graduate education. The sections covered in DENT 6001-6003 are listed below and a detailed description of section content is maintained in the form of comprehensive section syllabi available in the School of Dentistry office of the associate dean for research and graduate studies. Students may register repeatedly for any grading period containing material of interest and are free to rotate in and out of the courses as desired to obtain sections containing such material. Repeated registration for DENT 6001-6003 is differentiated through the use of section numbers that appear on official transcripts. Examinations and credit hours are variable and are determined by selected course sections. Grades for each course section are submitted directly to the Graduate School by course instructors at the end of each term. Official transcripts will designate the specific sections completed and the credit hours associated with those sections.

The content area sections covered annually by the Graduate Didactic Core Curriculum are as follows: 1) Emergency Medicine – A comprehensive review of the pathophysiology and treatment of the most common medical emergency states. Emphasis is placed on prevention, diagnosis, and patient stabilization. 2) Dental Biomaterials – Physical, mechanical, chemical, biologic behavior, properties, characterization, and testing of dental biomaterials. Biocompatibility of implant materials as well as advanced clinical concepts for general dentistry. 3) Advanced Prosthodontic Biomaterials – Advanced biomaterials and clinical concepts specific for prosthodontics. 4) Advanced Endodontic Biomaterials – Advanced biomaterials and clinical concepts specific for endodontics. 5) Advanced Orthodontic Biomaterials – Advanced biomaterials and clinical concepts specific for orthodontics. 6) Interdisciplinary Periodontics – Structure/function of the periodontium. Periodontal disease and therapy as it relates to all other aspects of dentistry emphasizing surgical approaches, occlusion, splinting, and periodontic/endodontic pathosis. 7) Interdisciplinary Prosthodontics – A comprehensive discussion of prosthodontic procedures as they relate to other areas of dental practice emphasizing removable complete/partial dentures, fixed partial dentures, maxillofacial prosthetics, and implants. 8) Advanced Prosthodontics – Advanced prosthodontic procedures emphasizing removable complete/ partial dentures, fixed partial dentures, maxillofacial prosthetics, and implants. 9) Interdisciplinary Endodontics – Endodontic techniques as they relate to other areas of dental practice. 10) Advanced Endodontology – Advanced endodontic techniques with emphasis on sophisticated clinical procedures/surgical approaches and their rationale. 11) Interdisciplinary Orthodontics – A comprehensive discussion of orthodontic techniques as they relate to other areas of dental practice emphasizing cephalometrics, biomechanics of tooth movement, and tissue response to orthodontic procedures. 12) Advanced Orthodontics – Advanced orthodontic techniques emphasizing cephalometrics, biomechanics of tooth movement, and tissue response to orthodontic procedures. 13) Technology and Informatics – A review of the current computer-based technologies available for independent self-directed learning, research, teaching approaches, patient care, and professional communication. Emphasis is placed on biomedical applications and laboratory exercises are included to reinforce didactic concepts. 14) Craniofacial Growth and Development – Dental and facial growth and development from the embryonic period through adult life. 15) Advanced Oral Pathology – Principles and concepts of histopathology presented through review and microscopic study of surgical material and biopsy specimens of craniofacial lesions emphasizing pathogenesis of disease and histologic diagnosis. Laboratory exercises are included to reinforce didactic concepts. 16) Head/Neck Anatomy and Osteology – Systemic and regional approaches to the study of head/neck anatomy. Emphasis is placed on vasculature, musculature, innervation, lymphatic

drainage, and morphology/anatomical landmarks of the various bones of the head/neck. Laboratory dissection and demonstration reinforce didactic concepts. 17) Pharmacology and Pain/Anxiety Management – The pharmacology of drugs commonly used for treatment of non-dental conditions that may affect the delivery of dental care either through direct action or through interaction with drugs commonly used in dental care. Emphasizes the neurophysiology of pain, control of pain by various classes of pharmacologic agents, and the behavioral management of dental fears. 18) Research Methodology/Design – A comprehensive presentation of the research process. Emphasis is placed on evaluating the literature, scientific writing, grant writing, animal/human use, ethics, and preparing abstracts, manuscripts, and presentations. 19) Biostatistics – A comprehensive presentation of the various aspects of statistics and statistical evaluation. Emphasis is placed on reproducibility, power, validity, precision, and accuracy. 20) Oral Microbiology, Infection, and Immunology – Inflammation, immunity, and oral microbiology emphasizing the mechanisms of microbial colonization and invasion, host response, and pathogenesis of dental diseases. 21) Pulpal/Periapical Biology and Pathology – Applied basic sciences of pulpal and periapical histology, physiology, and pathology. Emphasis is placed on preparation, diagnosis, and interpretation of biopsy samples. 22) Biochemistry and Physiology of Mineralized Tissues – The chemical and cellular constituents of mineralized tissues and modern methods for their study. Emphasis is placed on bone physiology and metabolism. 23) Radiology and Imaging – Advanced concepts in radiology and modern imaging techniques applied to all aspects of dentistry. 24) Craniomandibular Function and Disorders – Neuromuscular and occlusal physiology, diagnosis, and treatment of functional disturbances involving the craniofacial region. 25) Temporomandibular Disorders in Orthodontics – Neuromuscular and occlusal physiology, diagnosis, and treatment of functional disturbances involving the temporomandibular articulation specific to orthodontics. 26) Oral Physiology – Current topics in salivary function/dysfunction, gingival crevicular fluid, and dentin sensitivity. 27) Geriatrics/Gerontology – A comprehensive presentation of oral health care for older adults emphasizing demographics/epidemiology, specific age-related pathosis, customized treatment approaches, and interdisciplinary/integrative patient management. 28) Pediatrics – The special management and treatment concerns of pediatric patients emphasizing prevention and trauma. 29) Inflammation and Wound Healing – Current concepts in the cell/molecular biology of inflammation and wound healing emphasizing predictable manipulation of the wound environment. 30) Cell/Molecular Biology and Molecular Medicine – Current concepts in cell/molecular biology as they relate to diagnostics and treatment with emphasis on immunologic approaches and gene therapy. 31) Speech Pathology – A review of the various speech pathologies emphasizing the interdisciplinary and integrative nature of treatment involving the dental professional. 32) Applied Clinical Endodontic Techniques – The latest applications of new treatment techniques and methodologies as they relate to endodontics. 33) Applied Clinical Orthodontic Techniques – The latest applications of new treatment techniques and methodologies as they relate to orthodontics. 34) Applied Clinical Prosthodontic Techniques – The latest applications of new treatment techniques and methodologies as they relate to prosthodontics. 35) Public Health/Public Service – The epidemiology of dental disease and access to care emphasizing the role of the dental professional in community health. A review of current local, state, and federal programs for dental services. 36) Practice Management for Prosthodontists – A review of the current business aspects of dental practice for all aspects of prosthodontics with special emphasis on solo practice, group practice, dental clinics, and community health centers/institutionalized care. 37) Practice Management for Endodontists – A review of the current business aspects of dental practice for all aspects of endodontics with special emphasis on solo practice, group practice, dental clinics, and community health centers/institutionalized care. 38) Practice Management for Orthodontists – A review of the current business aspects of dental practice for all aspects of orthodontics with special emphasis on solo practice, group practice, dental clinics, and community health centers/institutionalized care. 39) Jurisprudence – A review of the current legal aspects of dental practice for all areas of dentistry emphasizing patient care, infection control, and employee relations. 40) Practice Ethics – A review of various ethical dilemmas in practice settings including case studies for group discussion. 41) Implantology – Basic concepts for implant placement including review of relevant maxillary/mandibular anatomy, evaluation and screening of patients, augmentation considerations, surgical techniques, surgical complications/management, and relevant emergency procedures.

DENT 6101. Clinical Orthodontics 1 4 sem. hrs.
Lectures, laboratory and clinical treatment of patients with various types of malocclusion.
Prereq: Admitted to Orthodontics program.

DENT 6102. Clinical Orthodontics 2 4 sem. hrs.
Lectures, laboratory and clinical treatment of patients with various types of malocclusion.
Prereq: Admitted to Orthodontics program.

DENT 6103. Clinical Orthodontics 3 6 sem. hrs.
Lectures, laboratory and clinical treatment of patients with various types of malocclusion.
Prereq: Admitted to Orthodontics program.

DENT 6104. Clinical Orthodontics 4 6 sem. hrs.
Lectures, laboratory and clinical treatment of patients with various types of malocclusion.
Prereq: Admitted to Orthodontics program.

DENT 6110. Histopathology of Tooth Movement 1 sem. hr.
Histological and pathological aspects of tooth movement emphasizing tissue response to orthodontic forces. *Prereq: Admitted to Orthodontics program.*

DENT 6171. Orthodontics Seminar 1
1 sem. hr.
Combines basic/applied techniques and maintenance of normal occlusal development. Students learn the fabrication and biomechanics of various appliances used in prevention and interception of malocclusions. Concurrently, students are taught in the theory of normal occlusal development, diagnosis, prevention, and interception of certain malocclusions.
Prereq: Admitted to Orthodontics program.

DENT 6172. Orthodontics Seminar 2
1 sem. hr.
A continuation of a series of courses beginning with DENT 6171.
Prereq: Admitted to Orthodontics program.

DENT 6173. Orthodontics Seminar 3
1 sem. hr.
A continuation of a series of courses beginning with DENT 6171.
Prereq: Admitted to Orthodontics program.

DENT 6174. Orthodontics Seminar 4
1 sem. hr.
A continuation of a series of courses beginning with DENT 6171.
Prereq: Admitted to Orthodontics program.

DENT 6201. Clinical Prosthodontics 1
4 sem. hrs.
Clinical treatment concepts in basic and advanced restorative procedures.
Prereq: Admitted to Prosthodontics program.

DENT 6202. Clinical Prosthodontics 2
4 sem. hrs.
See DENT 6201. *Prereq: DENT 6201, and admitted to Prosthodontics program.*

DENT 6203. Clinical Prosthodontics 3
4 sem. hrs.
See DENT 6201. *Prereq: DENT 6201, DENT 6202, and admitted to Prosthodontics program.*

DENT 6204. Clinical Prosthodontics 4
4 sem. hrs.
See DENT 6201. *Prereq: DENT 6201, DENT 6202, DENT 6203, and admitted to Prosthodontics program.*

DENT 6205. Clinical Prosthodontics 5
6 sem. hrs.
Complete dentures, fixed and removable partial dentures, implant prosthodontics, maxillofacial prosthodontics and associated clinical disciplines of dentistry involved in comprehensive rehabilitation of the oral cavity.
Prereq: DENT 6201, DENT 6202, DENT 6203, DENT 6204, and admitted to Prosthodontics program.

DENT 6206. Clinical Prosthodontics 6
6 sem. hrs.
See DENT 6205. *Prereq: DENT 6201, DENT 6202, DENT 6203, DENT 6204, DENT 6205, and admitted to Prosthodontics program.*

DENT 6212. Seminar in Occlusion/TMD
1 sem. hr.
In-depth review and discussion of concepts of occlusion and articulation, occlusal analysis, diagnosis and treatment of facial pain and temporman-dibular disorders. Includes regularly-scheduled diagnosis and treatment planning sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontic seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6271. Seminar in Complete Denture Prosthodontics 1 sem. hr.
In-depth review and discussion of complete denture literature and its theoretical, technical, and clinical application. Includes regularly-scheduled diagnosis and treatment planning sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontics seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6272. Seminar in Removable Partial Denture Prosthodontics 1 sem. hr.
In-depth review and discussion of removable partial dentures literature and its theoretical, technical, and clinical application. Includes regularly-scheduled diagnosis and treatment planning sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontics seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6273. Seminar in Fixed Partial Denture Prosthodontics 1 sem. hr.
In-depth review and discussion of fixed partial denture and rehabilitation literature, and its theoretical, technical, and clinical application. Includes regularly-scheduled diagnosis and treatment planning sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontics seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6274. Seminar in Maxillofacial Prosthetics and Related Disciplines 1 sem. hr.
In-depth literature review and discussion of theoretical, technical, and clinical application of maxillofacial prosthetics, surgical and radiation oncology, speech pathology, and other related disciplines. Includes regularly-scheduled diagnosis and treatment planning sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontics seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6275. Seminar in Implant Prosthodontics 1 sem. hr.
In-depth review and discussion of complete and partial fixed, single tooth and removable implant rehabilitation literature and its theoretical and clinical applications. Includes regularly-scheduled diagnosis and treatment sessions in all phases of prosthodontics. Offered on a rotating schedule with other prosthodontic seminars.
Prereq: Admitted to Prosthodontics program.

DENT 6301. Endodontics Clinic and Case Review 1 4 sem. hrs.
Complete diagnosis and treatment of clinic cases using all available diagnostic aids and treatment modalities. Endodontic surgical cases to be performed. Clinical cases to be presented for discussion. *Prereq: Admitted to Endodontics program.*

DENT 6302. Endodontics Clinic and Case Review 2 4 sem. hrs.
See DENT 6301.
Prereq: Admitted to Endodontics program.

DENT 6303. Endodontics Clinic and Case Review 3 6 sem. hrs.
See DENT 6301.
Prereq: Admitted to Endodontics program.

DENT 6304. Endodontics Clinic and Case Review 4 6 sem. hrs.
See DENT 6301.
Prereq: Admitted to Endodontics program.

DENT 6371. Endodontics Literature and Book Review 1 1 sem. hr.
Discussion of current and classic literature, library research; review current textbooks, conventions and dental meetings. Some lectures by graduate students relating endodontics to the other disciplines, systemic health, and potential areas of research.
Prereq: Admitted to Endodontics program.

DENT 6372. Endodontics Literature and Book Review 2 1 sem. hr.
See DENT 6371.
Prereq: Admitted to Endodontics program.

DENT 6373. Endodontics Literature and Book Review 3 1 sem. hr.
See DENT 6371.
Prereq: Admitted to Endodontics program.

DENT 6374. Endodontics Literature and Book Review 4 1 sem. hr.
See DENT 6371.
Prereq: Admitted to Endodontics program.

DENT 6501. Principles of Geriatric Dentistry 3 sem. hrs.
Designed for students with little to no dentistry knowledge. Focuses on readings and case-studies of the basic concepts involved in geriatric dentistry. Emphasis on patient assessment including social/psychological aspects, patient management including advocacy/referral, and the interdisciplinary/multidisciplinary aspects of patient care.

DENT 6502. Advanced Topics in Geriatric Dentistry 3 sem. hrs.
Designed for dentists and dental students. Focuses on readings and case-studies of advanced topics of geriatric dental care. Emphasis on cell/molecular biology and medicine, specialized techniques for care of geriatric patients, and integrated preventive measures.

DENT 6980. Teaching Experience in Dentistry 1-2 sem. hrs.
Assigned teaching duties in the didactic, preclinical, and clinical dental sciences.

DENT 6995. Independent Study in Dentistry 1-3 sem. hrs.
Customized to meet specific student interests/needs.
Prereq: Cons. of instr.

DENT 6999. Master's Thesis 1-6 sem. hrs.
Credit hours assigned to thesis preparation and scholarship. S/U grade assessment.

DENT 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DENT 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DENT 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DENT 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Advanced Education in General Dentistry (AEGD)

AEGD 6001. Clinical Advanced General Dentistry 1 4 sem. hrs.
Residents are assigned clinical cases that require treatment in two or more clinical disciplines. Trainees are responsible for accurate compilation and documentation of clinical findings essential for appropriate treatment planning and case completion. Residents provide comprehensive dental services to patients or make referrals to appropriate specialists. Trainees also engage in assessment, management, and treatment of dental emergencies. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6002. Clinical Advanced General Dentistry 2 4 sem. hrs.
Residents continue cases begun earlier (see AEGD 6001) and begin treatment of additional cases. Increasingly difficult patients, including those with compromised medical histories, are introduced. Residents also respond to dental consults from medical disciplines in a hospital setting and learn hospital protocol. Emphasis on development of critical thinking skills and abilities to conduct individualized risk assessments and to design appropriate prevention measures while treating a diverse array of patients. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6003. Clinical Advanced General Dentistry 3 4 sem. hrs.
See AEGD 6002. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6004. Clinical Advanced General Dentistry 4 4 sem. hrs.
See AEGD 6002. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6101. Discipline Topics/Multi-Disciplinary Treatment Planning in Adv. Gen. Dentistry 1 3 sem. hrs.
Residents develop and present cases evaluated on the quality of the documentation and treatment planning demonstrated. Emphasis placed on developing the ability to diagnose, treatment plan, and problem solve. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6102. Discipline Topics/Multi-Disciplinary Treatment Planning in Adv. Gen. Dentistry 2 3 sem. hrs.
See AEGD 6101. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6103. Discipline Topics/Multi-Disciplinary Treatment Planning in Adv. Gen. Dentistry 3 3 sem. hrs.
See AEGD 6101. S/U grade assessment.
Prereq: Admitted to AEGD program.

AEGD 6104. Discipline Topics/Multi-Disciplinary Treatment Planning in Adv. Gen. Dentistry 4 3 sem. hrs.
See AEGD 6101. S/U grade assessment.
Prereq: Admitted to AEGD program.

Dental Biomaterials (BIMA)

BIMA 6101. Mechanical Behavior of Dental Biomaterials 3 sem. hrs.
Basic principles of mechanics, elastic deformation, plastic deformation and fracture. Comparison of mechanical behavior of metallic, ceramic and polymer dental biomaterial systems. Discussion of tension, compression, shear, bending, torsion, hardness and impact tests for dental biomaterials. Includes laboratory exercises.

BIMA 6102. Polymeric Dental Biomaterials 2 sem. hrs.
Compositions and properties of polymers utilized in prosthetic, restorative, orthodontic, preventive, and implant dentistry. The materials include poly (methyl methacrylate), BIS-GMA, polyurethane and polyvinyl products in the form of resins, composites and microfills polymerized by heat, chemicals and ultraviolet or visible lights. Includes laboratory exercises.

BIMA 6151. Dental Cements 2 sem. hrs.
Compositions, setting reactions and properties of zinc phosphate, zinc oxide-eugenol, polycarboxylate, glass ionomer and resin dental cements. Effects of clinical variables and the ADA specifications related to these materials will be included. May include laboratory exercises.

BIMA 6152. Dental Impression Materials 2 sem. hrs.
Classification, composition and properties of the various impression materials used in restorative and prosthetic dentistry. The material systems to be discussed include impression compound, hydrocolloids, polysulfides, polyethers and silicones. May include laboratory exercises.

BIMA 6153. Dental Casting Procedures 3 sem. hrs.
History and development of dental casting procedures. Basic principles and techniques for centrifugal, vacuum and pressure casting. Solidification of metals and classification of porosities. Detailed considerations for casting of noble and base metal dental alloys. Includes laboratory exercises.

BIMA 6201. Dental Metallurgy 1 3 sem. hrs.
Theory and application of metallurgical principles to the study of dental alloy systems. Dental amalgams, noble and base metal casting alloys, and wrought alloys. Area and extent of study determined by individual needs of student. Includes laboratory exercises.

BIMA 6202. Dental Metallurgy 2 3 sem. hrs.
See BIMA 6201.

BIMA 6251. Dental Ceramics 3 sem. hrs.
Basic principles of ceramic structures and properties. History, properties and technology of dental porcelains, gypsum products and dental casting investments. Includes laboratory exercises.

BIMA 6501. Advanced Experimental Techniques for Dental Biomaterials Research 1 1 sem. hr.
Biomaterials Research 1 laboratory courses. Topics may vary, but will generally include scanning electron microscopy, mechanical testing procedures, and X-ray diffraction. *Prereq: Admission to graduate program in dental biomaterials.*

BIMA 6502. Advanced Experimental Techniques for Dental Biomaterials Research 2 1 sem. hr.
Biomaterials Research 2 laboratory courses. Topics may vary, but will generally include scanning electron microscopy, mechanical testing procedures, and X-ray diffraction. *Prereq: Admission to graduate program in dental biomaterials.*

BIMA 6570. Biomaterials Science and Engineering 3 sem. hrs.
Basic and advanced principles of dental biomaterials science. Fundamental scientific principles, and physical, mechanical, chemical and biological properties of restorative and preventive dental biomaterials. Relationships between properties and clinical performance of these materials and methods used for testing them.

BIMA 6601. Dental Biomaterials Literature Review 1 1-3 sem. hrs.
Discussion of current and classic literature in dental biomaterials. Topics and journals discussed are rotated to provide an overview and range of different materials, properties, and applications. Emphasizes class discussion and presentations. *Prereq: Grad. stndg. in BIMA graduate program or cons. of dept.*

BIMA 6602. Dental Biomaterials Literature Review 2 1-3 sem. hrs.
See BIMA 6601. *Prereq: Grad. stndg. in BIMA graduate program or cons. of dept.*

BIMA 6603. Dental Biomaterials Literature Review 3 1-3 sem. hrs.
See BIMA 6601. *Prereq: Grad. stndg. in BIMA graduate program or cons. of dept.*

BIMA 6604. Dental Biomaterials Literature Review 4 1-3 sem. hrs.
See BIMA 6601. *Prereq: Grad. stndg. in BIMA graduate program or cons. of dept.*

BIMA 6931. Topics in Dental Biomaterials 1-3 sem. hrs.
Practical laboratory exercises designed to provide the student with specific skill sets and analytic approaches used in modern materials research.

BIMA 6970. Biomaterials Seminar 1 sem. hr.
Current topics and concepts in materials science.

BIMA 6980. Teaching Experience in Dental Biomaterials 1-2 sem. hrs.
Teaching and preclinical laboratory assignments in dental biomaterials for undergraduate dental students.

BIMA 6995. Independent Study in Dental Biomaterials 1-3 sem. hrs.
Course work customized to meet specific student interests/needs. *Prereq: Cons. of instr.*

BIMA 6999. Master's Thesis 1-6 sem. hrs.
Credit hours assigned to thesis preparation and scholarship. S/U grade assessment.

BIMA 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIMA 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIMA 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

BIMA 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DISPUTE RESOLUTION (DIRS)

Director and Associate Professor of Law: Soeka
Associate Director and Adjunct Associate Professor: Harris Taylor
Adjunct Associate Professor: Bellman, Kelly
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master in Dispute Resolution; Graduate Certificate in Dispute Resolution

PROGRAM DESCRIPTIONS

Dispute resolution is an interdisciplinary, graduate program leading to either a master's degree or graduate certificate in dispute resolution. The program combines the fields of law, business, psychology, sociology, political science, health sciences, education and communication in dealing with today's multi-faceted issues in resolving disputes. The program seeks to train professionals, primarily those in the fields of law, health care, education, and business, to practice as third party neutrals in the field of dispute resolution, or to be knowledgeable participants in the dispute resolution process. *Note:* Students must begin their course work with DIRS 6600.

CERTIFICATE PROGRAM

The College of Professional Studies offers a 15 credit graduate certificate in dispute resolution. (For information on a master in leadership studies or a master of arts in public service with a specialization in dispute resolution, see Leadership Studies or Public Service.) DIRS also offers a joint certificate program with the Law School.

MASTER'S DEGREE PROGRAM

The College of Professional Studies offers a professional degree program leading to a master in dispute resolution (M.D.R.). With an emphasis on mediation and its applications, the primary program objective is to increase the knowledge and skill competency of working professionals across all disciplines. Students are expected to demonstrate their competency in dispute resolution theory and practice by employing critical thinking and the tools of research when completing either a master's thesis or an integrative capstone project.

PREREQUISITES FOR ADMISSION

Applicants must have a baccalaureate degree from a college or university of recognized standing and minimally two years of work experience preferred.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation. Waived if M.D.R. or C.D.R. applicants are currently attending or have graduated from Marquette's Law School. Waived if M.D.R. applicants graduated from the DIRS certificate program. Waived if M.D.R. or C.D.R. applicants have completed any advanced degree – M.A., M.S., M.B.A., Ph.D., J.D., or M.D.
4. GRE, GMAT, LSAT (applicants must score at the 50th or higher percentile), or MAT scores. Waived if the applicant has completed any advanced degree from any school – M.A., M.S., M.B.A., Ph.D., J.D., or M.D.
5. Applicants are expected to have a baccalaureate degree or its academic equivalent from a college or university of recognized standing, a grade point average of B (3.000 on a 4.000 scale) or above in undergraduate course work, and background in an appropriate undergraduate major.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

MASTER'S REQUIREMENTS

The master's degree requires completion of 33 credits. The degree requirements are as follows:

Required Courses (27 credits):

Note: Students must begin their course work with DIRS 6600.

DIRS 6600 Mediation (3 credits)
DIRS 6605 Advanced Mediation (3 credits)
DIRS 6610 Dispute Resolution Theory (3 credits)
DIRS 6964 Practicum in Dispute Resolution (3 credits)

DIRS 6999 Master's Thesis (6 credits)
OR
DIRS 6998 Integrative Professional Project (6 credits, research project)

and three of the following four courses:

DIRS 6615 Advanced Issues in Dispute Resolution (3 credits)
DIRS 6720 Arbitration (3 credits)
DIRS 6725 Negotiation (3 credits)
DIRS 6730 Dispute Resolution Systems Design (3 credits)

Elective Courses (6 credits):

DIRS 6705 Dispute Resolution and the Family (3 credits)
DIRS 6710 Dispute Resolution and Education (3 credits)
DIRS 6715 Dispute Resolution and the Workplace (3 credits)
DIRS 6735 Dispute Resolution and Health Care (3 credits)
DIRS 6995 Independent Study; used as necessary (3 credits)

Students must choose either Plan A (thesis) or Plan B (professional project). For Plans A and B, students must submit the project/thesis outline to be approved by their faculty adviser, program director, and by the Graduate School.

Regardless of the plan chosen (Plan A – thesis or Plan B – professional project), students must complete the program within six years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the master in dispute resolution. The M.D.R. requires 33 credits of dispute resolution courses, including a 3 credit practicum.

CERTIFICATE REQUIREMENTS

The certificate program requires completion of five courses (15 credits) selected from a prescribed list of DIRS courses. These five courses are required: DIRS 6600 (prerequisite), DIRS 6605, DIRS 6610, DIRS 6615, and DIRS 6964 (practicum).

Students must complete the certificate program within three years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the certificate in dispute resolution.

JOINT PROGRAM OF STUDY

CERTIFICATE – J.D. DEGREE

The Center for Dispute Resolution Education, in conjunction with the Law School, offers a program of joint study leading to a certificate in dispute resolution (C.D.R.) and a juris doctor degree. Students seeking admission to the program must apply to the Law School and meet the Law School's admission requirements. Students must simultaneously apply to the Graduate School, meeting the application requirements listed above. Students start this program as a law student. Upon completion of the law program, students will be officially admitted to the dispute resolution certificate program for completion of the remainder of the program.

Joint program students must have completed 27 credit hours at the Law School with a cumulative average of 2.00 before entering the graduate program in dispute resolution (DIRS). Students will be able to apply the nine credits taken in DIRS toward their juris doctor degree. Law students may take any of the certificate courses offered by DIRS for up to nine law school credits. A total of 15 credits are required for the C.D.R.

Law students must complete 9 DIRS credits to earn the certificate; of these 9 credits, six **must be** DIRS 6600 Mediation and DIRS 6605 Advanced Mediation.

To earn the joint C.D.R., a law student will be required to take the following courses:

1. DIRS 6600 Mediation (3 credits),
2. DIRS 6605 Advanced Mediation (3 credits),
3. LAW Mediation Clinic (3 credits) OR LAW Supervised Field Work (3 credits) OR DIRS 6964 Practicum in Dispute Resolution (3 credits), and
4. DIRS 6610 Dispute Resolution Theory (3 credits), OR DIRS 6615 Advanced Issues in Dispute Resolution (3 credits), OR an elective LAW course from a set list as approved by both the Center for Dispute Resolution and the Law School (3 credits).

A law student must complete **6 LAW credits** and **9 DIRS credits** to earn the joint certificate. There is no early or late date for pursuing the C.D.R. Some law students may come to the Law School having already decided to pursue the certificate. A student might wait until he/she has completed some Law School courses and then decide to seek admission to the Graduate School in order to earn the certificate. The only requirement in this respect is that the student cannot wait so long that it becomes mathematically impossible to complete the requirements of both programs in four years (six years for part-time students). Law students must complete a Graduate School application; they do **not** need to submit test scores, transcripts or letters of recommendation.

In general, joint program students will pay tuition at the full-time (flat tuition) Law School rate while a full-time law student, regardless of whether or not they are taking additional graduate courses. Upon receiving the juris doctor degree, joint program students will pay Graduate School tuition at the per credit rate for graduate courses. Part-time law students will pay the per credit Law School rate for all courses.

Additional details about the C.D.R.–J.D. program are available from the Center for Dispute Resolution Education office or from the Law School Admissions office.

COURSE DESCRIPTIONS

DIRS 6600. Mediation 3 sem. hrs.
Mediation as facilitated negotiation, three-party processes vs. two-party processes, interest-based bargaining vs. positional or adversarial bargaining. Concepts will be explored through the use of class role plays, which are videotaped and critiqued as a part of mediation training.

DIRS 6605. Advanced Mediation 3 sem. hrs.
An exploration of more advanced issues in the practice of mediation, including brokering, emotions in mediation, agenda, joint session, caucuses, agreements and multi-party/multi issue cases.
Prereq: DIRS 6600.

DIRS 6610. Dispute Resolution Theory 3 sem. hrs.
The development of conflict between and among individuals, organizations, and governmental units; various models for conflict and types of conflict resolution will also be surveyed.
Prereq: DIRS 6600.

DIRS 6615. Advanced Issues in Dispute Resolution 3 sem. hrs.
Explores current theoretical and applied issues in mediation. These issues may include: communication theories and models, legislative enactments, dispute resolution systems design, and court-connected dispute resolution systems. Case studies provide an opportunity to examine the theory through an applied approach. *Prereq: DIRS 6600.*

DIRS 6705. Dispute Resolution and the Family 3 sem. hrs.
Explores the many ways that dispute resolution processes are used in the family dynamic, including the division of marital property, the resolution of child custody issues, the resolution of parent-child behavioral issues, the resolution of contested adult guardianships, the resolution of issues involving the termination of parental rights, and the placement of adult family members in institutional settings. Includes an analysis of the roles of unique stakeholders, such as guardian *ad litem*, medical personnel, and extended family members. Uses a significant number of role plays to allow students to apply and refine their skills. *Prereq: DIRS 6600.*

DIRS 6710. Dispute Resolution and Education 3 sem. hrs.
Explores the many ways dispute resolution processes are used in the educational context, including: collective bargaining agreements, student peer mediation programs, student-teacher disputes, ombuds programs in higher education, and the mediation of special education disputes. Addresses problem solving skills helpful to any teacher or school administrator in dealing with parents, students, and colleagues. Uses a significant number of role plays to allow students to apply and refine their skills.
Prereq: DIRS 6600.

DIRS 6715. Dispute Resolution and the Workplace 3 sem. hrs.
Explores the many ways that dispute resolution processes are used in the workplace, including: interest arbitration, grievance arbitration, the negotiation of collective bargaining agreements, ombuds systems, peer review panels, mediation systems in unionized and non-unionized environments, and the use of processes to address issues of sexual discrimination, sexual harassment, and the lack of retention and promotion of minority workers. Uses a significant number of role plays to allow students to apply and refine their skills. *Prereq: DIRS 6600.*

DIRS 6720. Arbitration 3 sem. hrs.
Explores the adjudicative process of arbitration or private-judging in commonly used contexts, such as labor, construction, securities, and consumer disputes. Examines the United States Supreme Court's line of precedent regarding the enforceability of arbitration clauses in contracts. Addresses common techniques used in the arbitration process.
Prereq: DIRS 6600.

DIRS 6725. Negotiation 3 sem. hrs.
Explores a variety of styles of negotiation, focusing primarily on interest-based bargaining. Addresses criticisms of the efficacy of interest-based bargaining in some depth. Uses a significant number of role plays for instructional purposes, utilizing scenarios from two-party single issue negotiations to multi-party multi-issue negotiations. *Prereq: DIRS 6600.*

DIRS 6730. Dispute Resolution Systems Design 3 sem. hrs.
Explores the process by which you design, implement, and administer a dispute resolution system. Analyzes methods of stakeholder investment, intake, screening, referral, recordkeeping, data collection and evaluation. Compares methods used in a variety of dispute resolution systems, including internal and external mediation systems, arbitration, and ombuds programs. Emphasizes ethical standards applicable to system administration. Students are required to design and document a system.
Prereq: DIRS 6600.

DIRS 6735. Dispute Resolution and Health Care 3 sem. hrs.
Explores the many ways dispute resolution processes are used in health care, including the resolution of: patient payment disputes with hospitals, health care providers, and health maintenance organizations (HMOs); disputes regarding treatment options; disputes among professionals treating the same patient; lifestyle issues (smoking and alcoholic beverages) in long term care facilities; health care provider malpractice; and end-of-life issues among providers, family members, and hospital ethics committees. *Prereq: DIRS 6600.*

DIRS 6931. Topics in Dispute Resolution 1-3 sem. hrs.
Examination of selected issues in dispute resolution that go beyond the scope of regular course offerings.

DIRS 6964. Practicum in Dispute Resolution 1-3 sem. hrs.
Required of all students; for example, an internship may be established with a community mediation center, a court system, a hospital peer review committee, or a public school teachers' collective bargaining unit. Placements will be arranged on an individual basis. S/U grade assessment.
Prereq: DIRS 6600 and DIRS 6605.

DIRS 6995. Independent Study in Dispute Resolution 1-3 sem. hrs.

DIRS 6998. Professional Project in Dispute Resolution 3 sem. hrs.
Required course for the professional project. Students are required to enroll in this course twice, over the course of two terms, for a total of 6 credits. Includes facilitated research meetings to explore research topics and methods, individual research and the completion of the written project. S/U grade assessment.

DIRS 6999. Master's Thesis 6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

ECONOMICS (ECON)

See **GRADUATE SCHOOL OF MANAGEMENT SECTION**

EDUCATION (EDUC)

Dean: Henk
Chair of Counseling and Educational Psychology and Associate Professor: Burkard
Chair of Educational Policy and Leadership and Professor: Lowe
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts; Master of Education; Master of Science; Doctor of Philosophy; Certificate

Certificate programs prepare students to obtain state certification and licensure.

PROGRAM OVERVIEW

The College of Education prepares graduate students to assume leadership roles in the areas of study provided by its programs and specializations. The College of Education is made up of two departments: Counselor Education and Counseling Psychology (CECP) and Educational Policy and Leadership (EDPL).

The following degrees are offered through **Counselor Education and Counseling Psychology**: doctoral degree in counseling psychology; master of science degree in clinical mental health counseling; master of arts degree in counseling (moratorium on admissions to master of arts degree in educational psychology).

The following degrees and specializations are offered through **Educational Policy and Leadership**: doctoral degree; master of arts degree with specializations in curriculum and instruction, educational policy and foundations, and literacy; master of education degree with specializations in college student personnel administration, educational administration, elementary education, and secondary education.

While Marquette University is concerned about the professional advancement of its students, facilitates the process of certification, and provides excellent educational opportunities, it cautions that professional success in a chosen field requires, above all else, constant development of individual abilities, personal initiative, and a professional sense of responsibility for fulfilling all one's appropriate legal, ethical, and other professional responsibilities. Hence, the university facilitates the licensure process for students pursuing careers in education and other human service fields, but students must also take responsibility for meeting all the requirements for licensure or certification in their chosen fields.

EDUCATION: CLINICAL MENTAL HEALTH COUNSELING (CMHC)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

EDUCATION: COUNSELING (COUN)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

EDUCATION: COUNSELING PSYCHOLOGY (COPS)

See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

EDUCATION: EDUCATIONAL POLICY AND LEADERSHIP (EDPL)

See **EDUCATIONAL POLICY AND LEADERSHIP (EDPL)**

EDUCATIONAL POLICY AND LEADERSHIP (EDPL)

Chair and Professor: Lowe
Distinguished Professor of Education: Fuller
Director of Graduate Studies and Associate Professor: Whipp
Director of Teacher Education and Associate Dean: Cepelka
Professor: Leslie *(Emeritus)*, Pink, A. Thompson *(Emeritus)*
Associate Professor: Augenstein *(Emeritus)*, Chubbuck, Eckman, Schweizer
Assistant Professor: Clark, Jessup-Anger, Lopez, Scanlan, Walker-Dalhouse, van den Kieboom
Adjunct Associate Professor: Allen
Clinical Associate Professor: Thon
Part-time Faculty: Birchbauer, Burant, Buckholdt, Carlson, Dooley, Ellis, Evans, Harper, Larsen, Miller, Watson-Peterson, White-Buchanan
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts (M.A.), Plan B (non-thesis option, default) or Plan A (thesis option, by request), Master of Education (M.Ed.), Plan B (non-thesis option, default) or Plan A (thesis option, by request); Doctor of Philosophy; Certificate

SPECIALIZATIONS

M.A.: Curriculum and Instruction, Educational Policy and Foundations, Literacy

M.Ed.: College Student Personnel Administration, Educational Administration, Elementary Education, Secondary Education

Certificate: Director of Instruction, Elementary Education, Principal, Reading Specialist, Reading Teacher, Secondary Education, Superintendent

Ph.D.: None

GENERAL PROGRAMS DESCRIPTION

The educational policy and leadership programs prepare graduate students to assume educational leadership roles in the areas of study provided by its programs and specializations. A distinctive characteristic of the programs are their commitment to the development of professionals as agents of critical inquiry and social justice. This is done through a systematic focus on the social, cultural, philosophical and historical contexts of education. The educational policy and leadership programs seek to apply the university goals of Christian commitment and scholarship to settings related to educational practice and policy, especially in public and private schools and institutions of higher education.

MASTER'S PROGRAMS

The goal of the master's programs is to engage the professional educator in extended critical reflection on the principles, practices, and rationales of human-service leadership in contemporary society. Specifically, the programs seek to develop educational leaders in K-12 schools, colleges, universities, and educational organizations with expertise in the historical, philosophical, and sociological foundations of educational policy issues. The programs are designed to accommodate the working professional, and program content is composed to reflect student backgrounds, interests, and professional objectives.

M.A. – CURRICULUM AND INSTRUCTION

The master of arts with a specialization in curriculum and instruction invites students to pursue critical study of curriculum, teaching, and subject area knowledge. This program is designed for practicing teachers in K-12 schools or higher education. The program is grounded in the National Board of Professional Teaching Standards and is designed to help students become master teachers, conduct action research, and act as leaders and change agents in their schools, districts, and communities. Courses in this specialization are offered in both online and face-to-face formats.

M.A. – EDUCATIONAL POLICY AND FOUNDATIONS

The master of arts with a specialization in educational leadership is designed for those who wish to combine the study of foundations in education with research in an area of interest.

M.A. – LITERACY

The master of arts with a specialization in literacy is designed for licensed teachers interested in obtaining reading licensure in the state of Wisconsin (DPI License 316 and 317) acquired in conjunction with a master's degree. General program goals for the master of arts in curriculum and instruction and the International Reading Association's current Standards for Reading Professionals form the basis for the required courses in this specialization.

M.Ed. – COLLEGE STUDENT PERSONNEL ADMINISTRATION

The master of education with a specialization in college student personnel administration prepares students for careers in student affairs settings in higher education such as: academic advising, career development centers, student unions, international student services, multicultural affairs, orientation programs, residential living programs, admissions, and student organizations. The program includes course work in leadership, counseling, educational psychology, and higher education.

M.Ed. – EDUCATIONAL ADMINISTRATION

The master of education with a specialization in educational administration invites students to pursue the critical study of organizational leadership in K-12 schools and to assume leadership roles in those settings. The program prepares students for either the Wisconsin Director of Instruction license or the Wisconsin Principal license.

M.Ed. – ELEMENTARY EDUCATION

The master of education with a specialization in elementary education is designed for students with a bachelor's degree who wish to earn an initial Wisconsin elementary/middle (middle childhood/early adolescence — grades 1-8) teaching license. This licensure to master's program is aligned with the knowledge, skills and dispositions related to effective teaching and articulated in the Wisconsin State Teaching Standards for Licensure and Professional Development. Like Marquette's undergraduate teacher preparation program, this program prepares teachers to uphold the Jesuit traditions of care for the person, social justice, academic excellence, ethical behavior and service to the urban community.

M.Ed. – SECONDARY EDUCATION

The master of education with a specialization in secondary education is designed for students with a bachelor's degree in biology, chemistry, economics, English, a foreign language, history, mathematics, physics, political science, psychology, or sociology who wish to earn an initial Wisconsin middle/secondary (early adolescence/adolescence — grades 6-12) teaching license. This licensure to master's program is aligned with the knowledge, skills and dispositions related to effective teaching and articulated in the Wisconsin State Teaching Standards for Licensure and Professional Development. Like Marquette's undergraduate teacher preparation program, this program prepares teachers to uphold the Jesuit traditions of care for the person, social justice, academic excellence, ethical behavior and service to the urban community.

TEACH FOR AMERICA

Marquette's College of Education and Teach for America, an organization that recruits outstanding graduates from some of the country's best colleges and universities to teach for two years in challenging urban or rural schools, partnered in 2009.

The goal of Teach for America is to eliminate educational inequity and prepare an expanding corps of exceptional educational leaders by providing courses toward elementary and secondary post-baccalaureate Wisconsin teacher licensure. Successful completion of the two-year program may also culminate with a master of education degree.

TFA participants assigned to teach in the Milwaukee area are eligible to apply to the MU/TFA partnership program. For more information, please visit the Teach for America Web site at: http://teachforamerica.org/.

PREREQUISITES FOR ADMISSION TO MASTER'S PROGRAMS

Applicants should have graduated with, or be about to graduate with, a bachelor's or master's degree from an accredited institution appropriate to their chosen field of graduate study.

APPLICATION DEADLINES

Since start terms for College of Education cohorts vary by program, students should seek advice from department personnel regarding specific application deadlines.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation addressing the applicant's ability to do graduate-level work.
4. A personal statement of purpose that includes professional and academic goals.
5. *(For administrative leadership certificate applicants only)* proof of an earned master's degree.
6. *(For master's applicants only)* GRE scores (General Test only; scores must be received by application deadline).
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

An interview and/or writing test may be required of applicants following the initial screening.

Teacher certification applicants are required to submit Praxis I and II scores to the College of Education's Office of Teacher Education. These applicants must also undergo a criminal background check, conducted by Marquette University. A second criminal background check is conducted at the state level when student teaching is completed, as part of the teacher license application.

Individuals submitting applications for administrative licenses must undergo a criminal background check, conducted by the state, when their administrative program is complete and they submit their administrative license application to the state.

MASTER'S REQUIREMENTS

A master's program is arranged in consultation with the student's assigned adviser. The program of study should be submitted for approval to the director of graduate studies no later than the end of the first term. Where licensure is involved, the program is designed to meet Wisconsin requirements.

M.A. – CURRICULUM AND INSTRUCTION

The master of arts degree in curriculum and instruction requires students to complete 30 credit hours of course work, complete research and leadership projects, and compose a capstone essay.

Required courses (21 credits)

EDPL 6000, 6400, 6410, 6420, 6440, 6450, and 6953.

Elective courses (9 credits)

Chosen from content area of specialization.

M.A. – EDUCATIONAL POLICY AND FOUNDATIONS

The master of arts degree in educational policy and foundations requires students to complete 33 credit hours of course work and complete a capstone research project.

Required courses (15 credits)
Foundations courses (9 credits): selected from EDPL 6200, 6250, 6300, 6310, 6330, 6360, 6440, 6450, 6700, 6730, 6800; EDUC 6340.
Research courses (6 credits): must be approved by student's adviser.

Elective courses (18 credits)
Chosen from an area of specialization.

M.A. – LITERACY

The master of arts degree in literacy requires students to complete 33-36 credit hours of course work, a research project, at least one practicum, a capstone essay, and portfolio.

Required courses (24-27 credits)
EDPL 6000, 6400, 6410, 6460, 6470, 6480, 6560, 6970; and EDUC 6020 (unless equivalent course was taken previously).

Elective courses (9 credits)
EDPL 6580*, 6860*, 6570*, 6975*, 6450, 6420, 6490; EDUC 5230; EDPL 6931.

* Required for Reading Specialist License (Wis. DPI 317).

Required for Wisconsin state licensure:
- Wisconsin Teaching license
- Two years of teaching experience
- 12 hours of post-bachelor's course work

M.Ed. – COLLEGE STUDENT PERSONNEL ADMINISTRATION

The master of education degree in college student personnel administration requires students to complete 36 credits of course work and complete a professional capstone project.

Required courses (33-36 credits)
EDPL 6000, 6100, 6140, 6200, 6210, 6250, 6260, 6800, 6965, 6966 (unless waived), and 6997 (capstone); and COUN 6000.

Elective course (3 credits)
Students who are waived from the second practicum course can choose one elective in an area of interest.

M.Ed. – EDUCATIONAL ADMINISTRATION

The master of education degree in educational administration requires students to complete 33-36 credit hours of course work and complete a leadership portfolio and/or professional project.

Required courses (15 credits)
EDPL 6000, 6700, 6707 OR 6730, 6800, and 6997.

Additional graduate-level requirements for PRINCIPAL LICENSE (18 credits)
EDPL 6440 OR 6870, 6710, 6720, 6750, 6860, and EDPL 6980 (consent required).

Additional graduate-level requirements for DIRECTOR OF INSTRUCTION LICENSE (21 credits)
EDPL 6440, 6710, 6720, 6860, 6870; a course in human development; and a practicum course.

M.Ed. – ELEMENTARY EDUCATION

The master of education degree in elementary education requires students to complete 33-58 credit hours* of course work. This includes one term of full-time student teaching.

Undergraduate prerequisites (13-16 credits)
A literacy practicum (4 credits), math and math methods courses (6-9 credits), and a fine arts methods or elective course (3 credits).

Graduate courses (40-42 credits)
EDUC 6010; a course in life-span development or child/adolescent development; a foundations of education course, e.g. EDPL 6330, EDPL 6730, or EDUC 5540;
EDPL 6440, 6450, and 6953; EDUC 5217, 5297, and 6040; literacy methods courses (6-8 credits); a science methods course; and a student teaching practicum.

* Course work completed at the undergraduate level (either at Marquette or at another institution) may reduce course requirements in this program significantly. A minimum of 33 credits must be completed at the graduate level for the master's degree.

M.Ed. – SECONDARY EDUCATION

The master of education degree in secondary education requires students to complete 33-37 credit hours* of course work. This includes one term of full-time student teaching.

Required courses (33-37 credits)
EDUC 6010; a course in life-span development or child/adolescent development; a foundations of education course, e.g. EDPL 6330, EDPL 6730, or EDUC 5540;
EDPL 6440, 6450, and 6953; EDUC 5217, 5297, 6020, and 6040; a specialized advanced methods course in the area of certification, e.g. English, social studies, math, science, foreign language; and a student teaching practicum.

Prerequisite course work**
Graduate level course(s) in content area of specialization.

* Course work completed at the undergraduate level (either at Marquette or at another institution) may reduce course requirements in this program. A minimum of 33 credits must be completed at the graduate level for the master's degree.

** Based on an analysis of the undergraduate transcript, students may be required to complete *additional* course work in their content area of certification to meet Wisconsin Department of Public Instruction certification requirements.

CERTIFICATE PROGRAMS

The College of Education offers a variety of certificate programs in alignment with requirements for educational licensure through the Wisconsin Department of Public Instruction.

ADMINISTRATIVE LICENSURE CERTIFICATES

Certification programs are available for the Wisconsin Director of Instruction, Principal, and Superintendent licenses. Licensed teachers who wish to acquire a principal or director of instruction license may also do so in conjunction with the master of education in educational administration.

LITERACY CERTIFICATES

Certification programs are available for the Wisconsin Reading Teacher (316) and Reading Specialist (317) licenses. Licensed teachers who wish to complete the 316 license may do so separately or in conjunction with the master of arts in literacy. The additional requirements for the 317 license can also be fulfilled separately, or in addition to the 316 license with the master of arts.

TEACHING CERTIFICATES

Certification programs are available for Wisconsin teaching licensure at the middle childhood/early adolescence level (elementary/middle, grades 1-8) or the early adolescence/adolescence level (middle/secondary, grades 6-12). Students can earn either license alone or in conjunction with a master of education degree.

TEACHER AND ADMINISTRATIVE CERTIFICATION APPLICANTS

All applicants seeking teacher certification or administrative certification must have transcripts evaluated by the College of Education BEFORE formally applying to the Graduate School for admission to any certificate program. Only upon approval of the department should students submit application materials to the Graduate School. Students seeking an advanced degree and certification must meet the criteria for both admission to the Office of Teacher Education and the Graduate School.

All inquiries concerning certification should be directed to the College of Education Graduate Office, located at Schroeder Health and Education Complex, 176, P.O. Box 1881, Milwaukee, WI 53201-1881, or via telephone at (414) 288-0659.

APPLICATION REQUIREMENTS

After having transcripts evaluated by the College of Education, applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation addressing the applicant's ability to do graduate-level work.
4. A personal statement of purpose that includes professional and academic goals.
5. *(For administrative leadership certificate applicants only)* proof of an earned master's degree.
6. *(For master's applicants only)* GRE scores (General Test only; scores must be received by application deadline).
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

An interview and/or writing test may be required of applicants following the initial screening.

Teacher certification applicants are required to submit Praxis I and II scores to the College of Education's Office of Teacher Education. These applicants must also undergo a criminal background check, conducted by Marquette University. A second criminal background check is conducted at the state level when student teaching is completed, as part of the teacher license application.

Individuals submitting applications for administrative licenses must undergo a criminal background check, conducted by the state, when their administrative program is complete and they submit their administrative license application to the state.

CERTIFICATE/LICENSURE REQUIREMENTS

Certificates in several fields involving graduate instruction are granted by the Wisconsin Department of Public Instruction. The university's decisions on recommendations for certification are made by its Licensing Officer after appropriate consultations. In this process, professional judgments are exercised. Thus, while certain courses are normally specified for various certificates, any such requirements are a necessary but not sufficient condition for certification.

DIRECTOR OF INSTRUCTION

This certificate program is designed for licensed teachers interested in the Director of Instruction license in the state of Wisconsin and requires students to complete 30 credit hours of course work.

Prerequisites:

- Wisconsin Teaching license
- Master's degree
- Licensed teaching experience

Required courses (30 credits)

EDPL 6000, 6440, 6700, 6710, 6720, 6800, 6860, 6870; a course in human development; and a practicum course.

ELEMENTARY EDUCATION

This certificate program is designed to meet the needs of adults with a bachelor's degree who wish to earn an initial Wisconsin middle childhood/early adolescence (grades 1-8) teaching license and requires students to complete 17-36 credit hours* of course work.

Undergraduate prerequisites:

- Literacy practicum (4 credits)
- Math and math methods courses (6-9 credits)
- Fine arts methods or elective course (3 credits)

Graduate courses (17-36 credits)

EDUC 6010; a course in life-span development or child/adolescent development; a foundations of education course, e.g. EDPL 6330, EDPL 6730, or EDUC 5540;
EDUC 5217, 5297, and 6040; literacy methods courses (6-8 credits); a science methods course; and a student teaching practicum.

PRINCIPAL

This certificate program is designed for licensed teachers interested in the Principal license in the state of Wisconsin and requires students to complete 30 credit hours of course work.

Prerequisites:

- Wisconsin Teaching license
- Master's degree
- Licensed teaching experience

Required courses (30 credits)

EDPL 6000, 6440 OR 6870, 6700, 6707 OR 6730, 6710, 6720, 6750, 6800, 6860, and 6980.

READING SPECIALIST

This certificate program is designed for licensed teachers interested in the Reading Specialist licenses in the state of Wisconsin (DPI License 317) and requires students to complete 27-30 credit hours* of course work.

Required courses for reading specialist certificate only – DPI License 317 (27-30 credits)

EDPL 6460, 6470, 6560, 6570, 6580, 6860, 6970, 6975; and EDUC 6020. EDPL 6480 is also required, but only for students with deficient background in children's literature.

Required for licensure:

- Master's degree or 30 hours of graduate course work equivalent
- Wisconsin Teaching license
- Two years of teaching experience

READING TEACHER

This certificate program is designed for licensed teachers interested in the Reading Teacher license in the state of Wisconsin (DPI License 316) and requires students to complete 15-18 credit hours* of course work.

Required courses for reading teacher certificate only – DPI License 316 (15-18 credits)

EDPL 6460, 6470, 6560, 6970; and EDUC 6020.
EDPL 6480 is also required, but only for students with deficient background in children's literature.

Required for licensure:

- Wisconsin Teaching license
- Two years of teaching experience
- 12 hours of post-bachelor's course work

SECONDARY EDUCATION

This certificate program is designed to meet the needs of the working professional with a bachelor's degree who wish to earn an initial Wisconsin early adolescence/adolescence (grades 6-12) teaching license and requires students to complete 15-28 credit hours* of course work.

Required courses (28 credits)

EDUC 6010; a course in life-span development or child/adolescent development; a foundations of education course, e.g. EDPL 6330, EDPL 6730, or EDUC 5540;
EDUC 5217, 5297, 6020, and 6040; a specialized advanced methods course in the area of certification, e.g. English, social studies, math, science, foreign language; and a student teaching practicum.

Prerequisite course work**

Graduate level course(s) in content area of specialization.

SUPERINTENDENT

This certificate program is designed for licensed teachers interested in the Superintendent license in the state of Wisconsin and requires students to complete 27 credit hours of course work.

Prerequisites:

- Wisconsin Teaching license
- Three years of teaching experience
- Master's degree
- Principal license
- Human development course

Required courses (24 credits)

EDPL 8000, 8010, 8020, 8030, 8040, 8730, 8870, and 8965.

Elective course (3 credits)

* Depending on background and/or equivalent course work completed (either at Marquette or at another institution).

** Based on an analysis of the undergraduate transcript, students may be required to complete *additional* course work in their content area of certification to meet Wisconsin Department of Public Instruction certification requirements.

DOCTORAL PROGRAM

The goal of the doctoral program in educational policy and leadership is to engage the professional educator in extended critical reflection on the principles, practices, and rationales of human-service leadership in contemporary society. Specifically, the program seeks to develop educational leaders in K-12 schools, colleges, universities, and educational organizations with expertise in the historical, philosophical, and sociological foundations of educational policy issues. The program is designed to accommodate the working professional, and program content is composed to reflect student backgrounds, interests, and professional objectives.

The doctoral program is designed to foster the development of scholar-practitioners. It asks students not only to inquire deeply into the process of teaching and learning, but also how the organization of schooling shapes this process. In addition, the program asks students to acquire adjacent disciplinary strengths that provide contexts for considering what knowledge is of most worth, how forms of knowledge are socially distributed, and what educational measures might help bring about a more just society. Students are expected to gain expertise in research that will enable them to contribute to the ways we think about education, and they are expected to develop technological and other practical skills that will enable them to implement strategies for change.

PREREQUISITES FOR ADMISSION

Applicants should have graduated with, or be about to graduate with, a master's degree from an accredited institution appropriate to their chosen field of graduate study. The exceptional student applying to the doctoral program without a master's degree must complete an appropriate master's degree as part of his or her doctoral program requirements.

APPLICATION DEADLINE

January 15 Applicant files must be completed by this date for admission consideration to the doctoral program.
Applicants will be notified by March 15.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation addressing the applicant's ability to do graduate-level work.
4. GRE scores (scores MUST be received by application deadline – January 15).
5. A sample of scholarly writing, such as a master's thesis or a published article.
6. A personal statement articulating research interests with professional aspirations.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

An interview and/or writing test may be required of applicants following the initial screening.

DOCTORAL REQUIREMENTS

A doctoral student must complete a program of study prepared in consultation with his or her adviser. Each program of study must include a minimum of 45 credit hours of course work beyond the master's degree (at least 33 of which must be in the College of Education), plus a minimum of 12 credit hours of work on a dissertation. A doctoral program must contain the following elements:

1. Doctoral seminars (9 credits)

EDPL 8955, 8956, and 8960.

2. Foundation courses (12 credits)

EDPL 8300, 8330, 8450, and 8730.
Students must take two of the four courses listed above, including EDPL 8730. Additional foundation courses can be selected from 6000/8000-level courses in areas such as curriculum, leadership, history, philosophy, sociology or psychology.

3. Research courses (12 credits)

EDPL 8710, EDPL 8715, COPS 8310, PSYC 8101, or COMM 6150, and at least one elective course.

4. A supportive elective sequence of courses, approved by the student's adviser (12 credits)

5. Dissertation work (12 credits)

Students interested in obtaining principal or superintendent licensure with the doctoral program will be required to complete additional course work.

Normally, no foreign language is required, unless, at the discretion of the student's adviser, proficiency in a foreign language is necessary in a student's research.

A doctoral student must pass both the written and oral parts of a qualifying examination (DQE) prior to the advancement to candidacy. This is normally taken after the completion of a minimum of 33 credit hours. Program faculty determine the format for the examination. A student's DQE committee and dissertation committee (although these do not need to have the same membership) should include at least two faculty from the EDPL Department. The remaining members may be from outside the department with no more than one coming from outside the university. Students should select all committee members in consultation with their adviser.

The doctoral dissertation must represent an original research contribution and show high attainment and clear ability to do independent research. Students must successfully defend both their dissertation proposal and the final dissertation.

COURSE DESCRIPTIONS

Education (EDUC)

EDUC 5007. Teaching Middle/Secondary Social Science 3 sem. hrs.
Application of teaching methods to social studies in middle and high schools. Field experience required. *Prereq: Admission to post-baccalaureate teaching licensure program.*

EDUC 5017. Teaching Middle/Secondary Science 3 sem. hrs.
Application of methods to teach inquiry-based science in the physical sciences, physics, biology, chemistry and environmental sciences at the middle/secondary level. Includes planning, preparation of materials, assessment, and use of technology aligned with National Science Education Standards and OSHA safety requirements. Field experience required. *Prereq: Admission to post-baccalaureate teaching licensure program.*

EDUC 5067. Strategies in Religious Education 3 sem. hrs.
Application of current catechetical theory and educational strategies to the teaching of religion. Development of curriculum objectives and assessments. Analysis of instructional materials and other resources for teaching religion. Open to all upper division students in the university.
Prereq: Admission to post-baccalaureate teaching licensure program.

EDUC 5217. Children and Youth with Exceptional Needs 3 sem. hrs.
Introduction to children and adolescents with a wide range of exceptional needs. Addresses characteristics, causes, assessment, teaching strategies, and legal issues. Field experience required for certification students, optional for others.

EDUC 5230. Learning and Linguistic Diversity 3 sem. hrs.
Covers three bodies of knowledge regarding language: basic principles of sociolinguistics, the nature of learning a second language or a second dialect, and theories of effective methods for teaching speakers of languages and dialects other than Standard English (e.g., bilingual education and/or English as a second language instruction). Each of these bodies of knowledge will be contextualized in students' learning experiences and in teachers' classroom practices.

EDUC 5277. Theory and Methods of Teaching Bilingual-Bicultural Learners 3 sem. hrs.
Study, application, and practice of theories and methods of delivering bilingual/bicultural instruction. Focus on first and second language learning strategies and culturally responsive teaching methods that reflect the language and culture of students living in bilingual/bicultural contexts.

EDUC 5297. Teaching in the Middle School 4 sem. hrs.
Foundations, methods, and strategies for teaching at the middle school level. Lab required. Field experience required.

EDUC 5317. Teaching Elementary-Level Science 3 sem. hrs.
Curriculum development and instructional methods for teaching inquiry-based science at the primary and upper elementary level. Includes preparation of materials, assessment, use of technology and field experiences. Field experience required.
Prereq: Admission to post-baccalaureate teaching licensure program.

EDUC 5337. Teaching Elementary Social Studies 3 sem. hrs.
Curriculum development, instructional strategies and techniques for teaching elementary social studies with emphasis on primary research skills. Includes preparation of materials, assessment and microteaching. Offered fall term.

EDUC 5357. Teaching Elementary Reading, Language Arts, and Children's Literature 4 sem. hrs.
Teaching reading, language arts, and children's literature from a developmental perspective to diverse upper elementary learners. Emphasis on developing the relationship between the three literacy areas and how social factors influence students' literacy learning. Field experience required.

EDUC 5540. Philosophy of Education 3 sem. hrs.
Principles and methods of various classical and contemporary philosophies and their implications and applications in education. Attention to professional ethics and students' development of their own philosophies of education. Offered every term.

EDUC 5931. Topics in Education 1-4 sem. hrs.
Various topics in education as identified in the *Schedule of Classes*.

EDUC 5964. Practicum: Teaching Elementary-Level Reading 4 sem. hrs.
Supervised experience in the teaching of reading to struggling readers. Emphasis on linking literacy assessment and instruction. Includes seminars and small group tutoring sessions.

EDUC 6010. Introduction to Schooling in a Diverse Society 3 sem. hrs.
Critical and reflective examination of assumptions about schooling in the United States including the impacts of race, ethnicity, class, and gender; power and control in school and community contexts; and the concerns, demands, conditions, and rewards of the teaching profession.

EDUC 6020. Literacy in the Content Areas 3 sem. hrs.
Interrelationships of reading, writing, speaking, and listening as learning skills in the content areas. Included are methods and materials the teacher can use in the classroom setting to improve literacy skills in all content areas and integrate literature across the curriculum.

EDUC 6040. Introduction to Learning and Assessment 3 sem. hrs.
Application of major theories of learning to instructional planning and assessment. Use of technologies to enhance learning and assessment. Offered annually.

EDUC 6050. Foundations of Instructional Technology 3 sem. hrs.
Historical and current theoretical perspectives on use of technologies in classrooms. Evaluation and use of various educational applications of technology in curricular design. Emerging technologies and current trends in online education. Ethical, legal, cultural and research issues in current uses of instructional technology.

EDUC 6060. Design Issues in Technology and Instructional Systems 3 sem. hrs.
Explores application of concepts, issues, processes, theories, and techniques of instructional design in a variety of electronic learning contexts including instructional modules, Web-based courses, computer graphics, and educational software.

EDUC 6070. Facilitating a Web-Based Course 3 sem. hrs.
Research-based methods and techniques for building effective online learning communities, including facilitation of structured dialogue and interaction, reflection, critical thinking, collaboration, and active engagement in the learning process. Offered alternate years.

EDUC 6080. Theories and Research in Instructional Technology 3 sem. hrs.
Survey of recent research developments and theoretical frameworks in the field, focusing on current cognitive and social constructivist theories. Students design individual research projects in areas of interest.

EDUC 6090. Emerging Instructional Technologies in Education 3 sem. hrs.
Critical study of research and instructional use of emerging Web technologies in K-12 schools, higher education, and other learning environments.

EDUC 6340. Child and Adolescent Development 3 sem. hrs.
An examination of the interaction among biological, psychological, social, and cultural factors that influence human development. Educational implications of these issues.

EDUC 6350. Teach for America Reading Methods 1 3 sem. hrs.
Teaching reading, language arts, and literature from a developmental perspective for the lower elementary levels. Emphasis on developing the relationship among the three areas as well as developing experience in administering reading tests, diagnosing, and remediating reading problems. *Prereq: Only open to Teach for America corps members.*

EDUC 6355. Teach for America Reading Methods 2 3 sem. hrs.
Teaching reading, language arts, and literature from a developmental perspective for the upper elementary levels. Emphasis on developing the relationship among the three areas as well as developing experience in administering reading tests, diagnosing, and remediating reading problems. *Prereq: Only open to Teach for America corps members.*

EDUC 6360. Teach for America Math Methods 1 3 sem. hrs.
Mathematical content and processes for elementary teachers using a problem-solving approach. Integrates mathematics content with teaching methods and learning theory for the lower elementary/middle school levels. *Prereq: Only open to Teach for America corps members.*

EDUC 6365. Teach for America Math Methods 2 3 sem. hrs.
Mathematical content and processes for elementary teachers using a problem-solving approach. Integrates mathematics content with teaching methods and learning theory for the upper elementary/middle school levels. *Prereq: Only open to Teach for America corps members.*

EDUC 6370. Teach for America Integrated Methods: Science, Social Studies, and Fine Arts 3 sem. hrs.
Curriculum development, instructional strategies and the application of teaching methods in elementary science, social studies and fine arts. *Prereq: Only open to Teach for America corps members.*

EDUC 6965. Middle/Secondary Education Practicum 3 sem. hrs.
Full day, full term of public or private school teaching, Monday through Friday. Regular on-site visitation by university faculty. Weekly seminar required. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an S or U grade at the end of the student teaching experience. *Prereq: EDUC 5297 and cons. of dept.; admission to the College of Education.*

EDUC 6966. Elementary/Middle Education Practicum 3 sem. hrs.
Full day, full term of public or private school teaching, Monday through Friday. Regular on-site visitation by university faculty. Weekly seminar required. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an S or U grade at the end of the student teaching experience. *Prereq: EDUC 5297 and cons. of dept.; admission to the College of Education.*

Educational Policy and Leadership (EDPL)

EDPL 6000. Introduction to Educational Inquiry 3 sem. hrs.
Multiple approaches to educational research with emphasis on reading, critiquing and using research to inform educational practice. Introduction to the development of a research proposal.

EDPL 6100. Introduction to Student Affairs 3 sem. hrs.
Historical, philosophical and theoretical foundations of the field of student affairs in higher education in the United States. Roles and functions of various student affairs divisions and how they contribute to purposes of post-secondary education. Current issues in the field.

EDPL 6140. Diverse Students on the College Campus 3 sem. hrs.
Research and theoretical perspectives on multiculturalism and diversity issues in higher education. Focuses on how race, ethnicity, gender, age, sexual orientation, disability, religion, socioeconomic status, and national origin impact the college setting.

EDPL 6200. Student Development in Higher Education 3 sem. hrs.
Overview of major theories of college student development with emphasis on cognitive and psychosocial theories. Applications for work in student affairs and leadership in higher education.

EDPL 6210. Environmental Theory Assessment in Higher Education 3 sem. hrs.
Survey of contemporary theories of and research on human/environment interaction and assessment. Application of their uses for outcomes assessment and improvement of college and university campus environments.

EDPL 6250. History of Higher Education in the United States 3 sem. hrs.
Basic history of the American college and university. Colonial foundations, private and state-controlled institutions, professional, technical, and graduate studies. Recent trends and issues in higher education.

EDPL 6260. Organizational Theory and Administration in Higher Education 3 sem. hrs.
Contemporary theories of organizational behavior and administration and their applications to institutions of higher education. Educational governance and leadership.

EDPL 6300. Classics in the Philosophy of Education 3 sem. hrs.
Selected texts from a number of ancient and contemporary thinkers significant in the philosophical and educational tradition. Analysis of ramifications for current educational theory and practice.

EDPL 6310. Contemporary Philosophies of Education 3 sem. hrs.
Contemporary philosophical approaches to educational problems and issues, including: pragmatist, analytic, existentialist, phenomenological, critical, hermeneutic, postmodern, and feminist.

EDPL 6330. Sociological Foundations of Education 3 sem. hrs.
Examination of theories and research in sociology and social anthropology which focuses on the individual as a member of society and schools and education within broader social structures.

EDPL 6350. Current Problems in American Higher Education 3 sem. hrs.
Examination of current issues in higher education and the assumptions underlying various positions on those issues.

EDPL 6360. Lifespan Development 3 sem. hrs.
A survey of major theories of human development that describes interaction among biological, psychological, sociocultural, cognitive, and moral factors from birth to death. Implications for educational institutions and teaching across the lifespan.

EDPL 6370. Catholic Theology and Education 3 sem. hrs.
History of philosophical theology in the Catholic tradition and its bearing upon educational theory and practice. Investigation into theological methods and principles and their implications for education through an examination of the thought of selected individuals representative of the Catholic heritage. Attention to such theologians as St. Augustine, St. Thomas Aquinas, St. Bonaventure, Duns Scotus, Newman, Rahner, and Lonergan. Specific problems confronting Catholic education today.

EDPL 6380. Motivation and Learning 3 sem. hrs.
Major theories of motivation (socialization of achievement motivation, expectancy-value, attributions, self-efficacy) and their relationship to learning and self-regulation in schools, institutions of higher education, and workplaces. Implications for teaching practice and research.

EDPL 6400. Practitioner Research Methods 3 sem. hrs.
Designing and conducting research for the purpose of improving educational practice. Emphasis on action research, qualitative and quantitative methods, conducting literature reviews, and proposal writing. *Prereq: At least 12 graduate credits including EDPL 6000; cons. of dept.*

EDPL 6410. Practitioner Research Practicum 3 sem. hrs.
Students design, conduct, write and present results of a practice-based research project. Addresses implications of practitioner research for curriculum, pedagogy, leadership and educational reform. *Prereq: Cons. of dept.*

EDPL 6420. Teacher as Leader 3 sem. hrs.
Survey of leadership theories and roles for teachers in schools. Skill development in group dynamics, motivation, communication and human relations. The teacher leader in relation to organizational change, decision-making, team-building and moral leadership.

EDPL 6440. Foundations of Curriculum Planning 3 sem. hrs.
Historical, philosophical, sociocultural, political, and economic forces which shape curriculum development and change. Theories of curriculum. Skill development in curricular planning and evaluation.

EDPL 6450. Theories of Learning Applied to Instruction 3 sem. hrs.
Survey of major theories of learning. Use of learning theory to analyze and critique curriculum and design learner-centered instruction and assessments.

EDPL 6460. Literacy and Children's Literature for the Primary Grades 3 sem. hrs.
Theory and practice in teaching reading, language arts, and children's literature from a developmental perspective to diverse lower elementary learners.

EDPL 6470. Literacy and Children's Literature for the Intermediate Grades 3 sem. hrs.
Theory and practice in teaching reading, language arts, and children's literature from a developmental perspective to diverse upper elementary learners.

EDPL 6480. Literature for Children and Adolescents 3 sem. hrs.
History and survey of literature for children and adolescents. Theoretical study and practical application of reader response, literary analysis, and current topics in the field of literature for children and adolescents.

EDPL 6490. Writing for Children and Adolescents 3 sem. hrs.
Theories and research on the writing process and current methods of teaching writing to elementary and secondary students.

EDPL 6500. Advanced Language Arts for Teachers 3 sem. hrs.
Current research-based methods, materials, and assessment designed for practicing K-8 reading and language arts teachers in the primary and intermediate grades.

EDPL 6560. Literacy Assessment and Instruction 3 sem. hrs.
Developmental theory of assessment and instruction with experience conducting assessment and planning of instruction and interventions to meet individual literacy needs of children and adolescents. *Prereq: EDUC 6020 and EDPL 6470.*

EDPL 6570. Literacy Leadership of Reading Programs 3 sem. hrs.
Analysis and evaluation of instructional programs in reading. Emphasis on aiding teachers and administrators in planning, organizing and implementing effective reading programs. Methods for involving parents and the community in developing and implementing the reading program. *Prereq: EDPL 6970.*

EDPL 6580. Psychology of Reading 3 sem. hrs.
Current theory and research on the psychological, neurophysiological, sociocultural, and educational factors that influence reading development and variation in reading development.
Prereq: EDPL 6460 and EDPL 6470 or equiv.

EDPL 6670. Faculty Roles in Higher Education 3 sem. hrs.
Seminar aimed at students planning academic careers in higher education. Focus on changes in traditional dimensions of teaching, research, and service in light of current research on teaching and learning; corporate influences on higher education; and current critiques of higher education.

EDPL 6680. Designing and Teaching Effective Courses in Higher Education 3 sem. hrs.
Seminar aimed at students planning academic careers in higher education. Focus on planning, delivering, and evaluating courses in higher education that produce significant student learning in light of current advances in cognitive science relevant to teaching and learning.

EDPL 6700. Organizational Theory and Administration in K-12 Schools 3 sem. hrs.
Contemporary theories of organizational behavior and administration and their applications to schools. Educational governance and leadership. To be taken toward the beginning of program.

EDPL 6707. Leadership Foundations of Private Education 3 sem. hrs.
Historical, philosophical, sociological, political and theological foundations of education for both sectarian and non-sectarian schools. Implications for a variety of leadership models.

EDPL 6710. Politics and Community Relations in Educational Organizations 3 sem. hrs.
Theoretical and practical dimensions of the sociocultural, economic and political forces affecting educational organizations and how educational leaders can respond and interact with them.

EDPL 6720. Business Administration of the Educational Organization 3 sem. hrs.
The various business management support functions and their impact on the delivery of educational services. School finance, theories of taxation, legislative and judicial context for school business management, human resource management and employee contract administration, information management systems and technology, budget planning, facilities management, and related topics.

EDPL 6730. History of Education in the United States 3 sem. hrs.
Examines the development of public education. Emphasizes contests over the proper role of schools in promoting equity, diversity, and democracy. Pays particular attention to how different groups experienced and shaped schools over time. Considers the relationship between the expansion of schooling and equal educational opportunity.

EDPL 6750. The Principalship 3 sem. hrs.
Leadership of the individual school. Operational tasks of the principal including policy formation, implementation, coordination, and evaluation of the general and special instructional programs. Leadership roles of the principal in regard to faculty, students, parents, and community.

EDPL 6800. American Law and the Educational Organization 3 sem. hrs.
The legal basis for American education; constitutional interpretations, court decisions and legislation affecting schools, school systems and institutions of higher education.

EDPL 6860. Supervision of Instruction 3 sem. hrs.
Models of supervision. Use of supervision to improve instruction. Developing the supervision program. Supervisory techniques. Evaluation in supervision.

EDPL 6870. The Theory and Design of Curriculum 3 sem. hrs.
Exploration, applications, and critique of current models of curriculum design. Emphasis on curricular decision making and implementation at the school district level. *Prereq: EDPL 6440 or EDPL 8440.*

EDPL 6931. Topics in Educational Policy and Leadership 1-3 sem. hrs.
In-depth study of educational concepts and theories in a broad area which, because of their topicality, are not the subject of a regular course. Specific topics will be designated in the *Schedule of Classes.*

EDPL 6953. Seminar in Analysis of Teaching 3 sem. hrs.
Use of current theories and research on teaching to examine and assess teaching practice.

EDPL 6955. Seminar in Educational Policy and Leadership 1-6 sem. hrs.
Graduate seminars on current topics in leadership and supervision of interest to the professional educator. S/U grade assessment.

EDPL 6965. Practicum in Student Affairs Leadership 1 3 sem. hrs.
Field application relating to educational leadership theory to applied practice of higher education leadership in a university-approved setting. Requires participation in an on-campus seminar. S/U grade assessment. *Prereq: Cons. of dept.*

EDPL 6966. Practicum in Student Affairs Leadership 2 3 sem. hrs.
Field application relating to educational leadership theory to applied practice of higher education leadership in a university-approved setting. Requires participation in an on-campus seminar. S/U grade assessment. *Prereq: EDPL 6965 and cons. of dept.*

EDPL 6970. Practicum: Literacy Assessment and Instruction 3 sem. hrs.
A practicum involving assessment and instruction of K-12 students at varying stages of reading development. *Prereq: EDPL 6560 and cons. of dept.*

EDPL 6975. Practicum in K-12 Literacy Leadership 1-3 sem. hrs.
A variety of school-based experiences in literacy leadership that can include the coaching of reading teachers, selection of curriculum and assessment materials, and development and delivery of in-service programs. S/U grade assessment.
Prereq: EDPL 6570.

EDPL 6980. Practicum in the Principalship 3 sem. hrs.
Field application relating to educational leadership theory to applied practice of the principalship in a university-approved setting. Requires participation in an on-campus seminar. S/U grade assessment.
Prereq: Cons. of dept.; 18 hours of educational leadership courses.

EDPL 6985. Practicum in Curriculum Leadership 3 sem. hrs.
Field application relating to educational leadership theory to applied practice of curriculum leadership in a university-approved setting. Requires participation in an on-campus seminar. S/U grade assessment. *Prereq: Cons. of dept.*

EDPL 6995. Independent Study in Education Policy and Leadership 1-3 sem. hrs.
Provides opportunities to investigate and study areas of interest through readings, research, field experience, projects, and/or other educational activities under the direction of a faculty adviser. Offered every term.
Prereq: Cons. of instr. and cons. of dept. ch. Graduate students must complete an approval form signed by the dept. ch. or designated representative.

EDPL 6997. Capstone in Educational Policy and Leadership 3 sem. hrs.
Critical analysis and discussion of significant issues confronting the contemporary educational leader. *Prereq: Cons. of dept.; at least 24 credits in educational leadership.*

EDPL 6999. Master's Thesis 1-6 sem. hrs.
S/U grade assessment.
Prereq: Cons. of dept. and cons. of instr.

EDPL 8000. The Superintendency 3 sem. hrs.
Leadership of the school district system. The roles played by the superintendent: board chief operating officer, visionary, motivator, risk-taker, communicator, lobbyist, etc.
Prereq: Master's degree and principal's certification.

EDPL 8010. Advanced Personnel Leadership 3 sem. hrs.
Comprehensive study of personnel services in the educational setting, including: recruitment, selection, compensation, staff development, collective bargaining, and employee contract administration.
Prereq: Cons. of dept.

EDPL 8020. Advanced Politics and Community Relations in Educational Organizations 3 sem. hrs.
Advanced study of theoretical and practical dimensions of the sociocultural, economic and political forces affecting educational organizations and how educational leaders can respond and interact with them.

EDPL 8030. Advanced Theory and Practice in Educational Finance 3 sem. hrs.
Advanced study of school and school district finance from theoretical, research, legal, and political perspectives with emphasis on implications for school district leadership.

EDPL 8040. Advanced Program Planning and Evaluation in Educational Settings 3 sem. hrs.
Exploration of theories, models, and current practices in leadership, planning, and assessment within educational organizations.

EDPL 8250. History of Higher Education in the United States 3 sem. hrs.
Basic history of the American college and university. Colonial foundations, private and state-controlled institutions, professional, technical, and graduate studies. Recent trends and issues in higher education.

EDPL 8260. Organizational Theory and Administration in Higher Education 3 sem. hrs.
Contemporary theories of organizational behavior and administration and their applications to institutions of higher education. Educational governance and leadership.

EDPL 8300. Classics in the Philosophy of Education 3 sem. hrs.
Selected texts from a number of ancient and contemporary thinkers significant in the philosophical and educational tradition. Analysis of ramifications for current educational theory and practice.

EDPL 8310. Contemporary Philosophies of Education 3 sem. hrs.
Contemporary philosophical approaches to educational problems and issues, including: pragmatist, analytic, existentialist, phenomenological, critical, hermeneutic, postmodern, and feminist.

EDPL 8330. Sociological Foundations of Education 3 sem. hrs.
Examination of theories and research in sociology and social anthropology which focuses on the individual as a member of society and schools and education within broader social structures.

EDPL 8350. Current Problems in American Higher Education 3 sem. hrs.
Examination of current issues in higher education and the assumptions underlying various positions on those issues.

EDPL 8370. Catholic Theology and Education 3 sem. hrs.
History of philosophical theology in the Catholic tradition and its bearing upon educational theory and practice. Investigation into theological methods and principles and their implications for education through an examination of the thought of selected individuals representative of the Catholic heritage. Attention to such theologians as St. Augustine, St. Thomas Aquinas, St. Bonaventure, Duns Scotus, Newman, Rahner, and Lonergan. Specific problems confronting Catholic education today.

EDPL 8440. Foundations of Curriculum Planning 3 sem. hrs.
Historical, philosophical, sociocultural, political, and economic forces which shape curriculum development and change. Theories of curriculum. Skill development in curricular planning and evaluation.

EDPL 8450. Theories of Learning Applied to Instruction 3 sem. hrs.
Survey of major theories of learning. Use of learning theory to analyze and critique curriculum and design learner-centered instruction and assessments.

EDPL 8700. Organizational Theory and Administration in K-12 Schools 3 sem. hrs.
Contemporary theories of organizational behavior and administration and their applications to schools. Educational governance and leadership.

EDPL 8707. Leadership Foundations of Private Education 3 sem. hrs.
Historical, philosophical, sociological, political and theological foundations of education for both sectarian and non-sectarian schools. Implications for a variety of leadership models.

EDPL 8710. Multiple Paradigms in Educational Research 3 sem. hrs.
Examination of educational research and knowledge within a philosophy of science framework. Study of competing epistemologies and how they shape and are shaped by the practice of education. Focus on use of empirical-analytic, interpretive and critical paradigms for critiquing, conceptualizing and conducting educational research.

EDPL 8715. Interpretive and Critical Research in Education 1 3 sem. hrs.
Theory and rationale of qualitative research methods in the social sciences. Historical research, case studies, field studies, non-invasive approaches. Data gathering and analysis procedures.
Prereq: EDPL 8710 or equiv.

EDPL 8720. Interpretive and Critical Research in Education 2 3 sem. hrs.
Building on the understanding and skills developed in EDPL 8715, students conduct, interpret and present in written and oral form a course-long research project. Addresses a range of research issues and problems as they emerge in students' works-in progress. *Prereq: EDPL 8710 and EDPL 8715 or equiv.*

EDPL 8730. History of Education in the United States 3 sem. hrs.
Examines the development of public education. Emphasizes contests over the proper role of schools in promoting equity, diversity, and democracy. Pays particular attention to how different groups experienced and shaped schools over time. Considers the relationship between the expansion of schooling and equal educational opportunity.

EDPL 8800. American Law and the Educational Organization 3 sem. hrs.
The legal basis for American education; constitutional interpretations, court decisions and legislation affecting schools, school systems and institutions of higher education.

EDPL 8870. The Theory and Design of Curriculum 3 sem. hrs.
Exploration, applications and critique of current models of curriculum design. Emphasis on curricular decision-making and implementation at the school district level. *Prereq: EDPL 6440 or EDPL 8440.*

EDPL 8880. Current Issues in Educational Policy and Leadership for the District Administrator 3 sem. hrs.
Guided research and discussion of significant issues confronting educational leaders.

EDPL 8953. Seminar in Analysis of Teaching 3 sem. hrs.
Use of current theories and research on teaching to examine and assess teaching practice.

EDPL 8955. Seminar Social Contexts and Educational Policy 1 3 sem. hrs.
Examines significant historical and sociological texts pertinent to understanding matters of race and education.

EDPL 8956. Seminar Social Contexts and Educational Policy 2 3 sem. hrs.
Examines the claims of influential texts that promote various policies meant to expand equality of educational opportunity.

EDPL 8959. Seminar Research on Teacher Education 3 sem. hrs.
Study and analysis of current research on preparation and professional development of teachers.
Prereq: EDPL 6450 or EDPL 8450.

EDPL 8960. Dissertation Proposal Seminar 3 sem. hrs.
Systematic exploration of the process and production of the dissertation proposal, including refinement of dissertation question(s), a focused literature review, and draft of a proposal text. S/U grade assessment. *Prereq: Cons. of dept.; 33 credits in the doctoral program.*

EDPL 8965. Advanced Practicum in Educational Leadership 3 sem. hrs.
Field application relating educational administrative theory to the applied practice of educational administration at the system or college level. Participants must be in a university-approved setting and must participate in an on-campus seminar. S/U grade assessment. *Prereq: Cons. of dept.*

EDPL 8995. Independent Study in Education Policy and Leadership 1-3 sem. hrs.
Provides opportunities to investigate and study areas of interest through readings, research, field experience, projects, and/or other educational activities under the direction of a faculty adviser. Offered every term.
Prereq: Cons. of instr. and cons. of dept. ch. Graduate students must complete an approval form signed by the dept. ch. or designated representative.

EDPL 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept.; cons. of instr.

EDPL 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

EDPL 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept.

ELECTRICAL AND COMPUTER ENGINEERING (EECE)

Chairperson and Professor: Yaz
Associate Chair and Adjunct Associate Professor: Jacoby
Director of Graduate Studies and Associate Professor: Johnson
Director of Undergraduate Studies and Associate Professor: Schneider
Professor: Arkadan *(Research)*, Corliss, Demerdash, Heinen *(Emeritus)*, Heinrich, Hock *(Emeritus)*, Ishii *(Emeritus)*, Jaskolski, Jeutter, Josse, Joshi, Seitz *(Emeritus)*
Associate Professor: Brown, Feng, Povinelli, Richie, Reidel
Assistant Professor: Lee
Adjunct Professor: Datskos, Pistré
Adjunct Associate Professor: Ahamed, Davis, Ionel, Schmidt
Adjunct Assistant Professor: Brylow, Deibele, Frigo, Kelnhofer, Perez
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science; Doctor of Philosophy; Certificate

MISSION STATEMENT

The Department of Electrical and Computer Engineering embraces the missions of Marquette University and its College of Engineering. The mission of the Department of Electrical and Computer Engineering is to offer its students high quality, up-to-date, nationally-recognized programs in electrical and computer engineering that prepare them for successful careers. This success is marked by a commitment to lifelong learning and a deep concern for the impact of their work on others, research that advances the frontiers of technical and scientific knowledge, and service to professional and civic communities.

SPECIALIZATIONS

M.S., Ph.D.: No formal specializations offered; however, students may focus their course work in one or more of the following areas: *Antennas and Propagation, Computational and Artificial Intelligence, Control Systems, Electric Drives and Power Electronics, Materials Science, MEMS, Ultrasonic MEMS, Bio-MEMS, and Nanoscale Devices, Microwaves, Nonlinear Dynamics, Power Systems and Devices, Signal Processing, Smart Sensor Systems, and/or Solid-state and Acoustic Wave Device Sensors (Biochemical Sensors and Biosensors).*

Certificate: Digital Signal Processing; Electric Machines, Drives, and Controls; Microwaves and Antennas; Sensors and Smart Sensor Systems

PROGRAM DESCRIPTIONS

CERTIFICATE PROGRAMS

The Department of Electrical and Computer Engineering offers four non-degree graduate certificate programs. The certificate programs are designed for practicing engineers and other qualified individuals with bachelor's degrees who wish

to update and/or expand their knowledge in specific technical areas, but do not necessarily wish to pursue a master's or doctoral degree.

DEGREE PROGRAMS

The master of science and doctor of philosophy degree programs are designed to provide graduate students with both broad fundamental knowledge and up-to-date information on current and emerging technologies. Students may enroll on either a full-time or part-time basis (with the exception of the one-year residency requirement for doctoral students). Doctoral students and research-oriented master's students engage in research activities under the close supervision of their advisers, gradually learning to become independent researchers. Their projects often are supported by government and industry grants. Courses and research activities make significant use of the department's extensive laboratory and computer facilities. Graduates find employment in industry, research facilities, government, and academia.

PREREQUISITES FOR ADMISSION

Applicants should have graduated with, or be about to graduate with, a baccalaureate degree in an appropriate area of study from an accredited institution.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. *(For doctoral applicants only)* a brief statement of purpose.
5. *(For doctoral applicants only)* submission of any English-language publications authored by the applicant is optional, but strongly recommended; this includes any master's thesis or essay that the applicant may have written.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
7. *(For non-degree certificate applicants only)* a certificate course work planning form, prepared in consultation with an adviser from the department.
8. *(For doctoral and all international applicants)* GRE scores (General Test only).
9. The GRE also is recommended for, and may be requested of, master's applicants with undergraduate grade point averages less than 3.000 out of 4.000.

GENERAL INFORMATION

All admitted students are required to obtain and read the department's *Graduate Student Handbook*, which contains complete details about the electrical and computer engineering programs and additional departmental degrees. This handbook is available through the Electrical and Computer Engineering Office, (414) 288-6820, and on the department's graduate programs Web page.

BACHELOR'S–MASTER'S PROGRAM

This program allows students to earn both their master of science degree in electrical and computer engineering and a bachelor of science degree in just five years. Students currently enrolled in the undergraduate electrical and computer engineering program at Marquette University (with a GPA of 3.500 or above) may apply for admission to the five-year program during their junior year. Students must submit an application to the Graduate School, indicate their interest in the five-year program, and meet all other admission criteria as stated in the Application Requirements section.

Students may take master's level courses in their junior or senior undergraduate year, depending upon their program. Up to nine credits count toward both degrees. The remaining courses and credits toward the master of science degree are completed during the fifth year. For students following Plan A, work on the thesis research should ideally begin the summer between the junior and senior undergraduate years. Students will continue to gain research experience during the summer between the senior and fifth year, continuing through the final year, culminating in preparation of a written thesis and defense. Master's degree programs following Plan B (course option) can also be completed in five years.

CERTIFICATE REQUIREMENTS

Each graduate certificate program requires completion of four courses (12 credits) selected from a prescribed list of courses pertinent to the area of study. All courses taken must be approved for graduate credit, and at least two of the courses must be strictly graduate level (courses numbered 6000 or above). Students must complete all courses within a three-year time period and must earn a grade point average of at least 3.000 with no grade below a C.

DIGITAL SIGNAL PROCESSING (12 credits)
EECE 5510, 5650, 5860, 5870, 6010, 6020, 6510, 6520, 6530, 6540, 6820, 6830, and/or 6840.

ELECTRIC MACHINES, DRIVES, AND CONTROLS (12 credits)
EECE 5210, 5240, 5250, 5310, 5320, 6010, 6020, 6210, 6220, 6230, 6310, 6320, and/or 6330.

MICROWAVES AND ANTENNAS (12 credits)
EECE 6010, 6020, 6110, and 6120.

SENSORS AND SMART SENSOR SYSTEMS (12 credits)
EECE 5460, 6010, 6020, 6420, 6430, and/or 6450.

MASTER'S REQUIREMENTS

Master's students may pursue either a thesis program or a non-thesis program. By the end of the first semester of study, all master's students must choose whether they wish to select Plan A (thesis option) or Plan B (course option), identify an adviser, and work with their adviser to fill out a Master's Program Planning Form. All master's students must successfully complete, early in their programs of study, two required courses: EECE 6010 Advanced Engineering Mathematics, and EECE 6020 Probability and Random Processes in Engineering.

In Plan A (thesis option), a student must complete 24 credit hours of course work, plus six credit hours of thesis work, submit an approved thesis, and pass a final oral comprehensive examination (thesis defense). At least 18 credit hours of the program (exclusive of thesis) must be in EECE. In addition, at least 12 credit hours (exclusive of thesis) must be taken at the 6000-level, including at least 9 credit hours at the 6000-level in EECE.

In Plan B (course option), a student must complete 30 credit hours of course work, and pass a final written comprehensive exam. At least 21 credit hours of the program must be in EECE. In addition, at least 18 credit hours must be taken at the 6000-level, including at least 12 credit hours at the 6000-level in EECE. The remaining courses in either program may be selected from those eligible for graduate credit, in accordance with an overall plan of study and with approval from the student's adviser.

DOCTORAL REQUIREMENTS

All doctoral students must successfully complete, early in their programs of study, two required courses: EECE 6010 Advanced Engineering Mathematics, and EECE 6020 Probability and Random Processes in Engineering.

A master of science degree or equivalent in an appropriate field of study is required for admission to the EECE doctoral program. Applicants with bachelor's degrees must first be admitted to and successfully complete the master of science degree program and may then continue into the doctoral program.

The doctoral program requires a total of 24 post-master's credit hours of course work, plus an additional 12 dissertation credits. Courses must form a cohesive overall plan of study as determined mutually by each student and his or her adviser. Although there are no formal course requirements beyond EECE 6010 and EECE 6020, the requirements of the doctoral qualifying exam, described in the *Graduate Student Handbook*, should be considered carefully in selecting an appropriate program of study.

COURSE DESCRIPTIONS

EECE 5015. Advanced Electrical Engineering Laboratory 3 sem. hrs.
Project-based laboratory experience in the design, assembly and testing of advanced electronic and electrical systems. Course content announced prior to each term. Students may enroll in the course more than once as the content of the course changes. Possible topics for the advanced laboratory experience include, but are not limited to: advanced electromagnetic system design, optical and high frequency electronics, nonlinear control systems, motor control circuits and systems, power electronics, communications circuits, integrated microelectronic circuit design and fabrication (VLSI), advanced analog system design, advanced digital system design, microprocessor system-level design. Instruction and use of the appropriate test and measurement tools for design, assembly and testing of systems. Offered spring term. Two hrs. lec., 2 hrs. lab. *Prereq: Cons. of instr.*

EECE 5090. Developments in Electronics 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include laser electronics, optoelectronics and photonics, RF circuit design, SOC design.
Prereq: Cons. of instr. or grad. stndg.

EECE 5130. Antenna Theory and Design 3 sem. hrs.
Design and use of antennas of varying types, including wire, broadbands, horn, and reflector antennas in transmitting and receiving applications. The application and design of antenna arrays, and an introduction to diffraction theory. Design elective.

EECE 5150. Applied Finite Elements in Electromagnetics 3 sem. hrs.
Introduction to finite element (FE) analysis as applied to linear and static electromagnetic field problems. Review of basic field formulations using Maxwell's electromagnetic field equations, solution of boundary value problems using the finite difference methods, FE formulations, assembly of elemental and global matrices, pre-processing, post-processing. Application of the FE method using one-dimensional and two-dimensional elements, magnetostatic and electrostatic analysis, and the use of commercially available software packages.

EECE 5190. Developments in Electromagnetics 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include wireless and microwave components and systems, electromagnetic compatibility, radio wave propagation. *Prereq: Cons. of instr. or grad. stndg.*

EECE 5210. Design and Analysis of Electric Motor-Drive Systems 3 sem. hrs.
Principles of design of AC and DC electric machines, in particular design of electric motors in power electronically controlled adjustable speed drives, torque and power to volume analysis under constant volts per hertz torque-speed control. Covers design of AC induction, synchronous, universal and DC conventional as well as brushless DC motors, and low horsepower motors in adjustable speed drives. Covers effects of space and time harmonics on motor design and performance including harmonic abatement for control of torque pulsation. Studies and uses modern modeling techniques throughout. Design elective.

EECE 5220. Power Electronics for Renewable Energy Systems 3 sem. hrs.
Fundamental concepts, techniques, and methods for design and analysis of power electronic systems. Modeling of semiconductor switching devices for use in power electronic systems. Practical aspects and power electronic conversion techniques for rectifiers, DC-to-DC converters, DC-to-AC inverters and their applications in power electronic systems. Design elective.

EECE 5230. Electric Energy Systems Analysis 3 sem. hrs.
Elements of electric power systems; fundamental concepts and techniques for design and analysis; per unit system; load flow; economic dispatch; symmetrical components; balanced and unbalanced fault calculations, system instrumentation and power system protection. Design elective.

EECE 5240. Protection and Monitoring of Electric Energy Systems 3 sem. hrs.
Principles of design of relay and sensor systems for detection of faulty operating conditions in electric generators, transformers, power transmission lines, motors and other loads in power systems. Balanced and unbalanced faults include single and multiple unbalances. Design and hierarchical coordination of protection systems for interconnected generation, transmission and distribution facilities in power systems, which includes integrated generator-transformer-busbar-transmission line-load protection, and analysis of operation under fault conditions. Design elective.

EECE 5250. Transients in Electric Energy Systems and Devices 3 sem. hrs.
Studies microsecond fast transients in power systems and devices resulting from lightning strokes, switching surges in power systems and devices, as well as impulse surges resulting from pulse width modulation in modern adjustable speed drives, using distributed parameter models and analysis of transmission lines and windings of transformers, generators and motors. Studies successive reflections, transition points, wavefront flattening techniques and surge arrestor design applications for voltage buildup reduction and control. Includes polyphase multi-velocity multi-conductor system transients. Design elective.

EECE 5290. Developments in Energy and Power 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include electronics for machine and drive systems, electrical transients, faults and diagnostics and protection in power devices and systems, renewable energy systems and advanced topics in the electric power engineering area.
Prereq: Cons. of instr. or grad. stndg.

EECE 5310. Control Systems 3 sem. hrs.
Review of continuous-time linear systems. Time-domain system analysis. Time-domain design of lead/lag and PID controllers. Root-Locus technique. Frequency-domain system analysis including Nyquist, Bode, and Nichols analysis and relative stability. Frequency-domain design/lag and PID controllers. Design elective.

EECE 5320. Digital Control Systems 3 sem. hrs.
Review of sampling processes, discrete time linear systems analysis and z-transform. Discrete time and sampled data state-variable analysis. Stability analysis, time domain and frequency-domain analysis and design. Analysis, design and computer implementation of digital algorithms and control systems. Design elective.

EECE 5390. Developments in Control 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include optimal, adaptive and robust control methods, digital control and nonlinear systems.
Prereq: Cons. of instr. or grad. stndg.

EECE 5410. Integrated Microelectronic Circuits 3 sem. hrs.
Basic processing technology of integrated circuits, passive components and their parasitic effects, MOS transistors, bipolar transistors and diodes, design of silicon integrated circuits. Emphasizes the design of circuits to meet given requirements. Design elective.

EECE 5450. Surface Acoustic Wave Devices 3 sem. hrs.
Studies the theory and applications of surface acoustic wave devices. Major topics covered include: theory of surface and other acoustic wave modes; design, analysis, and performance of interdigital devices; SAW bandpass filters; oscillators and sensors; and applications of SAW devices in wireless communications. Design elective.

EECE 5460. Sensor Devices: Theory, Design and Applications 3 sem. hrs.
Sensor classification and transduction principles. Fundamental principles and theory of operation of various types of sensors, based on various technologies which include: optical, electrical, acoustical, thermal, magnetic, mechanical and chemical. Analysis of sensor signals. Study of sensor characteristics which include hysteresis, non-linearity, saturation, repeatability, sensitivity, selectivity and resolution. Design and practical implementations of various sensors for scientific, industrial and consumer applications. Design elective.

EECE 5490. Developments in Devices 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include: optoelectronic devices, nano-scale devices, solid-state devices, integrated electronic devices, power devices, electro-mechanical devices, quantum devices. *Prereq: Cons. of instr. or grad. stndg.*

EECE 5510. Digital Signal Processing 3 sem. hrs.
Mathematical descriptions of discrete-time signals and systems are presented using block diagrams, signal flow graphs, and difference equations. Presents the sampling and reconstruction of continuous-time signals. Covers frequency analysis techniques, including the z-transform, the Discrete Fourier Transform, and the Fast Fourier Transform. Presents simple digital filter design examples. Design elective.

EECE 5550. Developments in Signal Processing 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include: filter design, DSP hardware, nonlinear signal processing and multi-dimensional signal processing. *Prereq: Cons. of instr. or grad. stndg.*

EECE 5560. Introduction to Communication Systems 3 sem. hrs.
Orthogonality and signal representation. The Fourier transform and applications, power spectral density, amplitude modulation, angle modulation, pulse modulation, frequency modulation and digital transmission.

EECE 5565. Optical Fiber Communications 3 sem. hrs.
Introduces and develops fundamental principles and theories of optical fiber systems. Review of electromagnetic principles of wave-guides. Step-Index and Graded-Index, single and multimode fibers. Signal analysis in optical fibers: mode interaction, attenuation, dispersion and pulse spreading. Operating characteristics of optical sources and photo-receivers with impact on system performance. Coupling to a fiber and distribution system. Optical fiber communication system design. Design elective.

EECE 5570. Wireless Communications 3 sem. hrs.
Fundamentals, analysis and design of cell systems, including trunking theory and grade of service. Large scale and small scale path loss analysis and modeling. Overview of modulation techniques, including amplitude and frequency modulating, and digital modulation techniques. Design elective.

EECE 5590. Developments in Communications 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include digital modulation and detection, coding theory, information theory.
Prereq: Cons. of instr. or grad. stndg.

EECE 5610. Object-Oriented Software Engineering 3 sem. hrs.
Presents advanced software engineering concepts in the context of object-oriented analysis and design. Topics include: issues and applications, requirements engineering, software specifications, modeling notations, software quality, testing and correctness, software reuse, and reverse engineering. Design elective in the area of software.

EECE 5620. Modern Programming Practices 3 sem. hrs.
Explores advanced topics in computer programming. Topics may include: design patterns, advanced graphical components, software component models such as Java Beans, the Java Security model, Java and databases, servlets, Java Server Pages, and Enterprise Java Beans. Design elective in the areas of applications and software.

EECE 5630. Software Testing 3 sem. hrs.
Examines the relationship of software testing to quality, emphasizing testing techniques and the role of testing in the validation of system requirements. Topics include: module and unit testing, integration, walkthroughs and inspections, verification and validation, preventing and detecting errors, selecting and implementing project metrics, and defining test plans and strategies traced from system requirements. Design elective in the areas of applications and software.

EECE 5650. Introduction to Algorithms 3 sem. hrs.
Introduction to the algorithms analysis. Topics to be covered include: the concepts of time and space complexity, advanced data structures, general issues in problem solving methodologies, greedy algorithms, dynamic programming, graph algorithms, AI-related algorithms, and an introduction to NP-completeness theory. Design elective in the area of intelligent systems.

EECE 5690. Developments in Computer Software 3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. Design elective.
Prereq: Cons. of instr.

EECE 5710. Computer Hardware 3 sem. hrs.
Overview of computer system design. Cost and performance specification. Design of arithmetic and logic units. Fundamentals of central processor architecture and a comparative study of computer instruction set architectures. Detailed study of microprocessors, including instruction execution timing and other timing considerations. Discussions of memory and I/O devices, including the interfaces to the CPU and I/O transfer techniques. Study of common bus standards. Design elective. Offered spring term.

EECE 5730. Computer Architecture 3 sem. hrs.
Review of basic computer architecture. Evaluation of architecture performance. Design and evaluation of instruction sets. Pipeline processors and instruction scheduling. Vector processors. Memory hierarchy and design including cache, main and virtual memories. Memory protection schemes. Input/output and its relation to system performance. Design elective in the area of hardware.

EECE 5760. Developments in Computer Hardware 3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. Design elective.
Prereq: Cons. of instr.

EECE 5790. Developments in Computer Hardware 3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. Design elective.
Prereq: Cons. of instr.

EECE 5810. Database Applications 3 sem. hrs.
Presents the design and application of databases. Topics include: models for databases, database query languages, database design methods, methods for storing and retrieving information from a database, database optimizations, transaction processing, and a brief examination of some advanced concepts, including object databases, distributed databases and database security. Design elective in the area of applications.

EECE 5820. Operating Systems and Networking 3 sem. hrs.
Introduces the fundamental concepts of operating systems together with the basics of networking and communications including: memory management, scheduling, concurrent processing, device management, file systems, networking, security, and system performance. Examples are drawn from legacy and modern operating systems. Design elective.

EECE 5830. Introduction to Computer Graphics 3 sem. hrs.
Introduction to computer graphics algorithm design and implementation; includes considerable actual computer graphics experience. Topics include: point-plotting and line-drawing techniques, two-dimensional curve fitting, two- and three-dimensional graphics, clipping, windowing, hidden line removal, modeling, input-output devices, and other topics as future trends dictate. Design elective in the area of applications. *Prereq: Proficiency in at least one high-level computing language.*

EECE 5840. Computer Security 3 sem. hrs.
Introduction to the important issues in computer security, including cryptography, program security, operating system security, database security, and network security. Also discusses the legal, ethical and privacy issues that arise in computer security. Programming projects enable the student to practice implementing many of the security measures discussed in class. Design elective in the areas of software, intelligent systems and applications.

EECE 5850. Introduction to Intelligent Systems 3 sem. hrs.
Provides a broad exposure to intelligent systems, including related fields such as artificial and computational intelligence. Topics include: intelligent agents, search, game playing, propositional logic and first-order predicate calculus, uncertainty, learning, communication and perception, and philosophical foundations of intelligent systems. Design elective in the area of intelligent systems.

EECE 5860. Introduction to Neural Networks and Fuzzy Systems 3 sem. hrs.
Concepts of neural network architectures training algorithms, supervised and unsupervised learning, linear and non-linear neural networks, feedback neural networks, applications in scientific and engineering areas, fundamentals of fuzzy sets, and fuzzy logic, fuzzy rules and inference systems, fuzzy pattern classification and clustering analysis, and fuzzy control systems. Design elective in the area of intelligent systems.

EECE 5870. Evolutionary Computation 3 sem. hrs.
Studies a set of search methods based on the Darwinian principle of survival of the fittest. The methods include genetic algorithms, evolutionary strategies, and evolutionary and genetic programming, which have been successfully applied to many different problem domains including optimization, learning, control, and scheduling. Provides students with the background and knowledge to implement various evolutionary computation algorithms, discusses trade-offs between different evolutionary algorithms and other search methods, and discusses issues related to the application and performance evaluation of evolutionary algorithms. Design elective in the area of intelligent systems.

EECE 5890. Developments in Computing 1-3 sem. hrs.
Course content announced prior to each term. Students may enroll in the course more than once as subject matter changes. May be taught in traditional lecture format or as a seminar which focuses on readings from current literature. Possible topics include: advanced hardware (MPP, EPIC, VLIW), advanced software (enterprise systems, embedded software, real-time software) and advanced intelligent systems. *Prereq: Cons. of instr. or grad. stndg.*

EECE 6010. Advanced Engineering Mathematics 3 sem. hrs.
Linear algebra and matrix theory, ordinary differential equations, partial differential equations, and complex variables emphasizing both theoretical and numerical aspects as well as engineering applications. Offered fall term. *Prereq: MATH 2451 or equiv.; proficiency in computer programming.*

EECE 6020. Probability and Random Processes in Engineering 3 sem. hrs.
Probability, random variables, statistics, and random processes, emphasizing both theoretical and numerical aspects as well as engineering applications. Offered spring term. *Prereq: MATH 2451 or equiv.; proficiency in computer programming.*

EECE 6090. Advanced Engineering 1
3 sem. hrs.
Mathematics, image processing, signal processing, image reconstruction, and imaging systems in medical imaging applications. Offered fall term at the General Electric Medical Systems facility. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course.
Prereq: Cons. of instr.; GE employee.

EECE 6092. Advanced Engineering 2
3 sem. hrs.
Problem solving methodology, software engineering tools and environment (typical topics: UNIX, C, data structures, object oriented paradigm, programming strategies), and hardware engineering tools (typical topics: analog and digital CAD, PALs, VME, applications). EECE 6092 and EECE 6810 may not both be used to meet degree requirements. Offered spring term at the General Electric Medical Systems facility. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course.
Prereq: Cons. of instr.; GE employee.

EECE 6094. Advanced Engineering 3
3 sem. hrs.
Covers advanced concepts in medical imaging and systems. Offered spring term at the General Electric Medical Systems facility. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course.
Prereq: Cons. of instr.; GE employee.

EECE 6110. Advanced Electromagnetic Fields
3 sem. hrs.
Solutions of Laplace and Poisson equations arising from electro and magneto static field configurations. Separation of variables, numerical relaxation, and conformal mapping techniques. Offered alternate years. *Prereq: EECE 3110.*

EECE 6120. Electromagnetic Theory
3 sem. hrs.
Review of Maxwell's equations and waves in dielectric and lossy media; image theory, induction theorem and Green's function. Plane, cylindrical and spherical wave functions; radiation and antennas; rectangular, cylindrical waveguides and cavities; spherical cavities. Perturbation and variation techniques and moment techniques.
Prereq: EECE 3120.

EECE 6130. Numerical Techniques in Electromagnetics 3 sem. hrs.
Introduction and overview of numerical methods in electromagnetics, focusing on high frequency methods. Topics covered include: a review of analytic methods and the generalized multipole technique, finite difference methods, variational techniques, and the solution to integral equations via the method of moments. *Prereq: ELEN 3120 and MATH 2451.*

EECE 6210. Advanced Electric Machines and Drives 3 sem. hrs.
Machine construction and characterization. Development and application of transformation theory to synchronous and induction machines to predict machine performance under steady state and abnormal conditions. Modeling of permanent magnet and switched reluctance machines as well as other advanced machine systems. Dynamic performance prediction of electric machines and associated power electronics using equivalent network models and computer simulations. *Prereq: ELEN 3210 and MATH 2451.*

EECE 6220. Advanced Concepts in the Design and Modeling of Electric Machines and Drives 3 sem. hrs.
Presents advanced concepts and methodologies in designing and modeling modern electric machines controlled and operated from electronically switched electric drives. Involves methods of analysis and computation of the adverse synergistic effects which occur between the space harmonics generated in electric machinery due to magnetic circuit topologies, time harmonics generated by electronic switching in the controllers/drives, and the impact of this synergism on losses, efficiency, torque quality and other performance issues. Includes full and rigorous analysis and inclusion of such space harmonics, and time harmonics. Studies, in detail, methods of mitigation or elimination of these effects using advance modeling concepts and tools. Offered spring term of even years.
Prereq: ELEN 3210 or equiv.

EECE 6230. Finite Element Analysis
3 sem. hrs.
Basic field formulations using Maxwell's electromagnetic field equations. General definitions and formulations of finite element discretization. Consideration of applications and method implementation. Application of the finite element method to engineering and design problems. Post processing, practical aspects and other considerations. Application of method involves the use of commercially available software packages as well as computer code developed during this course. *Prereq: MATH 2451; and proficiency in computer programming.*

EECE 6310. Modern Control Theory 3 sem. hrs.
Review of linear algebra and matrices. State variable analysis of continuous-time and discrete-time systems. Controllability and observability of linear systems. Stability of linear and nonlinear systems. Design of feedback control systems. Introduction to optimal control theory. Offered alternate years.
Prereq: EECE 6010 which may be taken concurrently; or MEEN 6101 which may be taken concurrently.

EECE 6320. Optimal Control 3 sem. hrs.
Presents an in-depth understanding of the problems in optimal control theory and their applications. Presents calculus of variations, linear quadratic regulator design, dynamic programming, time-optimal, and output feedback regulating and tracking optimal control techniques for continuous-time systems. Presents discrete-time techniques for calculus of variations, linear quadratic tracking, output feedback optimal control, and time-optimal control. Also presents optimal observers.
Prereq: EECE 6010 and EECE 6310.

EECE 6330. Nonlinear and Adaptive Control
3 sem. hrs.
Review of state space and modern control theory with emphasis on stability, convergence, and robustness. Lyapunov stability and advanced stability theory. Nonlinear systems analysis, feedback linearization, and sliding mode control. Real-time parameter identification and adaptive observers. Continuous-time and discrete-time self-tuning regulators and model-reference adaptive systems. Introduction to system identification and adaptive control using artificial neural networks.
Prereq: EECE 6010 and EECE 6310.

EECE 6340. Stochastic Systems Estimation and Control 3 sem. hrs.
Modeling probabilistic dynamical behavior with stochastic systems. Analysis of behavior of linear continuous and discrete time systems via simulation and analytical methods. Filter construction for state and parameter estimation using noisy and incomplete measurements for linear and nonlinear systems and measurements models. Design of optimal controllers based on quadratic criteria for linear stochastic systems. *Prereq: Cons. of instr.*

EECE 6420. Infrared and Photonics Sensors: Theory and Applications 3 sem. hrs.
Fundamentals of infrared (IR) technology. Performance capabilities and operational limitations of IR and photonic devices and sensors. Principles and theory of IR radiation. Analysis of transmission characteristics of optical signals through the atmosphere: effects of scattering, absorption and diffraction as a function of atmospheric parameters. IR sources and detectors. Passive and active IR devices, components and sensors. IR-based and photonic-based sensors; applications to environmental sensing, biotechnology and medical analysis, space and surveillance systems. IR signature analysis. Aspects of advanced IR and photonic technologies with possible performance improvements.
Prereq: ELEN 3110; basics of solid-state physics; or cons. of instr.

EECE 6430. Microelectromechanical Systems and Sensors 3 sem. hrs.
Overview of microelectromechanical-MEMS-transducers and sensors. Basic engineering sciences and fundamental principles relevant to mechanical sensors and micromachined mechanical transducers. Mathematical models and design of microelectromechanical systems. Microfabrication techniques, materials and processes. Mechanical transduction techniques, pressure sensors, force and torque sensors, inertial sensors, flow sensors, micromachined resonant sensors, micromachined chemical sensors.
Prereq: Basics of electromagnetics and solid-state physics; or cons. of instr.

EECE 6450. Surface-Acoustic-Wave Devices
3 sem. hrs.
Theory of surface and other acoustic modes; design, analysis, and performance of interdigital devices; multistrip couplers; SAW resonators; dispersive delay lines; system applications; current research areas. *Prereq: ELEN 3020 and ELEN 3110.*

EECE 6510. Optimal and Adaptive Digital Signal Processing 3 sem. hrs.
Optimal and adaptive digital signal processing techniques including spectral estimation, Wiener filters, linear prediction, Kalman filters, steepest descent and least mean square algorithms, and least squares and recursive least squares estimation.
Prereq: EECE 5510 and EECE 6020.

EECE 6520. Digital Processing of Speech Signals 3 sem. hrs.
Fundamentals of speech processing; models of the speech production system; and digital representations of the speech waveform. Time domain and frequency domain speech analysis. Other topics include homomorphic speech processing, linear predictive coding of speech, and digital speech processing for man-machine voice communications. Offered alternate years.
Prereq: EECE 5510; or cons. of instr.

EECE 6530. Chaos and Nonlinear Signal Processing 3 sem. hrs.
Investigates recent research in nonlinear signal processing, temporal data mining, and chaos. Examines methods for finding hidden structures in signals and time series, which are found using techniques such as phase space reconstruction, clustering, neural networks, and genetic algorithms. Example application areas include motor diagnostics, heart arrhythmia classification speech recognition and financial time series prediction. Discusses topics mentioned above along with machine learning, time series analysis, adaptive signal processing, wavelets, and nonlinear dynamics. *Prereq: EECE 5510.*

EECE 6540. Digital Image Processing 3 sem. hrs.
Theory and practice of image digitization, processing, coding and analysis. Representations of images, image models. Techniques of image enhancement and restoration. Image compaction and coding. Segmentation and image understanding.

EECE 6560. Information and Coding Theory 3 sem. hrs.
Introduction to information measure, mutual information, self-information, entropy, encoding of information, discrete and continuous channels, channel capacity, error detection, error correcting codes, group codes, cyclic codes, BCH codes, convolution codes, and advanced codes. Offered alternate years.

EECE 6710. Computer Architecture 3 sem. hrs.
Review of basic computer architecture. Evaluation of architecture performance. Design and evaluation of instruction sets. Pipeline processors and instruction scheduling. Vector processors. Memory hierarchy and design, including cache, main and virtual memories. Memory protection schemes. Input/output and its relation to system performance. Offered fall term. *Prereq: COEN 5710.*

EECE 6810. Algorithm Analysis and Applications 3 sem. hrs.
Introduction to the analysis of algorithms. Topics include: asymptotic complexity notation, recursion analysis, basic and advanced data structures, sorting methodologies, dynamic programming, and graph algorithms, including heuristic search techniques such as best-first and A-star algorithms. Advanced topics include NP-completeness theory and linear programming. *Prereq: EECE 2710 or equiv. and MATH 1451 or equiv.; or EECE 2710 or equiv. and COSC 2010 or equiv. and MATH 1451 or equiv.*

EECE 6820. Artificial Intelligence 3 sem. hrs.
Introduction to artificial intelligence and expert systems. Knowledge presentation and the knowledge base. Knowledge acquisition inference engines. Forward and backward chaining. Case-based reasoning and hybrid expert systems. Applications for expert systems. Offered spring term, alternate years. *Prereq: EECE 2710.*

EECE 6822. Machine Learning 3 sem. hrs.
An introduction to a range of adaptive computer algorithms which learn models that are modified as new data. Explores the theoretical foundations of machine learning. Examples of machine learning algorithms studied include: decision trees, artificial neural networks, Bayesian learners, evolutionary algorithm, and boosting and bagging techniques. Studies computational learning theory and PAC learnability.
Prereq: COEN 5850 or EECE 6820 with cons. of instr.

EECE 6830. Pattern Recognition 3 sem. hrs.
Theory and application of pattern recognition and learning machines. Correlation methods, discriminant analysis, maximum likelihood decisions, minimax techniques, feature extraction, preprocessing, clustering, nonsupervised learning. Syntactic pattern recognition techniques. *Prereq: EECE 6020.*

EECE 6840. Neural Networks and Neural Computing 3 sem. hrs.
Introduction to artificial neural networks and neural computing. Multilayer perceptron models and back propagation. Recurrent and feedforward associative neural networks. Kohonen models and counter-propagation networks. Adaptive resonance theory and Boltzmann machines. Simulated annealing. Applications include optimization, pattern recognition in signal processing and control algorithms. Offered spring term, alternate years.
Prereq: EECE 2710.

EECE 6932. Advanced Topics in Electrical and Computer Engineering 3 sem. hrs.
Course content announced prior to each offering. Students may enroll more than once as subject matter changes. Possible topics include: computer operating systems, multiprogramming and multiprocessing systems, computer architecture, optimal and adaptive control, stochastic control, estimation theory, and nonlinear analysis. *Prereq: Cons. of instr.*

EECE 6952. Department Colloquium 0 sem. hrs.
Scholarly presentations on current topics in electrical engineering and computer engineering and related areas by visiting and resident investigators. Required of all full-time graduate students each term. Offered every term. Required of all full-time EECE graduate students. SNC/UNC grade assessment.

EECE 6953. Seminar in Electrical and Computer Engineering 0-3 sem. hrs.
0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded. *Prereq: Cons. of instr.*

EECE 6964. Practicum for Research and Development in Computing 3 sem. hrs.
Provides students, who are enrolled in the M.S. in computing program, an opportunity to participate in the practice of research and/or development in the area of computing. Course Guidelines are available from EECE and MSCS Departments. Available only to full-time students. At most, six credits of EECE 6964 OR MSCS 6964 may be counted toward graduation. S/U grade assessment. *Prereq: 3.00 MU GPA; must be enrolled in Plan B option of the M.S. in computing program and have completed at least 21 credit hours of course work, with 15 credit hours earned in graduate (6000-level) courses.*

EECE 6995. Independent Study in Electrical and Computer Engineering 1-3 sem. hrs.
Prereq: Cons. of instr. and cons. of dept. ch.

EECE 6999. Master's Thesis 1-6 sem. hrs.
S/U grade assessment. *Prereq: Cons. of instr.*

EECE 8932. Advanced Topics in Electrical and Computer Engineering 3 sem. hrs.
Course content announced prior to each offering. Students may enroll more than once as subject matter changes. Possible topics include: computer operating systems, multiprogramming and multiprocessing systems, computer architecture, optimal and adaptive control, stochastic control, estimation theory, and nonlinear analysis. *Prereq: Cons. of instr.*

EECE 8995. Independent Study in Electrical and Computer Engineering 0 sem. hrs.
Prereq: Cons. of instr. and cons. of dept. ch.

EECE 8999. Doctoral Dissertation 1-12 sem. hrs.
S/U grade assessment. *Prereq: Cons. of instr.*

EECE 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. Prereq: Cons. of dept. ch.

EECE 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9987. Doctoral Comprehensive Exam Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9988. Doctoral Comprehensive Exam Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9989. Doctoral Comprehensive Exam Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

EECE 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

ENGINEERING

Dean and Professor of Engineering: Jaskolski
Executive Associate Dean and Professor of Civil and Environmental Engineering: Switzenbaum
Associate Dean for Enrollment Management and Associate Professor of Mechanical Engineering: Jensen
Assistant Dean for Academic Affairs: Perez
Assistant Dean and Director of Cooperative Education: Michaelson
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, Master of Science in Engineering Management, Master of Engineering; Doctor of Philosophy

ENGINEERING PROGRAMS

The College of Engineering offers four graduate engineering programs through which to pursue either a master of science or doctor of philosophy degree: biomedical engineering, civil engineering, electrical and computer engineering, and mechanical engineering. Details concerning each of the four programs can be found in this bulletin, in alphabetical order. The Department of Biomedical Engineering also offers a master of engineering in addition to the master of science and the doctor of philosophy degrees.

Two interdisciplinary programs are offered, leading to the master of science degree. Engineering management (ENMA) is jointly offered and administered by the College of Engineering and the Graduate School of Management. Details can be found in the program information section of Engineering Management. Health care technologies management (HCTM) is jointly offered and administered by the College of Engineering, the Graduate School of Management and the Medical College of Wisconsin. The program information section of Healthcare Technologies Management gives details.

A final interdisciplinary doctoral program in functional imaging is jointly offered by the Department of Biomedical Engineering in the College of Engineering and the Medical College of Wisconsin. Details on this program can be found in the Biomedical Engineering section.

In addition to their graduate degree programs, the Departments of Civil and Environmental Engineering and Electrical and Computer Engineering offer non-degree graduate certificate programs in a variety of technical areas for qualified individuals with bachelor's degrees. The certificate programs are designed for practicing engineers and others who wish to update and/or expand their knowledge in specific technical areas, but do not necessarily wish to pursue master's or doctoral degrees. General information about these programs can be found in the program information sections for these departments. Detailed information is available from the individual department offices.

ENGINEERING, BIOMEDICAL
See **BIOMEDICAL ENGINEERING (BIEN)**

ENGINEERING, CIVIL
See **CIVIL ENGINEERING (CIEN)**

ENGINEERING, ELECTRICAL AND COMPUTER
See **ELECTRICAL AND COMPUTER ENGINEERING (EECE)**

ENGINEERING: HEALTHCARE TECHNOLOGIES MANAGEMENT
See **HEALTHCARE TECHNOLOGIES MANAGEMENT (HCTM)**

ENGINEERING MANAGEMENT
See **ENGINEERING MANAGEMENT (ENMA)**

ENGINEERING, MECHANICAL
See **MECHANICAL ENGINEERING (MEEN)**

ENGINEERING MANAGEMENT (ENMA)

Engineering Director of Graduate Studies and Adjunct Associate Professor: Polczynski
Business Administration Director of Graduate Studies and Professor: Srivastava
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science in Engineering Management, Plan B only; Certificate

PROGRAM DESCRIPTIONS

MASTER'S PROGRAM

The Marquette University master of science in engineering management program responds to the world's growing need for technologists who can lead in the conceptualization, development, and globalization of new generations of commercially viable technology-based products, processes, and services. Program graduates acquire knowledge, skills, and direct hands-on experience in:

- generating innovative technical solutions to existing and emerging market needs;
- transferring technical solutions into entrepreneurial products and services; and
- developing global supplier and customer bases to apply technical solutions worldwide.

By its very nature, this program requires a partnership between the fields of engineering and management. Marquette's engineering management program is truly interdisciplinary since it is developed, sponsored, organized, and administered by a coalition of members from the College of Engineering and the Graduate School of Management. Both have graduate programs that are long-standing and highly regarded. The engineering management program capitalizes on these strengths by drawing on established and successful courses from each college.

CERTIFICATE PROGRAMS

Engineering management courses can be applied toward achieving two program-related certificates. The engineering innovation certificate prepares engineering managers to pursue technically and commercially viable new technology-based products, processes, and services. The new product and process development certificate enhances capabilities of engineering managers to bring these new opportunities to market in a timely and efficient manner. In essence, the engineering innovation certificate supports engineers in doing the right things, and the new product and process development certificate aids engineers in doing things right.

PREREQUISITES FOR ADMISSION

Admission decisions are based on a variety of criteria, each of which is intended to measure the applicant's ability to succeed in the program. No application can be evaluated until all of the required official documents have been received.

An applicant must have completed or be in the process of completing a four-year bachelor's degree (usually in engineering) from an accredited college or university. Students holding a bachelor's degree in disciplines other than engineering may be admitted to the program but may be required to take additional courses.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Three letters of recommendation.
5. Official GRE or GMAT test scores.
6. Resume or job profile.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency. Waived for applicants whose native language is English or who have received a degree from an accredited academic institution in an English-speaking country.

MASTER'S REQUIREMENTS

All students must complete a minimum of 33 credit hours of course work, of which 27 credit hours are considered core courses and 6 credit hours are electives. A minimum of 18 credit hours must be taken from the College of Engineering and a minimum of 15 credit hours must be taken from the Graduate School of Management.

Students who do not have an adequate undergraduate background in business may also be required to complete one or more M.B.A. foundation courses (ACCO 6000 Accounting Foundations, ECON 6000 Economics Foundations, INTE 6000 IT Foundations, MANA 6000 Mathematics Foundations, MANA 6001 Statistics Foundations) in preparation for the core business courses.

CORE COURSES

Nine core courses (27 credit hours) must be selected from a restricted set of classes in each of the following three areas: business administration, engineering management, and decision support. The list of approved core courses may change from time to time to maintain a state-of-the-art program. Currently, the core courses that are approved in each of the three required areas are as follows:

Business Courses (select at least three)

ACCO 6100	Managerial Accounting
ECON 6100	Managerial Economics
FINA 6100	Financial Management
MANA 6100	Organizational Behavior
MARK 6100	Marketing Management
OSCM 6100	Operations and Supply Chain Management

Engineering Courses (select at least four)

ENMA 6030 Engineering Six Sigma Design and Development
ENMA 6040 Lean Manufacturing Systems
ENMA 6050 Reliability, Failure Analysis, and Risk Assessment
ENMA 6060 Innovation and Technology
ENMA 6070 Engineering Project Management
ENMA 6080 Front-End Engineering Product Development
ENMA 6090 New Product and Process Portfolio Management
ENMA 6931 Management Issues in Engineering and Technology
ENMA 6995 Independent Study in Engineering Project Management

Decision Support Courses (select at least two)

ECON 6560 Applied Econometrics
ENMA 6010 System Modeling, Simulation, and Analysis
ENMA 6020 Engineering Innovation and Entrepreneurship
MARK 6160 Marketing Research
OSCM 6160 Quantitative Decision Modeling and Analysis

ELECTIVE COURSES

Students choose any two graduate-level engineering or GSM (6000-level) beyond foundation elective courses that meet their individual needs. Students who wish to select courses from other departments must obtain approval from the Graduate Committee.

CERTIFICATE REQUIREMENTS

Each graduate certificate requires completion of four courses (12 credits) selected from the prescribed list of courses shown below. Students must complete all certificate courses within a three-year time period and must earn a grade point average of at least 3.000 with no grade below a C.

Engineering Innovation Certificate

ENMA 6010 System Modeling, Simulation, and Analysis
ENMA 6020 Engineering Innovation and Entrepreneurship
ENMA 6080 Front-End Engineering Product Development
ENMA 6090 New Product and Process Portfolio Management

New Product and Process Development Certificate (select four)

ENMA 6010 System Modeling, Simulation, and Analysis
ENMA 6030 Engineering Six Sigma Design and Development
ENMA 6040 Lean Manufacturing Systems
ENMA 6050 Reliability, Failure Analysis, and Risk Assessment
ENMA 6060 Innovation and Technology
ENMA 6070 Engineering Project Management

The certificate programs are designed for practicing engineers and other qualified individuals with bachelor's degrees who wish to update and/or expand their knowledge in specific areas, but do not necessarily wish to pursue a master's degree. However, all certificate courses can be applied toward achievement of a master of science in engineering management degree.

COURSE DESCRIPTIONS

ENMA 6010. System Modeling, Simulation and Analysis 3 sem. hrs.
Presents a range of qualitative and quantitative modeling, simulation, and analysis tools and processes that enable complete and concise specification, operating description, and performance and reliability analysis and modeling of complex products, processes, and services. Approaches include: process flow diagrams, data flow diagrams, state transition diagrams, Monte-Carlo simulation, and TRIZ problem/solution modeling. Student projects involve analysis of existing industrial systems.
Prereq: MATH 5720 or equiv.

ENMA 6020. Engineering Innovation and Entrepreneurship 3 sem. hrs.
Student teams integrate learning and experience with projects to generate a technology commercialization prospectus that describes a viable channel to market for a particular innovative technology-based product, process, or service. Topics include technology roadmapping and intellectual property generation in a global environment.

ENMA 6030. Engineering Six-Sigma Design and Development 3 sem. hrs.
Focuses on designing and developing high-performance, high reliability technology-based products, processes, and services through the application of six-sigma principles, tools, and processes. Student teams apply six-sigma approaches to real-world projects in preparation for six-sigma green belt certification. *Prereq: MATH 5720 or equiv.*

ENMA 6040. Lean Manufacturing Systems 3 sem. hrs.
Focuses on designing, implementing, and optimizing high-performance cost-effective manufacturing systems. Compares lean, mass, and craft production paradigms, with emphasis placed on the benefits and implementation of the lean principles of value stream, flow, pull, and waste. Student teams prepare, analyze, and propose optimized value streams for real-world manufacturing systems.

ENMA 6050. Reliability, Failure Analysis and Risk Assessment 3 sem. hrs.
Provides current and perspective engineering managers with an overview of topics critical to providing products and services which meet cost and reliability requirements, including: qualitative and quantitative modeling of reliability, failure, and risk for hardware, software, and large complex systems. Student team projects provide an opportunity to apply these models to real-world systems.
Prereq: MATH 5720 or equiv.

ENMA 6060. Innovation and Technology 3 sem. hrs.
Explores the use of technologies such as data mining, neural networks, genetic algorithms and public resource computing to improve and accelerate innovation, entrepreneurship, and general human decision making processes. Provides current and perspective managers with an overview of how these technologies can be applied to generate better, faster and cheaper products, processes, and decisions. Student projects apply these technologies to the development and/or improvement of real-world analysis and decision-making processes.

ENMA 6070. Engineering Project Management 3 sem. hrs.
Applies collaboration tools such as MS Project to organize and direct global virtual teams developing technology-based products and services. Focus is on optimizing projects under the triple constraints of time, resources, and quality. Student projects provide hands-on experience in applying tools and methods to balance multiple and varying constraints in a real-world environment.

ENMA 6080. Front-End Engineering Product Development 3 sem. hrs.
Prepares students to fill the fuzzy front end of the new product/service pipeline with innovative and commercially-viable concepts. Includes voice-of-the-customer and ideation processes and techniques. Students facilitate "live" ideation sessions held with industry and university partners to generate a portfolio of innovative new product/process/service/technology opportunities.

ENMA 6090. New Product and Process Portfolio Management 3 sem. hrs.
Models technology-based product and process development life cycles, including: valuation and prioritization of projects, pursuit of government contracts, outsourcing/offshoring criteria, and the challenges of R&D in a global environment. Student teams analyze and apply best practices from industry to the management of a portfolio of projects from sources such as the projects generated and executed by student teams in other ENMA courses.

ENMA 6931. Management Issues in Engineering and Technology 3 sem. hrs.
Presents topics of special interest to current and perspective engineering managers. Incorporates guest lectures by industry and academic experts. Course title varies; course content announced prior to each offering. Students may enroll more than once as subject matter changes.

ENMA 6961. Intellectual Property Generation and Protection 3 sem. hrs.
Offered jointly by the Law School and College of Engineering. Provides direct experience in the generation and protection of intellectual property. Follows the general IP generation and protection sequence: technology assessment; patent prosecution; patent litigation. Law/engineering student teams are embedded in a larger team directly involved with the development and application of an innovative product, process, or service. A provisional patent application is developed.
Prereq: ENMA 6010, ENMA 6020.

ENMA 6964. Practicum for Research and Development in Engineering Management 1-6 sem. hrs.
Provides significant educational and practical opportunities to participate in the practice of research and/or development in the area of engineering management as an integral part of the program curriculum. At most, six credits may be counted toward graduation. Offered every term.
Prereq: 3.00 MU GPA; completed at least twenty one credits in M.S. engineering management program.

ENMA 6995. Independent Study in Engineering Project Management 1-4 sem. hrs.
Prereq: Cons. of instr. and cons. of dept. ch.

ENMA 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENMA 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of adviser.

ENGLISH (ENGL)

Chairperson and Professor: Machan
Professor: Bates, Block, DeFalco *(Emeritus)*, Hoeveler, Hribal, Jeffers, McCanles *(Emeritus)*, Ratcliffe, Rivero
Associate Professor: Asp *(Emerita)*, Bodden, Boly, Chappell, Curran, Duffy, Hathaway, Keiser, Krueger, Sorby, Spargo, Su, Wadsworth, Zurcher
Assistant Professor: Adams-Roberts, Blair, Karian, Melamed, Nowacek
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts, Plan B (non-thesis option) only; Doctor of Philosophy

SPECIALIZATIONS

Master's: British and American Literature
Doctoral: American Literature, British Literature

PROGRAM DESCRIPTIONS

The master of arts program in English provides broad coverage of the texts of English and American literature. Through seminar courses, students develop extensive knowledge of literature and demonstrate skill in writing. Students who complete the master's program at Marquette normally find themselves well prepared for doctoral studies.

The doctorate in English is directed toward comprehensive and intensive knowledge of: literature and language with specialization in one area of British or American literature; the textual, editorial, and critical problems and backgrounds of major texts and authors; the principles of literary criticism; the basic tools, methods, and application of literary and linguistic research; and pedagogical problems. The program provides practical experience in the teaching of literature, rhetoric, and composition to meet the needs of contemporary college education for creative scholars to teach and do research in English.

Teaching and research assistantships are available to candidates for both degrees on a competitive basis. Teaching assistants must successfully complete ENGL 6840 (or its equivalent), an orientation program, and a weekly practicum. ENGL 6840 will count towards the total degree requirements of both the master of arts and the doctorate.

PREREQUISITES FOR ADMISSION

Applicants are expected to have adequate preparation in English and related subjects. A well-rounded program of undergraduate English courses (26 to 30 semester hours) is required. An applicant for the doctoral program must have a master of arts in English.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. A statement of purpose.
5. One or two writing samples.
6. GRE scores (General Test only).
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

MASTER'S REQUIREMENTS

A master's student is admitted to the Plan B (non-thesis) program which requires 30 credit hours of course work beyond the bachelor's degree. At least 24 credits must be taken in English Department courses, and at least 24 credits in graduate courses at the 6000-level.

All master's students must pass a written comprehensive examination to complete the program.

SCOPE OF KNOWLEDGE

The department awards a master of arts degree after a student has demonstrated the ability to perform well in the prescribed courses and has passed a comprehensive examination. While we expect our students to distinguish themselves in both areas, we also see these as distinct fields. Achievement in one area does not preclude the need to establish the ability to succeed in the other, nor does achievement in one area guarantee success in the other.

PROGRAM DETAILS

A master's student is required to complete a combined undergraduate and graduate program that includes at least one upper-division or graduate course in each of the following groups. The Marquette courses listed form the models for courses taken elsewhere that will satisfy the program requirements. Students are expected to take 6000-level courses wherever possible, and should consult the rotation of graduate courses schedule on the English graduate Web page.

Language and Linguistics
ENGL 6205 (*also 6200, 6210 when content is linguistics*); also 5110, 5120, 5130, 5170

Chaucer and/or Medieval Literature
ENGL 6210; also 5410, 5620

Shakespeare
ENGL 6220; also 5630

Renaissance Literature
ENGL 6215; also 5420, 5430, 5640

Restoration and Eighteenth-Century British Literature
ENGL 6300; also 5440, 5450

Nineteenth-Century British Literature
ENGL 6400; also 5460, 5470

American Literature Before 1900
ENGL 6600; also 5510, 5520, 5530

Twentieth-Century Literature, British or American
ENGL 6500, 6700; also 5480, 5490, 5550, 5560

Introduction to Modern Critical Theory and Practice
ENGL 6820

DOCTORAL REQUIREMENTS

A doctoral student will follow a program of study defined, in conjunction with an adviser, on an approved *Doctoral Program Planning Form*. A minimum of 54 credit hours of course work is required beyond the bachelor's degree (24 credit hours beyond the master's degree) plus 12 hours of dissertation credit. A doctoral student must show competence in one foreign language in which there is significant scholarly literature in his or her program field. The choice of language must be approved by the director of graduate studies. The student must complete all requirements listed on the *Doctoral Program Planning Form*, pass a qualifying examination, and successfully defend a dissertation to complete the program.

PROGRAM DETAILS

A doctoral student is expected to complete the requirements defined for the master's program, but must include ENGL 8282 and ENGL 8830. Additional course work for the doctorate will be recommended or required according to the needs of the student and will be defined on the *Doctoral Program Planning Form*. Students are individually advised at each registration.

COURSE DESCRIPTIONS

ENGL 5027. Teaching English in the Secondary School 3 sem. hrs.
An investigation of the role of the teacher, the student, and the curricular methods, procedures, and materials used in the teaching of language, literature, and composition in the secondary school. A 40-hour field experience in selected area schools is required.

ENGL 5110. English Linguistics 3 sem. hrs.
An introduction to linguistics that concentrates on English. Topics include: language acquisition, grammatical structure, social and regional variation, historical change, and pragmatics.

ENGL 5120. Structure of the English Language 3 sem. hrs.
A study of the structure of the English language with emphasis on parts of speech; the phoneme and morpheme as structural units; and analysis of modern English syntax by traditional, structural, immediate constituent, and generative-transformational methods.

ENGL 5130. History of the English Language 3 sem. hrs.
A study of the history of the English language with emphasis on elementary phonology, morphology, and syntax through the stages of Old, Middle, and Modern English. Dialectology, sources of vocabulary, and characteristics of contemporary American English are also considered.

ENGL 5170. Studies in Language 3 sem. hrs.
A detailed study of some aspect of language or language study, including stylistics, sociolinguistics, introductory linguistics, Old English, or semiotics. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5220. The Art of Rhetoric: Theory and Application 3 sem. hrs.
A study of definitions of rhetoric; rhetorical analysis of texts and culture; critique of classical and contemporary theories of rhetoric; consideration of invention, arrangement, style, ethos, audience, and evidence.

ENGL 5250. Creative Writing: Fiction 3 sem. hrs.
A study in the composition of fiction with an emphasis on the analysis of craft and technique in student and published writing. Offered every term.

ENGL 5260. Creative Writing: Poetry 3 sem. hrs.
A study in the composition of poetry with an emphasis on the analysis of craft and technique in student and published writing. Offered every term.

ENGL 5310. Studies in Global Literature 3 sem. hrs.
An in-depth exploration of selected works in English or in translation from non-Anglo-American cultural traditions. Texts can be drawn from African, Asian, European, Latin American and Middle Eastern literatures with an emphasis on historical, intellectual and/or cultural contexts. Consult the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5410. British Literature to 1500 3 sem. hrs.
A reading of medieval works from the Old and Middle English periods, with emphasis on both literary and cultural issues. Typical readings include: lyrics, romances, The Pearl, Sir Gawain, and Piers Plowman, and works by Gower, Kempe, and Malory.

ENGL 5420. Renaissance Literature: The 16th Century 3 sem. hrs.
A study of Tudor poetry, drama, and prose, with emphasis on literary and cultural issues of the Elizabethan period. Writers considered might include: Lodge and More (prose); Shakespeare, Philip and Mary Sidney, Spenser, and Wyatt (lyric and narrative poetry); and Carey, Kyd, and Marlowe (drama).

ENGL 5430. Renaissance Literature: The 17th Century 3 sem. hrs.
A study of English poetry, drama and prose from 1603 to the beginnings of the neoclassical period. Writers considered might include: Donne, Herbert, Herrick, Jonson, and Marvell (lyric); Bacon and Wroth (prose); and Jonson, Middleton, and Webster (drama).

ENGL 5440. The Ages of Dryden and Pope: 1660-1744 3 sem. hrs.
A study of the prose, poetry, and drama of the Restoration to early 18th century, featuring such writers as: Behn, Dryden, Pope, and Swift within the historical, literary, and intellectual contexts of the era.

ENGL 5450. The Age of Johnson: 1744-1790 3 sem. hrs.
A study of the prose, poetry, and drama of the later 18th century, featuring such writers as: Boswell, Burney, Fielding, Johnson, and Sterne within the historical, literary, and intellectual contexts of the era.

ENGL 5460. The Romantic Period: 1790-1837 3 sem. hrs.
A study of the poetry, drama, and fiction of the period with emphasis on the works of: Austen, Blake, Byron, Coleridge, Keats, the Shelleys, Smith, and Wordsworth.

ENGL 5470. Victorian Literature 3 sem. hrs.
A study of the major poets and prose writers between 1837 and 1900, including such authors as: Arnold, the Brontes, the Brownings, Carlyle, Dickens, G. Eliot, Hardy, Newman, Ruskin, and Tennyson.

ENGL 5480. The Modernist Period in British Literature 3 sem. hrs.
A study of selected works from authors whose writings exemplify the Modernist Movement in British literature such as: Compton-Burnett, Eliot, Ford, Forster, Joyce, D.H. Lawrence, Mansfield, Rhys, Sackville-West, Sitwell, Wilde, Woolf, and Yeats.

ENGL 5490. The Postmodernist Period in British Literature 3 sem. hrs.
A study of selected works from authors whose writings exemplify the Postmodernist Movement in British literature such as: Adcock, Auden, Beckett, Desai, Drabble, Gordimer, Heaney, Joyce, Lessing, O'Brien, Pinter, Stoppard, and Woolf.

ENGL 5510. Colonial and American Literature from the Beginnings to 1798 3 sem. hrs.
A study of the forms of colonial and indigenous cultural expression, the literature of the Revolutionary War and the early republic, and the emergence of a national literature. Writers studied may include: Bradstreet, Edwards, Equiano, Franklin, Irving, Mather, Rowson, Taylor, and Wheatley.

ENGL 5520. American Literature from 1798 to 1865 3 sem. hrs.
A study of the literature and culture of the early-to-mid 19th century, including the periods of the American Renaissance and the Civil War. Writers studied may include: Alcott, Child, Cooper, Dickinson, Douglass, Emerson, Fuller, Hawthorne, Melville, Poe, Stowe, Thoreau, and Whitman.

ENGL 5530. American Literature from 1865 to 1914 3 sem. hrs.
A study of late 19th century literature and culture with emphasis on the rise of realism to the beginnings of modernism. Writers studied generally include: Chesnutt, Chopin, Crane, Dickinson, Dreiser, Harper, James, Twain, and Wharton.

ENGL 5550. Twentieth Century American Literature: The Modern Period 3 sem. hrs.
A study of American literature of the early 20th century with particular attention to the formal experiments of modernism. Writers studied generally include: Cather, T.S. Eliot, Faulkner, Fitzgerald, Frost, Hemingway, Hurston, Larsen, Stein, Stevens, Williams, and Wright.

ENGL 5560. The Contemporary Period in American Literature: 1945 to Present 3 sem. hrs.
A study of fiction, poetry, and/or drama written since WWII, with attention to the shift from modernism to postmodernism. Authors studied are likely to include: Albee, Barth, Bellow, Bishop, Carver, DeLillo, Didion, Erdrich, Graham, Heller, Kingston, Levine, Morrison, O'Connor, Ozick, Pynchon, Roth, Stone, Walker, and White.

ENGL 5610. Individual Authors 3 sem. hrs.
Studies of the works of selected individual authors, usually within biographical, historical, intellectual, and/or cultural contexts. Authors studied have included: Austen, the Brontes, the Brownings, Cheever and Carver, Conrad, Frost, Hardy and Hopkins, Heaney, Melville, Morrison, Wharton and Stein, and Yeats. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific author(s).

ENGL 5620. Chaucer 3 sem. hrs.
A study of Chaucer's works with emphasis on his techniques, thematic concerns, cultural contexts, and place in literary history.

ENGL 5630. Shakespeare's Major Plays 3 sem. hrs.
A detailed analysis of a selection of Shakespearean drama with emphasis given to Shakespeare's development as a dramatist within his historical and intellectual context.

ENGL 5640. Milton 3 sem. hrs.
A study of Milton's major poetry and prose in the context of his place in 17th century England.

ENGL 5710. Studies in Genre 3 sem. hrs.
Advanced study of a particular genre and its ability to articulate meaning in historical, social, and/or literary contexts. Past offerings have included: romance and epic in early modern England, the family novel, the novella, the Epic, the court romance, and the American western. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5750. American Drama 3 sem. hrs.
A study of American drama with emphasis on form and function of the genre. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5760. British Drama 3 sem. hrs.
A study of British drama with emphasis on form and function of the genre. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5780. Literature in Film 3 sem. hrs.
Past offerings have included: contemporary Irish literature and film, Shakespeare and film, ethnic literature and the movies, postmodern literature and film, film noir and the detective novel. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5800. Studies in Literature and Culture 3 sem. hrs.
An investigation of the relation between literature and its culture from a variety of perspectives that might include the historical, political, or anthropological. Past offerings have included: the English urban novel; Catholicism and literature; and texts, audiences, and social change. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5810. Race, Ethnicity and Identity in American Literature and Culture 3 sem. hrs.
A study of literary works by authors who identify with a range of different ethnic groups (e.g. African American, Asian American, Chicano/a, Jewish, Native American) in conjunction with application of classic and contemporary ethnicity theory. Writers studied generally include Cahan, Ellison, Inada, Kingston, Larsen, Momaday, Morrison, Rodriguez, Roth, Silko, Toomer, and Yamamoto.

ENGL 5820. Studies in Race and/or Ethnic Literature 3 sem. hrs.
Topics may include: ethnic autobiography, African American narrative, the Harlem Renaissance, Native American oral tradition, Asian American literature, etc. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5830. African-American Literature 3 sem. hrs.
A study of major works of fiction, poetry, autobiography, and drama by African American authors writing from slavery thorough the present day. Works are usually situated within their historical, biographical, intellectual and cultural contexts. Authors studied generally include: Baldwin, Douglass, DuBois, Dunbar, Ellison, Hansberry, Hurston, Jacobs, Kincaid, Morrison, Walker, Washington, Wideman, Wilson and Wright.

ENGL 5840. Post-Colonial Literature 3 sem. hrs.
Study of developing national literatures in Africa, Australia, the Caribbean, and Southeast Asia after the collapse of the British Empire in the 1950s. Writers studied may include: Achebe, Aidoo, Coetzee, Harris, Ishiguro, Kincaid, Lamming, Mudrooroo, Ngugi, Rushdie, and Walcott.

ENGL 5860. Survey of Women's Literature 3 sem. hrs.
Study of selected female authors that addresses their distinctive social and aesthetic concerns, with emphasis on the range of critical methods instrumental to feminist literary criticism (e.g., historicism, archetypal criticism, psychoanalysis). Authors may include: Austen, the Brontes, Burney, G. Eliot, Julien of Norwich, Kempe, Morrison, O'Connor, Shelley, Silko, Woolf, and Wroth.

ENGL 5870. Studies in Women and Literature 3 sem. hrs.
Past offerings have included: multicultural women's autobiography, the sentimental novel, fictions of domesticity, women's writing in the Renaissance, romanticism and gender, the female gothic, and black women's writing. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5931. Topics in Literature or Writing 3 sem. hrs.
Past offerings have included: the Bible as literature, literary responses to the Viet Nam War, literature and the environment, literature of the Holocaust, the Vikings, and meaning and identity. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic. If topic is in writing, may not be counted toward the credits required for an M.A. or Ph.D. degree in English.

ENGL 5953. Seminar in Literature 3 sem. hrs.
Advanced practice in the techniques and discipline of intensive literary study. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific topic.

ENGL 5954. Seminar in Writing 3 sem. hrs.
Advanced practice in the techniques and discipline of writing. Offered in fiction, in poetry and in nonfiction. Consult *Schedule of Classes*, the dept. Web site or its course descriptions booklet for specific genre.

ENGL 6200. Old English 3 sem. hrs.
The grammar and syntax of Anglo-Saxon. Selected readings from the prose and poetry in the corpus of Anglo-Saxon literature.

ENGL 6205. Studies in Language and Linguistics 3 sem. hrs.

ENGL 6210. Studies in English Literature, the Beginnings to 1500 3 sem. hrs.
Offered fall term.

ENGL 6215. Studies in Renaissance Literature 3 sem. hrs.
Offered every other spring term.

ENGL 6220. Studies in Shakespeare 3 sem. hrs.
Offered every other spring term.

ENGL 6300. Studies in Restoration and Eighteenth Century Literature 3 sem. hrs.
Offered spring term.

ENGL 6400. Studies in Nineteenth-Century British Literature 3 sem. hrs.
Offered fall term.

ENGL 6500. Studies in Twentieth-Century British Literature 3 sem. hrs.
Offered spring term.

ENGL 6600. Studies in American Literature from the Beginnings to 1900 3 sem. hrs.
Offered spring term.

ENGL 6700. Studies in Twentieth-Century American Literature 3 sem. hrs.
Offered fall term.

ENGL 6800. Studies in Genre 3 sem. hrs.

ENGL 6810. Study in History of Literary Criticism 3 sem. hrs.
Study of the major critics and texts in literary criticism and critical theory from the classical period to 20th century New Criticism.

ENGL 6820. Studies in Modern Critical Theory and Practice 3 sem. hrs.
Presents a survey of approaches commonly used in a range of modern literary studies. The scope of epistemologies that currently shape interpretations in the discipline. Methods of archival and bibliographic research, and new research technologies. Offered spring term.

ENGL 6830. Studies in Literary Criticism 3 sem. hrs.

ENGL 6840. Studies in Rhetoric and Composition Theory 3 sem. hrs.
Philosophy and theory of rhetoric, with emphasis on primary classical sources and the relationship of contemporary to classical theory. Provides theoretical background for the teaching of writing at the college level. Offered fall term.

ENGL 6850. Studies in the Teaching of Literature 1 sem. hr.
Theory and techniques for teaching literature: poetry, drama, and fiction (short story and novel). Various analytical approaches to context and form. General classroom procedures involving literary discussion and the assignment of themes on literary subjects. Course paper required. For college teachers and prospective college teachers. S/U grade assessment.

ENGL 6931. Topics in English 3 sem. hrs.
Topics vary by section to offer a variety of methodological, thematic, or generic approaches to bodies of literature. See *Schedule of Classes* or dept. Web site for specific topic.

ENGL 6995. Independent Study in English 1-3 sem. hrs.
Prereq: Cons. of dept. ch.

ENGL 8282. Studies in Modern Critical Theory and Practice 3 sem. hrs.
Examines in detail a range of modern literary theories and their textual applications. Consists of writings from a selection of different critical movements, which may include: Formalism, Semiotics, Structuralism, Rhetorical Studies, Narrative Theory, Psychological Criticism, Feminist Inquiry, Deconstruction, Marxism, New Historicist and Cultural Studies, and Postcolonial Discourse. In addition to studying the central tenets of each theory, students also practice its application to a variety of literary texts, preferably ones relevant to their dissertations. Offered fall term.
Prereq: ENGL 6820 or equiv.

ENGL 8310. Advanced Studies in British Literature 3 sem. hrs.
Focuses attention on issues that inform readings across the spectrum of British literature. Provides a forum where students can share research on topics of mutual interest. *Prereq: Completion of M.A.; enrollment is limited to Ph.D. students.*

ENGL 8350. Advanced Studies in American Literature 3 sem. hrs.
Focuses attention on issues that inform readings across the spectrum of American literature. Provides a forum where students can share research on topics of mutual interest. *Prereq: Completion of M.A.; enrollment is limited to Ph.D. students.*

ENGL 8370. Advanced Studies in Genre 3 sem. hrs.
Examines theoretical issues that inform the construction and comprehension of specific literary genres. Takes interest both in traditional conceptions of that genre and in efforts to redefine those traditional conceptions. *Prereq: Completion of M.A.; enrollment is limited to Ph.D. students.*

ENGL 8830. Dissertation Tutorial 3 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Doctoral stndg.

ENGL 8932. Advanced Studies in Selected Topics 3 sem. hrs.
Various issues covering genres, literary periods, criticism, or language will be examined in a fashion that emphasizes reading from particular critical perspectives while recognizing options for interpretation. *Prereq: Completion of M.A.; enrollment is limited to Ph.D. students.*

ENGL 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

ENGL 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.*

English as a Second Language Program (ESLP)

The Office of International Education (OIE) provides advanced English language courses for students of other language backgrounds whose academic success at Marquette requires additional formal instruction in spoken or written English. Departments that wish to have the English competency of their graduate students evaluated should contact OIE for information about the English Placement Test. The results of this test are used to recommend any appropriate English language (ESLP) courses. ESLP courses are offered in the fall and spring terms. Descriptions for the courses in Composition, Reading, and Listening Comprehension are described in the *Undergraduate Bulletin*. Additionally, all incoming international teaching assistants (TAs) are required to attend a special one-week International Teaching Assistant Program (ITAP) during the fall semester. This training program includes evaluations of each TA's English language and classroom skills for possible placement into ESLP 6021 American Language and Communication Skills for Teaching Assistants.

Marquette University currently does not offer a graduate degree program in English as a Second Language. For information on degrees or certificates in education, see the sections of this *Graduate Bulletin* relevant to the intended major academic field of study.

COURSE DESCRIPTION

ESLP 6021. American Language and Communication Skills for Teaching Assistants 2 sem. hrs.
Provides classroom instruction and practice with language, communication, and teaching skills required of teaching assistants in U.S. universities. Includes a language laboratory, which provides pronunciation instruction and hands-on practice with course concepts. May not register as audit or S/U option. *Prereq: Placement by English as a Second Language Program dir.*

EXECUTIVE MASTER OF BUSINESS ADMINISTRATION (EXBU)

See **GRADUATE SCHOOL OF MANAGEMENT SECTION**

FOREIGN LANGUAGES AND LITERATURES (FOLL)

FACULTY IN SPANISH
Professor: González-Pérez, Velleman
Associate Professor: Afinoguénova, Aguilú de Murphy, G. Carrillo, Castañeda, Dale, Pasero, Sánchez de la Calle
Assistant Professor: Bellver, Cortés-Vélez, Hernández, Meyler, Paulk
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts, Plan B only

SPECIALIZATION

Spanish

PROGRAM DESCRIPTION

The Department of Foreign Languages and Literatures' graduate program in Spanish is designed to provide students with a broad background in Spanish language, literature, culture, and language teaching methodology. The majority of the department's graduates have entered teaching careers, continued on to doctoral studies, or secured a position in business or government. Students in the program form a small and relatively intimate group. Graduate seminars are kept small, averaging ten students, and students are given individual guidance throughout their course of study.

Teaching assistantships in Spanish are available to candidates on a competitive basis. Teaching assistants are required to take SPAN 6000, Teaching College Spanish (3 sem. hrs.), their first fall semester in the program.

PREREQUISITES FOR ADMISSION

Applicants for the master of arts program must have a bachelor's degree, or the equivalent foreign degree, from an accredited institution.

Applicants with an undergraduate major in Spanish are expected to have completed 24 credit hours of course work beyond the intermediate level, including work in composition, conversation, and advanced work in literature. Applicants with an undergraduate minor in Spanish are expected to have completed 15 credit hours of course work beyond the intermediate level, including a survey course in literature and a course in composition and conversation. Applicants must have an undergraduate grade point average equivalent of B or above (3.000 on a 4.000 scale). Native speakers of the language, who have an undergraduate degree in the humanities, are also eligible.

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by December 15.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:
1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.

4. A writing sample in Spanish. This can be a term paper from one of the applicant's undergraduate Spanish courses.
5. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
6. (*For teaching assistantships in Spanish*) a tape recording (no longer than 5 minutes) of their foreign speaking voice. The tape should include a reading from a prose passage and some free conversation. Foreign applicants should make a similar recording in English. The recording should be submitted directly to the director of graduate studies or the chair of the department.

MASTER OF ARTS REQUIREMENTS

Students must pursue the Plan B course of study. Plan B students are required to complete 30 credit hours of course work. A thesis is not required.

COURSE WORK

At least half of the student's work as a graduate student must be in courses numbered 6000 and above. Students are required to complete a total of 30 credit hours with one 5000-level or 6000-level course in each of the six areas listed below. The remaining 12 credits are to be chosen from the courses offered in each area and subfield on which the student decides to be tested for the master of arts comprehensive examination.

1. Early Hispanic Literature
Subfields:
a. Medieval Spanish Literature
b. Golden Age Spanish Literature

2. Modern and Contemporary Peninsular Spanish Literature
Subfields:
a. 18th and 19th Century Spanish Literature
b. 20th and 21st Century Spanish Literature

3. Early Spanish-American Literature
Subfields:
a. 15th to 17th Centuries: Pre-Columbian to Baroque Period
b. 18th and 19th Century Spanish-American

4. Modern and Contemporary Spanish-American Literature
Subfields:
a. *Modernismo* and *Vanguardismo* (1886-1940)
b. Boom to 21st Century (1940-today)

5. Language and Linguistics
Subfields:
a. Second Language Acquisition and Pedagogy
b. Synchronic Linguistics
c. Diachronic Linguistics

6. Hispanic Cultural Studies
Subfields:
a. Peninsular Spanish Culture and Cinematography
b. Spanish-American Culture and Cinematography
c. U.S. Latino(a) Literature, Culture and Cinematography

Note: A course may not be used to fulfill more than one area of study. Depending on the topic, SPAN 6931 Topics in Spanish Language, Culture and Literature may be repeated, and can be used to fulfill the appropriate area of study. All 5000-level courses will require additional work at the graduate level, such as: readings, writing assignments, and oral presentations.

COMPREHENSIVE EXAMINATIONS

Candidates for the master of arts degree must pass written and oral comprehensive examinations based on the material covered in the student's course work and the master's reading list to complete the program. Examinations are normally given in November and March. Exceptions must be approved by the director of graduate studies and the department chair.

Candidates will select, in advance, a total of five subfields from three of the six areas listed above upon which to be tested. The exam must be written in Spanish.

The oral portion of the comprehensive examination will take place approximately one week following the written exam. The student will be asked to elaborate upon, clarify and/or correct information given in the written exam. No new material will be introduced during this session. The student's overall performance will not be evaluated until after this session.

The examining committee will be composed of three to five faculty members chosen by the director of graduate studies in consultation with the student and the department chair. Details on examinations, the master's reading list, and sample questions are available from the department office.

READING KNOWLEDGE COURSES

Reading Knowledge Courses, preparatory to doctoral language examinations, are offered in the following languages: French (FREN 6204), German (GRMN 6204), Greek (GREK 6204), Latin (LATN 6204), and Spanish (SPAN 6204).

Students registered for 6204 Reading Knowledge Courses and wishing to withdraw must do so formally in the Graduate School office.

GRADUATE FOREIGN LANGUAGE PROFICIENCY EXAM

Students taking the Foreign Language Proficiency Exam outside of the 6204 courses offered must register for the Graduate Foreign Language Proficiency Exam for the specific language (FREN 9831, GRMN 9831, etc.) through CheckMarq. Upon prior approval from the Department of Foreign Languages and Literatures, students must register for FOLA 9830 for languages other than Arabic, Chinese, French, German, Greek, Italian, Japanese, Latin or Spanish. Exams will be offered once per term. A $100 processing fee will be charged per exam.

FREN 6204. French for Reading Knowledge 3 sem. hrs.
Provides an overview of French grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use French in their field of research. Offered occasionally. May only be taken for credit and may not be audited. *Prereq: Enrolled in the Graduate School.*

GREK 6204. Greek for Reading Knowledge 3 sem. hrs.
Provides an overview of Classical and New Testament Greek grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Greek in their field of research. May only be taken for credit and may not be audited. *Prereq: Enrolled in the Graduate School.*

GREK 6204. Greek for Reading Knowledge 3 sem. hrs.
Provides an overview of Classical and New Testament Greek grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Greek in their field of research. May only be taken for credit and may not be audited. *Prereq: Enrolled in the Graduate School.*

LATN 6204. Latin for Reading Knowledge 3 sem. hrs.
Provides an overview of Latin grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Latin in their field of research. Offered occasionally. May only be taken for credit and may not be audited. *Prereq: Enrolled in the Graduate School.*

SPAN 6204. Spanish for Reading Knowledge 3 sem. hrs.
Provides an overview of Spanish grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Spanish in their field of research. Offered occasionally. May only be taken for credit and may not be audited. *Prereq: Students must be enrolled in the Graduate School.*

COURSE DESCRIPTIONS

Foreign Language (FOLA)

FOLA 5000. Teaching World Languages and Cultures 3 sem. hrs.
Study and application of the fundamental principles of effective second language instruction through the exploration of second language acquisition theory, the development of skills for selecting, organizing, providing, and assessing effective second language learning opportunities; practice of instructional technique within clinical contexts; and reflection on teaching performance. Clinical experience requirement: 3 hours per week for a total of 40 hours. Required of all education majors. Offered fall term. *Prereq: SPAN 6000 and intermediate high performance on an official Oral Proficiency Interview.*

Marquette University does not currently offer a graduate degree program in French, German or Classical Languages. However, certain upper division undergraduate courses in French, German, Greek and Latin, offered through the Department of Foreign Languages and Literatures, have been approved for graduate credit and may be taken, as appropriate, by graduate students in other graduate programs. To earn graduate credit for an upper division course, students must have the approval of their major departments and must complete extra work in the course beyond that required for undergraduate credit.

French (FREN)

FREN 5110. Advanced Grammar and Syntax in French 3 sem. hrs.
Examines advanced structures, forms, and style of the French language through contextual practice. Offered annually.

FREN 5500. The Middle Ages in France: 1050-1450 3 sem. hrs.
Major aspects of the period through literature, the arts, and film (in modern French).
Prereq: FREN 3500 or cons. of dept. ch.

FREN 5510. Sixteenth Century French Literature 3 sem. hrs.
Major aspects of the Renaissance in France through literature, the arts, and film.

FREN 5520. Seventeenth Century French Literature 3 sem. hrs.
Major aspects of French Classicism through literature, the arts, and film.

FREN 5530. Eighteenth Century French Literature 3 sem. hrs.
Major aspects of the Enlightenment through literature, the arts, and film.

FREN 5540. Nineteenth Century French Literature 3 sem. hrs.
Major aspects of the 19th century in France through literature, the arts, and film.

FREN 5550. Twentieth and Twenty-First Century French Literature 3 sem. hrs.
Major aspects of the period through literature, the arts, and film.

FREN 6204. French for Reading Knowledge 3 sem. hrs.
Provides an overview of French grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use French in their field of research. May only be taken for credit and may not be audited. Offered occasionally.
Prereq: Enrolled in the Graduate School.

German (GERM)

GRMN 5110. Advanced German Grammar 3 sem. hrs.
Grammatical structure of the German language in context with other linguistic areas. Offered annually.

GRMN 5505. German Drama 3 sem. hrs.
Significant German drama from Lessing to the present.

GRMN 5515. The German Novelle 3 sem. hrs.
Novelle: the genre and representative works.

GRMN 5525. German Literature: Twelfth to the Eighteenth Century 3 sem. hrs.
Principal works of the Medieval, Renaissance, and Baroque periods in German literature.

GRMN 5530. Eighteenth Century German Literature 3 sem. hrs.
Authors and works of the Enlightenment, Storm and Stress, and Classicism, including Goethe's late works.

GRMN 5540. Nineteenth Century German Literature 3 sem. hrs.
Romanticism and Realism in German literature.

GRMN 5550. Twentieth and Twenty-First Century German Literature 3 sem. hrs.
Study of German authors and works of such periods as Naturalism, Neo-Romanticism, Expressionism through the most current literary trends.

GRMN 6204. German for Reading Knowledge 3 sem. hrs.
Provides an overview of German grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use German in their field of research. May only be taken for credit and may not be audited. Offered occasionally.
Prereq: Enrolled in the Graduate School.

Greek (GREK)

GREK 5931. Topics in Greek Language, Culture and Literature 1-3 sem. hrs.
Topics vary. Subject to be announced.

GREK 6204. Greek for Reading Knowledge 3 sem. hrs.
Provides an overview of Classical and New Testament Greek grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Greek in their field of research. May only be taken for credit and may not be audited. Offered occasionally.
Prereq: Enrolled in the Graduate School.

Italian (ITAL)

ITAL 5931. Topics in Italian Language, Culture and Literature 3 sem. hrs.
Topics vary. Subject to be announced. Offered occasionally. *Prereq: Cons. of dept. ch.*

Latin (LATI)

LATN 5100. Latin Prose Composition 3 sem. hrs.
Systematic review of Latin syntax. Exercises of increasing difficulty in writing Latin prose. Analysis of prose of selected Roman authors. Creative writing in Latin.

LATN 5115. Medieval Latin 3 sem. hrs.
Reading, translation, and analysis of a wide selection of Medieval Latin texts in prose and verse.

LATN 5505. Vergil: *Aeneid* 3 sem. hrs.
Translation of selections from Books 1-12 of Vergil's great national epic, *The Aeneid*, telling of the journey of Aeneas from fallen Troy to the shores of Italy. Background readings and discussions on Vergil's literary debt to Homer, *The Aeneid* as a national epic, and the Roman view of the Trojan legacy.

LATN 5510. Horace: *Odes* 3 sem. hrs.
Reading, translation, and analysis of selected lyric poems of Horace.

LATN 5515. Roman Elegiac Poetry 3 sem. hrs.
Translations of selections from the love poems of Tibullus, Propertius, and Ovid. Background readings and discussions on the origin and conventions of Roman elegiac poetry. Study of the elegiac couplet.

LATN 5520. Roman Comedy: Plautus and Terence 3 sem. hrs.
Reading in Latin of several comedies from the works of Plautus and Terence, Rome's surviving comic playwrights. Comedies translated may include Plautus' Miles *Gloriosus*, *Menaechmi*, and *Mostellaria*; and Terence's *Adelphi* and *Woman of Andros*. Background readings and discussion on the origin and conventions of Roman comedy and the technicalities of staging a Roman comedy.

LATN 5525. Tacitus: *Germania* and *Agricola* 3 sem. hrs.
Reading, translation, and analysis of selections from the shorter works of Tacitus, with additional selections from the *Annales*.

LATN 5530. Cicero: Political and Philosophical Writings 3 sem. hrs.
Reading, translation, and analysis of selections from the speeches and dialogues of Cicero.

LATN 5550. Advanced Studies in Latin Poetry 3 sem. hrs.
Reading, translation, and analysis of a major Latin poet such as Catullus, Ovid or Juvenal. Offered occasionally. *Prereq: Cons. of dept. ch.*

LATN 5560. Advanced Studies in Latin Prose 3 sem. hrs.
Reading, translation, and interpretation of a major Latin prose author such as Sallust, Livy, Seneca, Quintilian or St. Augustine. Offered occasionally.
Prereq: Cons. of dept. ch.

LATN 5931. Topics in Latin Language, Culture and Literature 1-3 sem. hrs.
Topics vary. Subject to be announced. Offered occasionally. *Prereq: Cons. of dept. ch.*

LATN 6204. Latin for Reading Knowledge 3 sem. hrs.
Provides an overview of Latin grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Latin in their field of research. May only be taken for credit and may not be audited. Offered occasionally.
Prereq: Enrolled in the Graduate School.

Spanish (SPAN)

SPAN 5110. Advanced Spanish Grammar and Syntax 3 sem. hrs.
Theoretical and practical study of selected major syntactic structures of Spanish. Emphasis on the development of advanced-level language functions, dialect variation, contrastive analysis, and pedagogical implications. Offered spring term.

SPAN 5120. Spanish Phonetics and Applied Linguistics 3 sem. hrs.
Study of Spanish phonetics, phonological and orthographic systems, morphological and syntactic structures, and pragmatics. Emphasis on articulation, conditioned and dialectal variation, acquisition of Spanish by English-speaking learners, and pedagogical implications. Offered fall term.

SPAN 5140. Spanish Second Language Acquisition 3 sem. hrs.
Introduction to theories and approaches in second language acquisition. Examination of issues such as the similarities and differences between first and second language acquisition, theories of second language acquisition, factors that influence the language learning process, cognitive and sociocultural perspectives, the effect of study abroad on the development of second language acquisition, the testing of Spanish and the role of instruction in Spanish second language learning.
Prereq: Cons. of dept. ch.

SPAN 5150. Spanish as a World Language 3 sem. hrs.
Study of the status of Spanish in the world with reference to areas such as standardization, language history and variation, linguistic unification and fragmentation, discourse analysis, pragmatics and contact with other world languages.
Prereq: Cons. of dept. ch.

SPAN 5310. Spanish Film and Society 3 sem. hrs.
A comprehensive study of Spanish film. Special attention to the representation of key elements of the Spanish identity, such as family relations, culture, sex, gender, class, politics, and power. Includes materials on films and readings in film theory.

SPAN 5315. Spanish-American and Latino Film and Society 3 sem. hrs.
Study of Spanish-American and Latino film in accordance with contemporary cultural and film theory. Special attention to the representation of key elements of the Hispanic identity through culture, class, gender, sexuality, religion, politics and/or power. Viewings may include documentaries, feature length films, short films or films based on literature in and outside of class. *Prereq: Cons. of dept. ch.*

SPAN 5350. Nobel Prize Winners of the Hispanic World 3 sem. hrs.
Study of the literary achievements and representative works of such Hispanic Nobel Prize recipients as Aleixandre, Asturias, Benavente, Cela, Echegaray, García Márquez, Jiménez, Mistral, Neruda and Paz.

SPAN 5400. U.S. Latino/a Literature 3 sem. hrs.
A comprehensive study of U.S. Latinos/as' struggle for identity based on the ethnic, economic, historical, and cultural position of the Spanish-speaking population in the United States. Readings generally include Anaya, Castillo, Chavez, Cisneros, Diaz, and Rodriguez, among others.

SPAN 5450. Afro-Hispanic Caribbean Literature and Culture 3 sem. hrs.
Exploration of the relationship between literature and culture in the Afro-Hispanic Caribbean by focusing on themes of slavery, race, class, identity, religion, immigration and politics through the works of such writers as Manzano, Gómez de Avellaneda, Villaverde, Barnet, Rodríguez Juliá, Palés Matos, Guillén and Morejón. *Prereq: Cons. of dept. ch.*

SPAN 5500. Race, Culture and Religion in Early Spanish Literature 3 sem. hrs.
A study of representative literary texts from the Spanish Middle Ages to the 16th century with emphasis on both literary and cultural issues. Works studied generally include *Poema del M'io Cid*, *Libro de Buen Amor*, *La Celestina* and lyrical poetry.

SPAN 5505. The Spanish Renaissance 3 sem. hrs.
Readings and analysis in literary historical context of selected, significant works from representative authors such as Lope de Vega, Calderon de la Barca, Tirso de Molina, Fray Luis de Leon, San Juan de la Cruz, Santa Teresa de Jesus, and Gongora.

SPAN 5510. Cervantes' *Don Quijote* 3 sem. hrs.
In-depth study and analysis of Cervantes' masterpiece *Don Quijote* within the historical, political, and cultural context of the Spanish Golden Age. Special attention to his life, his novelistic theories, his literary works and importance in the creation of the modern novel.

SPAN 5525. Spanish Literature: Eighteenth and Nineteenth Centuries 3 sem. hrs.
The major figures of the Enlightenment, Neoclassic, Romantic, Realist and Naturalist movements in Spain. Readings include Cadalso, Larra, Pardo Bazan, Clarin, and Galdos.

SPAN 5550. Spanish Literature: Twentieth and Twenty-First Centuries 3 sem. hrs.
Non-dramatic literature after 1898 with emphasis on the social significance of literary production in contemporary Spain. Readings include Unamuno, Laforet, Matute, Delibes, Goytisolo, and Vazquez Montalban.

SPAN 5560. Contemporary Spanish Theater 3 sem. hrs.
A study of the major formal and thematic developments in contemporary peninsular Spanish theater with emphasis on the works of such dramatists as Valle Inclan, Mihura, Casona, Sastre, Buero Vallejo, Garcia Lorca, Nieva, and Pedrero.

SPAN 5600. Spanish-American Literature: Pre-Columbian to Baroque 3 sem. hrs.
Presents a panoramic overview of the major writers and relevant literary manifestations present in the Hispanic World from the pre-Columbian days (e.g. Aztecs, Mayans and Incas) to the Baroque. Writers studied generally include: Colon, Cortes, Las Casas, Inca Garcilaso de la Vega, Sor Juana, among others. Offered alternate years.

SPAN 5610. Spanish-American Literature: Eighteenth and Nineteenth Centuries 3 sem. hrs.
Overview of the development of literature in Spanish-America during the 18th and 19th centuries. Major movements studied include Romanticism, Realism, and Naturalism. Topics of particular interest include the promotion of independence, the search for national identity, and efforts to reform colonial practices such as slavery. Writers studied generally include: Fernandez de Lizardi, Bello, Bolivar, Echeverria, Isaacs, Gomez de Avellaneda, Sarmiento, and Marti, among others. Offered alternate years.

SPAN 5615. Spanish-American Literature: Modernismo and Vanguardismo 3 sem. hrs.
Study of Modernismo and the avant-garde movements in Spanish-America. Writers studied include: Darío, Rodó, Huidoboro, Storni, Vallejo and Borges among others. Offered alternate years.
Prereq: Cons. of dept. ch.

SPAN 5620. Spanish-American Literature: The Boom to the Twenty-First Century 3 sem. hrs.
Study of various literary modes of thought and tendencies present in Spanish-America throughout the 20th century to the present in areas such as poetry, the short story, the short novel and the essay. Emphasis on the Boom and post-Boom tendencies. Writers studied generally include: Paz, Borges, Fuentes, García Márquez, Allende, Poniatowska and Menchú, among others. Offered alternate years.
Prereq: Cons. of dept. ch.

SPAN 5640. Novels and Novelists in Spanish-America 3 sem. hrs.
Focuses on the different trends, forms, and contents of the Spanish-American novel as a genre, with emphasis on the works of such modern and cosmopolitan writers as Sabato, Fuentes, Carpentier, Ferré, Allende, Esquivel, Vargas Llosa and García Márquez.

SPAN 5660. Spanish-American Theatre 3 sem. hrs.
Study of Spanish-American theatre from Colonial times to present. Writers studied include Sor Juana, Díaz, Gambaro, Marqués, Sánchez, Usigli and Wolf, among others. *Prereq: Cons. of dept. ch.*

SPAN 5670. Spanish-American Short Story 3 sem. hrs.
Study of the evolution of the Spanish-American short story. Writers studied include Borges, Cortázar, Donoso, Ferré, Fuentes, García, Marquéz, Quiroga, Rulfo and Valenzuela, among others.
Prereq: Cons. of dept. ch.

SPAN 5931. Topics in Spanish Language, Culture and Literature 1-3 sem. hrs.
Topics vary. Subject to be announced.
Prereq: Cons. of dept. ch.

SPAN 6000. Teaching College Spanish 3 sem. hrs.
Introduction to the principles of effective foreign language teaching. Readings in theories of second language learning and current pedagogical practices. Objectives include designing activities for the communicative classroom, as well as appropriate assessment techniques. Offered fall term.
Prereq: Required of all Spanish teaching assistants their first fall term.

SPAN 6100. History of the Spanish Language 3 sem. hrs.
Historical development of the Spanish language from its origins to the present in Spain and Spanish-America.

SPAN 6110. Applied Linguistics 3 sem. hrs.
Systematic study of language aimed at the application of descriptive, comparative, and historical linguistics to the language teaching situation. Applied linguistics in phonology, morphology, syntax, and contrastive analysis.

SPAN 6150. Strategies and Techniques of Written and Oral Communication 3 sem. hrs.
Spanish syntactical and stylistic problems, plus advanced oral-aural work based on topical material of a literary, artistic, or cultural nature.

SPAN 6204. Spanish for Reading Knowledge 3 sem. hrs.
Provides an overview of Spanish grammar, reading comprehension of basic texts and translation practice for graduate students who plan to use Spanish in their field of research. May only be taken for credit and may not be audited. Offered occasionally.
Prereq: Enrolled in the Graduate School.

SPAN 6300. Hispanic Cultural Studies 3 sem. hrs.
Study of a given topic in Hispanic Cultural Studies, such as film, Spanish culture, Spanish-America culture, or U.S. Latino literature and culture. Topics to be announced. Offered occasionally.

SPAN 6391. Topics in Spanish Language, Culture and Literature 3 sem. hrs.
Topics vary.

SPAN 6500. Medieval Spanish Literature 3 sem. hrs.
Literary texts of Spain prior to the 16th century. Offered alternate years.

SPAN 6505. Studies in Spanish Renaissance Literature 3 sem. hrs.
The major trends in Spanish literature during the 15th and 16th centuries. Offered occasionally.

SPAN 6525. Studies in Spanish Literature: Eighteenth and Nineteenth Centuries 3 sem. hrs.
Significant trends and authors of the 18th and 19th centuries in Spain. Offered occasionally.

SPAN 6550. Studies in Spanish Literature: Twentieth and Twenty-First Centuries 3 sem. hrs.
Contemporary Spanish literature from the Generation of 98 to the present. Offered occasionally.

SPAN 6575. Studies in Spanish Literature: Genre Study 3 sem. hrs.
In-depth study of the development of a major genre in Spanish literature, such as theatre, short story, poetry or essay. The particular genre will vary. Offered occasionally.

SPAN 6600. Studies in Spanish-American Literature: Pre-Columbian to Baroque Period 3 sem. hrs.
Study of major trends in Spanish-American literature since the Pre-Columbian period, with particular emphasis on the Cronicas and baroque poetry. Offered occasionally.

SPAN 6610. Studies in Spanish-American Literature: Eighteenth and Nineteenth Centuries 3 sem. hrs.
Study of major trends and genres in Spanish-America during the 18th and 19th centuries, with particular emphasis on Romanticism, Realism, Naturalism and Modernismo. Writers studied generally include: Fernández de Lizardi, Bello, Bolívar, Echeverría, Isaacs, Gómez de Avellaneda, Sarmiento, Martí and Darío, among others. Offered occasionally.

SPAN 6650. Studies in Spanish-American Literature: Twentieth and Twenty-First Centuries 3 sem. hrs.
Study of major trends in Spanish-American literature in the 20th and 21st centuries. Particular emphasis on the representative poets, dramatists and prose writers of the modern period. Offered occasionally.

SPAN 6675. Studies in Spanish-American Literature: Genre Study 3 sem. hrs.
Study of the development of a major genre in Spanish-American literature, such as theatre, short study, poetry or essay. The particular genre will vary. Offered occasionally.

SPAN 6995. Independent Study in Spanish 1-3 sem. hrs.
Prereq: Cons. of dept. ch.

SPAN 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

SPAN 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

SPAN 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

SPAN 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

SPAN 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

SPAN 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

GRADUATE SCHOOL (GRAD)

The courses listed in this section of the bulletin do not constitute a program or degree offering, but are placed under the Graduate School heading for convenience and because they do not belong to any one graduate program.

Students interested in taking any of the following courses must contact the assistant dean of the Graduate School in order to register.

COURSE DESCRIPTIONS

GRAD 6933. Exchange/University of Wisconsin–Milwaukee 1-5 sem. hrs.
In conjunction with the exchange program established between Marquette University and the University of Wisconsin-Milwaukee, students may enroll in a graduate-level course at the University of Wisconsin-Milwaukee while enrolled in the master's or doctoral program at Marquette. The UWM course title and credits are identified by this GRAD exchange course. A maximum of two of these GRAD exchange courses may be included in the required minimum course work for the student's program of study at Marquette. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course. *Prereq: Cons. of dept. ch.; written cons. of the dept. and the Graduate School.*

GRAD 6934. Exchange/University of Notre Dame 1-5 sem. hrs.
As part of the consortium of Midwest Catholic Graduate Schools, students may enroll in a graduate-level course at the University of Notre Dame while enrolled in the master's or doctoral program at Marquette. The Notre Dame course title and credits are identified by this GRAD exchange course. A maximum of two of these GRAD exchange courses may be included in the required minimum course work for the student's program of study at Marquette. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course. *Prereq: Cons. of dept. ch.; written cons. of the dept. and the Graduate School.*

GRAD 6935. Exchange/Loyola University Chicago 1-5 sem. hrs.
As part of the consortium of Midwest Catholic Graduate Schools, students may enroll in a graduate-level course at Loyola University Chicago while enrolled in the master's or doctoral program at Marquette. The Loyola course title and credits are identified by this GRAD exchange course. A maximum of two of these GRAD exchange courses may be included in the required minimum course work for the student's program of study at Marquette. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course. *Prereq: Cons. of dept. ch.; written cons. of the dept. and the Graduate School.*

GRAD 6936. Exchange/Saint Louis University 1-5 sem. hrs.
As part of the consortium of Midwest Catholic Graduate Schools, students may enroll in a graduate-level course at Saint Louis University while enrolled in the master's or doctoral program at Marquette. The Saint Louis course title and credits are identified by this GRAD exchange course. A maximum of two of these GRAD exchange courses may be included in the required minimum course work for the student's program of study at Marquette. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course. *Prereq: Cons. of dept. ch.; written cons. of the dept. and the Graduate School.*

GRAD 6945. Exchange/Medical College of Wisconsin 1-5 sem. hrs.
In conjunction with the exchange program established between Marquette University and the Medical College of Wisconsin, students may enroll in a graduate-level course at the Medical College of Wisconsin while enrolled in the master's or doctoral program at Marquette. The Medical College course title and credits are identified by this GRAD exchange course. A maximum of two of these GRAD exchange courses may be included in the required minimum course work for the student's program of study at Marquette. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end of the course. *Prereq: Cons. of dept. ch.; written cons. of the dept. and the Graduate School.*

HEALTHCARE TECHNOLOGIES MANAGEMENT (HCTM)

Director and Associate Professor: Goldberg
Professor: Cotton
Associate Professor: Hill, Schroeter, Wilson *(Emerita)*
Adjunct Instructor: Weinfurt
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREE OFFERED

Master of Science, Plan B only

PROGRAM DESCRIPTION

The healthcare technologies management program is a collaborative effort between Marquette University and the Medical College of Wisconsin that combines management, technology and health care. The objective of the program is to educate professionals capable of managing the design, development, commercialization, and regulatory compliance of diagnostic and therapeutic medical devices, and the implementation, utilization, and assessment of hospital-based healthcare technologies.

Healthcare institutions, medical device companies, and healthcare consulting firms have a growing need for skilled professionals with technical and managerial skills, and an understanding of healthcare delivery and regulatory environments. Graduates of the program will have the education and skills needed to pursue career opportunities in clinical, industrial, and consulting environments. The program meets the needs of recent undergraduates seeking an advanced degree as well as employed engineers interested in opportunities to prepare for career advancement.

Elective courses, professional projects, and internship opportunities enable students to customize their training to meet individual needs, interests, and career goals. With the assistance of a faculty and industry/clinical adviser, students are required to design and complete a professional project in healthcare technologies management. This project will help develop skills that will be useful in the clinical or industrial environment.

The course offerings and schedules are designed to allow working students to pursue this master of science degree on a part-time basis. Full-time students can complete the program in three terms (12 months). Course topics include: technology assessment, ethics of technology utilization, standards and regulations, product development, and the environment of healthcare delivery.

Students who do not have an adequate undergraduate background in business may also be required to complete one or more graduate business foundation courses (ACCO 6000 Accounting Foundations, ECON 6000 Economics Foundations, INTE 6000 Information Technology Foundations, MANA 6000 Mathematics Foundations, MANA 6001 Statistics Foundations) in preparation for the core business courses. Also see the Graduate School of Management Transfer of Credit policy regarding maximum business course transfer limits and requirements.

PREREQUISITES FOR ADMISSION

Applications are accepted from students who have already completed a bachelor's degree in engineering, physics or a related field from an accredited institution with a minimum GPA of 3.000 (on a 4.000 scale).

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Marquette University Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. A statement of purpose stating career goals and how the program will help in reaching those goals.
5. GRE (General Test only) average score of 60% minimum, GMAT, or Medical College Admission Test (MCAT), average of 9 on the individual scores. (Waived for individuals with a doctoral degree.)
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency. A minimum score of 580 on the paper-based version or 237 on the computer-based version is required. Minimum scoring for the Internet-based version is still being established for this program.

GENERAL INFORMATION

All admitted students are required to obtain and follow the department's *Graduate Student Handbook*, which contains complete details about the program and degree requirements. This handbook is available through the Biomedical Engineering Office, (414) 288-3375.

MASTER'S DEGREE PROGRAM REQUIREMENTS

The program consists of 37.5 credit hours. All students are required to take the following courses.

MARQUETTE UNIVERSITY COURSES

ACCO 6000	Accounting Foundations (2 sem. hrs.)
ACCO 6100	Managerial Accounting (3 sem. hrs.)
FINA 6100	Financial Management (3 sem. hrs.)
HCTM 6200	Healthcare Technology Assessment (3 sem. hrs.)
HCTM 6500	Product Development of Medical Devices (2 sem. hrs.)
HCTM 6931	Topics in Healthcare Technologies Management (0.5 sem. hr., taken twice, for a total of 1 sem. hr.) Fall: Communication Skills for Technical Managers Spring: Making the Transition from Engineer to Manager
HCTM 6998	Professional Project in Healthcare Technologies Management
HEAL 6840	The Environment of Healthcare Delivery (2 sem. hrs.) See course listing under NURSING.
MANA 6100	Organizational Behavior (3 sem. hrs.)
MARK 6100	Marketing Management (3 sem. hrs.)
Electives	Six elective credits (6 sem. hrs.) are required. Elective courses must be approved by program director.

MEDICAL COLLEGE OF WISCONSIN COURSES

For each course listed below, students must register for HCTM 6946 through MU **AND** for the matching MCW course through MCW.

HCTM 6946	(MCW 14200) Survey of Biomedical Engineering Technology (3 sem. hrs.)
HCTM 6946	(MCW 14211) Biomedical Technology Standards and Regulations (2 sem. hrs.)
HCTM 6946	(MCW 14212) Ethics of Technology Utilization (1.5 sem. hrs.)

COURSE DESCRIPTIONS

HCTM 6200. Health Care Technology Assessment 3 sem. hrs.
Introduction to health care technology assessment methods for hospital systems and medical businesses encompassing technical, clinical, and business elements. Topics include: clinical results analysis, gold standard comparison, Bland-Altman analysis, sensitivity/specificity analysis, and business trade-off analysis. Extensively uses case studies of present and developing medical technologies as examples of applied assessment methodologies. Offered spring term.

HCTM 6500. Product Development of Medical Devices 2 sem. hrs.
Presents requirements for the design, development, and commercialization of new medical devices as well as management of the product development process. Presents design, testing, regulatory, and legal requirements, along with project evaluation and management methods. Also discusses issues involving management of the product development process (such as providing and environment conducive to creativity and innovation, managing the R&D/Marketing interface, and motivation of technical personnel). Offered summer term.

HCTM 6931. Topics in Health Care Technologies Management 0.5 sem. hrs.
Fall term: Communication Skills for Technical Managers. Includes oral presentation skills, effective interviewing for managers, conducting performance appraisals, and effective meetings and decision making/problem solving in groups. Spring term: Making the Transition from Engineer to Manager. Includes management and leadership of technical personnel, fundamentals of managing people, and conflict management. S/U grade assessment.

HCTM 6946. Medical College of Wisconsin/HCTM-Joint Degree 1.5-3 sem. hrs.
Registration for this course allows students in the joint Marquette University/Medical College of Wisconsin health care technologies management program to take courses at the Medical College of Wisconsin to fulfill the elective requirements of the program.

HCTM 6995. Independent Study in Health Care Technologies Management
1-3 sem. hrs.
Prereq: Cons. of prog. dir.

HCTM 6998. Professional Project in Health Care Technologies Management
1-3 sem. hrs.
During the first term, students identify a project or internship involving the management of health care technologies, and present it to the faculty for approval. Project selection based on the career goals and interests of the student. Faculty and industry/hospital advisers assist students. Project completed during the third term and a final report presented to the faculty.

HISTORY (HIST)

Chairperson and Professor: Marten
Director of Graduate Studies and Associate Professor: Naylor
Professor: Avella, Ball, Bicha *(Emeritus)*, Donnelly, Gardinier *(Emeritus)*, Jablonsky, Krugler, Phayer *(Emeritus)*, Prucha *(Emeritus)*, Ruff, Theoharis *(Emeritus)*, Weber *(Emeritus)*, Zupko *(Emeritus)*
Associate Professor: Burckel *(Emeritus)*, C. Hay, R. Hay *(Emeritus)*, Knox, McMahon, Meissner, Zeps
Assistant Professor: Donoghue, Efford, Foster, Guenther, Kahrl, Korieh, Matthew, Wert
Visiting Assistant Professor: McDaniel
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts, Plan B only; Doctor of Philosophy

SPECIALIZATIONS

Master's: European History, United States History, Global Studies
Doctoral: European History, United States History

PROGRAM DESCRIPTION

Graduate study in history permits students to increase their knowledge of the past and the processes that have shaped the human experience. Such study may prepare students for careers in scholarship, teaching, or certain public service fields.

PREREQUISITES FOR ADMISSION

For admission to the master of arts program, an applicant must have an undergraduate major in history or its equivalent. **An applicant for the doctoral program must possess a master of arts in history.**

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by December 31.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.

3. A one-page statement of purpose specifying proposed areas of study and activities, along with employment, since graduation.
4. Three letters of recommendation from former teachers.
5. GRE scores (General Test only).
6. *(For doctoral applicants only)* a writing sample. Ideally, the sample should be the master's thesis, but, for graduates of non-thesis programs, it may consist of a formal seminar paper.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

GENERAL INFORMATION

DIRECTION AND ADVISING

The director of graduate studies is charged with directing the department's graduate programs and with the general advising of all graduate students in matters of course selection, financial aid, and placement. In addition, each student chooses, in consultation with the director of graduate studies, a field adviser who will direct the student's field-specific work, including: the master's essay, the selection of post-master's course work, completion of the *Doctoral Program Planning Form*, and the doctoral dissertation.

MASTER'S REQUIREMENTS

The three major areas in the master of arts program with their fields are:

1. *European History*
   a. Medieval
   b. Early Modern
   c. Modern
2. *United States History*
   a. Early U.S.
   b. Modern U.S.
3. *Global Studies*

A master's student must complete 30 credit hours of course work, a master's essay, and a comprehensive examination. At least 18 credit hours of course work must be in history courses numbered 6000 or above, and at least six of those credits must be in research seminars. With the consent of the department chairperson, six hours of graduate work outside the department may be included in the master of arts program. Students in Medieval history will be examined only in that field but must take at least six credit hours of graduate work in another field. No foreign language is required for the master's degree.

COMPREHENSIVE EXAMINATION

The comprehensive written examination lasts eight hours. A committee of two examiners will assess the master of arts candidate's command of the fields of study and knowledge of historical literature. Each candidate will be examined in one major field and one minor field, except for students in Medieval history, who will be examined in the Medieval field alone. Students in European history will be examined in one major field in European history and one minor field in U.S. history, while students in United States history will be examined in one major U.S. field and one minor European field. Students in Global Studies will be examined in this broadly-focused major field. They must also select a minor field from among three options: Latin America, Asia, or Africa.

DOCTORAL REQUIREMENTS

The two major areas in the doctoral program with their fields are:

1. *European History*
   a. Early Modern
   b. Modern
2. *United States History*
   a. Early U.S.
   b. Modern U.S.

Possible examination fields also include medieval Europe, Asian, Latin American, or African history.

A doctoral student must complete a program of study defined on an approved *Doctoral Program Planning Form*. The program includes course work, a reading knowledge of at least one foreign language, the qualifying examination, and a dissertation.

COURSE WORK

The department's normal course work requirement for the doctoral program is 60 credit hours beyond the bachelor's degree, including course work for the master of arts but not including the 12 credit hours required for the doctoral dissertation. In the 60 credits required, a student with a master of arts must include six credit hours of research seminar courses (HIST 6954, 6956, 6958, 6960) and a three-hour dissertation seminar. The academic progress of all students who hold non-Marquette master's degrees will be evaluated at the end of the first year of doctoral study. The programs of students making unsatisfactory progress may be terminated at that time.

FOREIGN LANGUAGE REQUIREMENT

The student must have knowledge of at least one foreign language pertinent to their area of research. Reading skills in foreign languages are assessed by the department. Students may also satisfy their foreign language competency requirement by achieving at least a B in a 6204 course offered by the Department of Foreign Languages and Literatures. Satisfactory competence in the foreign language must be demonstrated prior to the qualifying examinations, and students in continental European history must demonstrate command of the language appropriate to their research goals no later than the end of their first term of doctoral study. Failure to do so will preclude further course work until the student demonstrates the appropriate language competency. The dissertation director may require a doctoral student to show competence in a second foreign language or in statistical methods when the dissertation topic requires it.

QUALIFYING EXAMINATION

After completing all formal course work and language study, the doctoral student must take the doctoral qualifying examinations (DQEs), written and oral. Written qualifying examinations are twelve hours in duration. Oral qualifying examinations, three hours in duration, are held about ten days after the written examinations.

The qualifying examinations will cover four fields: two major fields and two minor fields. Europeanists will be examined in two major fields in European history and in two minor fields in United States, Latin American, African, Asian, or European history. Students in United States history will be examined in both American fields, in a minor field in European history, and in a minor field in Latin American, African, Asian, or European history. Students may choose a minor in a topical field drawn from a list approved by the History Department faculty.

A committee of four department members assesses examination performance.

COURSE DESCRIPTIONS

HIST 5100. Public History 3 sem. hrs.
An examination of the means by which the skills and methods of history are applied by professionals outside the classroom. Topics include public history as a sub-discipline of history, historic preservation, and the emergence of history museums and historical societies.

HIST 5101. Technology for Historians
3 sem. hrs.
An examination of technologies for researching, presenting and preserving of historical materials. How to apply historic methods through digital media technologies. Topics will include systems and tools for: researching and collecting documents and materials; digitizing, editing and manipulating materials; presenting content to local and distant audiences; and preserving materials in appropriate formats. Investigates digital imaging, multimedia and Web page creation, streaming technologies, presentations systems and CD/DVD production. Also explores the unique capabilities of collaboration and distribution over high-speed networks (Internet2). Requirements include a final project on a historical topic that incorporates some or all of the technologies introduced, demonstrating mastery of content as well as technology.

HIST 5113. American Foreign Relations 1
3 sem. hrs.
American foreign relations from the American Revolution to the emergence of the United States as a world power. Gives equal emphasis to the conduct of American diplomacy by agents of the U.S. government and the social, economic, and cultural forces that shape foreign policies.

HIST 5114. American Foreign Relations 2
3 sem. hrs.
American foreign relations from the American Revolution to the emergence of the United States as a world power. Gives equal emphasis to the conduct of American diplomacy by agents of the U.S. government and the social, economic, and cultural forces that shape foreign policies. Begins with World War I.

HIST 5115. The American West 3 sem. hrs.
American westward expansion from colonial days to the 20th century, emphasizing the impact of the frontier on the development of American culture and institutions.

HIST 5130. Religion and American Life
3 sem. hrs.
Survey the historical impact of religious belief and institutions on the intellectual, cultural, and public life of the United States.

HIST 5135. African-American History
3 sem. hrs.
The role and response of the African-American in American society. Emphasis on the problems of slavery, exclusion, accommodation, migration, urbanization, and currents of protest.

HIST 5140. American Urban History
3 sem. hrs.
History of the American city from the colonial era to the present. Topics include the economic, political, and cultural effects of cities on American society, as well as America's philosophical and moral response to urbanization.

HIST 5145. A History of Women in America 3 sem. hrs.
Survey of the history of women and the variety of women's experiences in America from pre-European contact to the present. Analyzes the historical construction of gender and the ways that diverse women have shaped and contested their various experiences as mothers, daughters, wives, and partners; as farmers and workers; as slaves and conquered peoples; as reformers and political activists; and as immigrants and citizens.

HIST 5150. Childhood in America 3 sem. hrs.
The history of children and childhood in the United States from colonial times to the present, with an emphasis on child rearing, race, gender, class and popular culture.

HIST 5160. Cultural and Intellectual History of the United States 3 sem. hrs.
A survey of American thought and culture from the first contacts between indigenous peoples and Europeans, through the development of the United States to the present. Particular attention paid to those moments of intellectual and cultural conflict that illuminate and define the process by which a variety of Americans have shaped a distinct but malleable American culture.

HIST 5170. Constitutional History of the United States 3 sem. hrs.
Origin and development of the American constitutional system. Principles of the Constitution. Expansion of the Constitution through usage, amendment, and judicial interpretation.

HIST 5212. The Crusades 3 sem. hrs.
Western European and Middle Eastern relations from the 11th through the 13th centuries; includes Arabic, Byzantine, Turkish, and Mongol areas.

HIST 5213. Medieval England 3 sem. hrs.
A social, political, and military history of England from the Roman Empire to the rise of the Tudor Dynasty.

HIST 5245. Women in Western Civilization 3 sem. hrs.
Survey of women's experiences in western civilization from prehistory to the present. Focusing primarily on Europe, analyzes the changing roles and responsibilities of women in the family, in the work force, and in the community and highlights the impact of phenomena such as religion, science, technology, and democracy on the shifting perceptions and definitions of gender in western civilization.

HIST 5247. Comparative Home Fronts during the Second World War 3 sem. hrs.
Explores state policies, gender ideologies, daily realities and the role(s) of civilians, particularly women, on select home fronts of World War II. The conflict was a "watershed" in the use of violence aimed at civilians, who were targeted via air raids, food blockades, deportation, rape and mass murder. Using comparative framework, examines Germany, Italy, France, the concentration camps and the United States.

HIST 5249. Intellectual History of Modern Europe 3 sem. hrs.
The lives and works of prominent European scientists, philosophers and artists from the Enlightenment to the present.

HIST 5250. Tudor England: 1485 to 1603 3 sem. hrs.
The political, socio-economic, religious and cultural developments in Renaissance and Reformation England with particular attention to the personalities who dominate the Tudor court; the effects of the establishment of Caesaro-Papism by Henry VIII upon the art, architecture, literature and social life of the country.

HIST 5251. War and Revolution in Britain: 1603-1815 3 sem. hrs.
Focuses on Britain's development as a constitutional monarchy and a commercial and imperial power. Particular attention is given to the Civil War, Glorious Revolution, American Revolution, and escalating rivalry with France climaxing in the Napoleonic Wars.

HIST 5252. Modern Britain 3 sem. hrs.
Focuses on the democratization of Britain, the creation of the welfare state, and erosion of Victorian Britain's commercial and political global primacy reflected in the disintegration of the British Empire and fragmentation of the United Kingdom.

HIST 5255. The British Empire 3 sem. hrs.
Survey of the creation, expansion and dismantling of the world's largest empire from the 16th century to the present. Exploration of political, social, economic and cultural factors. Emphasis on contrasting the views and experiences of Britons and of natives of various colonized areas.

HIST 5260. Modern Ireland 3 sem. hrs.
A survey of the political and cultural history of Ireland since the Gratton Parliament, focusing upon the dual legacy of constitutional and revolutionary nationalism in Irish life.

HIST 5262. Modern France 3 sem. hrs.
France from the fall of Napoleon to the present, especially emphasizing the development of French democracy and the nation's enduring impact on world affairs.

HIST 5264. Modern Germany 3 sem. hrs.
Survey of the major political, cultural, social and intellectual developments in modern Germany history since the Napoleonic period. Topics include: nationalism, unification, the German (Wilhelmine) Empire, the Weimar Republic, the rise of the Nazi Party, the Third Reich, the two World Wars, division, reunification and Germany's post-reunification role in Europe.

HIST 5270. Russia to 1861 3 sem. hrs.
The Slavs, the Kievan Rus Empire, the Mongol invasion, the rise of Muscovy, and the Russian empire of Peter the Great and his successors down to the emancipation of the serfs in 1861.

HIST 5271. The Russian Revolution and the Soviet Union 3 sem. hrs.
Pre-revolutionary Russia from 1861, the Revolution of 1917, Soviet economic growth and totalitarianism, and the emergence of the USSR as a world power and its subsequent collapse.

HIST 5290. The French Revolution and Napoleon: 1787 to 1815 3 sem. hrs.
A survey of Revolutionary Europe with emphasis on the causes and consequences of the Revolution, the Reign of Terror, the counter-revolutionary movements, the conquest of Europe, and the relation between revolution and religion.

HIST 5298. The Cold War 3 sem. hrs.
The origins, nature and consequences of the Cold War, with emphasis on the 1945-1970 period. Topics include the continuing effects of the Cold War, prospects for new international rivalries, and the domestic consequences of the Cold War.

HIST 5320. United States-Latin American Relations 3 sem. hrs.
Analyzes the symbiotic relationship between the United States and Latin America from 1776 to the present, focusing on the key themes of race, colonialism, resistance, transculturation, dependency, revolution, the drug trade and immigration. Examines how the United States' changing global status has affected its political, economic and cultural relationship with other countries in the Americas.

HIST 5350. The Caribbean 3 sem. hrs.
Focuses on the contours of Caribbean history, 1400 to present. Examines Native American culture, colonialism, slavery, international trade, the politics of independence, economic development, national identity, and ethnicity.

HIST 5355. History of Mexico 3 sem. hrs.
Mexico from pre-Columbian times to the present, with emphasis on ancient civilizations, the conquest, colonial society, independence, nineteenth-century development, Porfirian dictatorship, the Revolution of 1910, and modern society since 1920.

HIST 5450. North Africa 3 sem. hrs.
North Africa from the 7th century to the present, emphasizing Islamic and European influences.

HIST 5500. Modern Japan 3 sem. hrs.
Major events, people and debates in Japanese history from 1800 to the present. Includes examinations of the "margins" of Japanese history: the countryside, the common people, ethnic minorities, marginal identities, etc., in order to understand how individuals dealt with changes in Japan from its early modernity to the present day.

HIST 5550. Medieval East Asia 3 sem. hrs.
Examines the tremendous flourishing of Chinese and Japanese cultures between the 7th and 14th centuries and the influence Mongol conquests played on the diffusion of these cultures to the west.

HIST 5555. Modern China 3 sem. hrs.
The history of China from 1800-1976, emphasizing national responses to imperial decline, western intervention, civil wars, foreign occupation and political turmoil. Offered biennially.

HIST 5600. Comparative Twentieth-Century Genocides 3 sem. hrs.
Examines the emergence, development, underlying causes and uses of genocide, ethnic cleansing and the other crimes against humanity in the twentieth century. Case studies include colonial genocides; the Armenian genocide; the Holocaust; the Cambodian genocide; the Rwandan genocide; and the ethnic cleansings in the former Yugoslavia. Explores responses to these crimes, denial and memory, justice and redress and strategies of prevention and intervention.

HIST 5931. Topics in History 3 sem. hrs.
Topics vary. Subjects to be announced.

HIST 5953. Readings in History 3 sem. hrs.
Readings and discussion designed to introduce a small group to topics, problems and methodologies in history which are not taught in the regular lecture courses. Subjects to be announced. Offered annually.

HIST 5986. Internship in Public and Applied History 3 sem. hrs.
Offers an opportunity to have a work experience outside of the classroom in such venues as archives, art museums, historical societies, and museums. Students must arrange the internship in consultation with the public history adviser and complete an internship agreement. Undergraduate students work 8-10 hours per week and graduate students work 10-12 hours per week during the term. Students complete a written assignment in conjunction with the work experience. Completion or concurrent enrollment in HIST 4100 is strongly recommended. S/U grade assessment.

HIST 6100. The Art and Craft of History 3 sem. hrs.
The nature and theories of history, principles and methodologies of historical research, specializations within the discipline, and the professional applications of history. Required of all entering M.A. and Ph.D. students. Offered fall term.

HIST 6110. The British Atlantic World to the American Revolution 3 sem. hrs.
An examination of the expansion of the English empire to North America. Topics include: exploration; colony founding; the political, social and economic maturation of the colonies; the imperial system including resistance to Parliamentary laws; relations with native populations; the development of slavery; changing roles for women; and the inter-colonial wars between the English and French Empires. Offered in rotation with HIST 6115, 6120, and 6125.

HIST 6115. The American Revolution and the New Nation 3 sem. hrs.
An examination of the creation and development of the United States to the beginnings of the sectional conflict. Topics include: the causes of the rebellion; conflicts between Americans; the war for independence; constitution making; foreign relations including the War of 1812; the roles of and the relations between the executive, legislative, and judicial branches under the constitution of 1787; westward expansion and Indian removal; the problem of slavery in national politics; and the political, social, and economic maturation of the new nation. Offered in rotation with HIST 6110, 6120, and 6125.

HIST 6120. The Sectional Conflict, Civil War Era and Gilded Age 3 sem. hrs.
An examination of the origins and conduct of the Civil War, Reconstruction, and the political, economic, and social transformation of the United States in the late 19th century. Topics include: the political, constitutional, economic, and moral contexts of the institution of slavery; slave life and race relations; territorial expansion, the development of the West, and Native American policy; the political, social, and economic impact of the Civil War and reconstruction; the development of an American foreign policy; the evolution of political parties; industrialization, urbanization, and immigration. Offered in rotation with HIST 6110, 6115, and 6125.

HIST 6125. United States in the Twentieth Century 3 sem. hrs.
An examination of the political, economic, and social history of the 20th century. Topics include: the United States' rise to global power; the Progressive Era; the Great Depression; the Cold War and its related conflicts; cultural, social, and intellectual currents; the expansion of the federal government; and the evolution of political parties. Offered in rotation with HIST 6110, 6115, and 6120.

HIST 6235. Renaissance and Reformation 3 sem. hrs.
A guided reading program on the major issues and historiography of Europe from the demise of the institutions and culture of the Medieval period through the end of the religious wars marked by the Peace of Westphalia of 1648. Offered in rotation with HIST 6240, 6245, and 6250.

HIST 6240. Europe: 1648–1815 3 sem. hrs.
A guided reading program on the major issues and historiography of Europe from the Peace of Westphalia to that of Vienna. Offered in rotation with HIST 6235, 6245, and 6250.

HIST 6245. Europe: 1815–1919 3 sem. hrs.
A guided reading program on the major issues and historiography of Europe from the Treaty of Vienna through the Paris peace treaties of 1919. Offered in rotation with HIST 6235, 6240, and 6250.

HIST 6250. Europe: 1919–Present 3 sem. hrs.
A guided reading program on the major issues and historiography of 20th century Europe. Offered in rotation with HIST 6235, 6240, and 6245.

HIST 6300. Global History 3 sem. hrs.
A guided reading program on the major issues, methodologies, and historiography in global history.

HIST 6500. Studies in United States History 3 sem. hrs.
Offered every term.

HIST 6510. Studies in Medieval History 3 sem. hrs.

HIST 6520. Studies in Renaissance and Reformation History 3 sem. hrs.

HIST 6525. Studies in European History 3 sem. hrs.
Offered every term.

HIST 6530. Studies in Latin American History 3 sem. hrs.

HIST 6535. Studies in African History 3 sem. hrs.

HIST 6540. Studies in Asian History 3 sem. hrs.

HIST 6545. Studies in Global History 3 sem. hrs.

HIST 6954. Seminar in United States History 3 sem. hrs.
Offered every term.

HIST 6956. Seminar in Medieval History 3 sem. hrs.

HIST 6958. Seminar in European History 3 sem. hrs.
Offered every term.

HIST 6960. Seminar in Global History 3 sem. hrs.

HIST 6995. Independent Study in History 1-3 sem. hrs.
Prereq: Cons. of instr. and cons. of graduate prog. dir.

HIST 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

HIST 8960. Dissertation Seminar 3 sem. hrs.
Offered every term.
Prereq: Doctoral stndg.

HIST 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.

HIST 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HIST 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

HUMAN RESOURCES (HURE)

See **GRADUATE SCHOOL OF MANAGEMENT SECTION**

INTERDISCIPLINARY PH.D. (INPR)

DEGREE OFFERED

Doctor of Philosophy

PROGRAM DESCRIPTION

This doctoral program provides students and faculty with opportunities for creative academic programming and research that cross the boundaries of traditional disciplines. Instead of being supported by an individual department, school or college, each student's program is administered by an interdisciplinary faculty committee. The faculty committee shall be approved by the Graduate School. The interdisciplinary program itself shall be approved by, and under the oversight of, the University Board of Graduate Studies.

Each INPR program must combine the academic and intellectual assets, in terms of course work and faculty expertise, of two or more academic departments at Marquette. Faculty may serve on an INPR committee whether or not their departments offer doctoral degrees. The University Board of Graduate Studies serves to a great extent as a quasi department. Every program is unique in terms of course work, methodology, and research.

To gain admission into the interdisciplinary Ph.D. program, the student must:

1. Satisfy demanding academic entrance requirements.
2. Propose a faculty adviser/dissertation committee chair.
3. Propose an advisory committee.
4. Propose a dissertation research topic.
5. Present and defend a formal admission proposal to the University Board of Graduate Studies.

PREREQUISITES FOR ADMISSION

Due to the unique nature of the interdisciplinary program, only students who demonstrate a high degree of self-reliance and responsibility will be considered for admission. In addition, applicants must meet the following criteria:

1. The student must have completed a master's degree or its equivalent at an accredited university.*
2. The student normally must have a graduate GPA of 3.500 or above, on a 4.000 scale, in their master's degree (or equivalent graduate work). If the student has less than a 3.500 cumulative GPA, the results of a current (within five years) standardized examination such as the GRE, GMAT, or LSAT, will be required.*

* Students currently enrolled in professional programs who desire to enter an INPR Ph.D. program should consult with their adviser and read the addendum relating to integrating professional programs with an INPR program.

APPLICATION PROCESS

A student interested in gaining admission to the INPR program must submit a formal written proposal to the University Board of Graduate Studies (UBGS), and must appear before the UBGS with his/her adviser/committee chair to defend that proposal. A detailed listing of the steps involved in this formal application process is found below in the paragraph titled Formal Admission Process.

Because the formal admission process can be quite lengthy, it is possible for students who would like to begin course work in advance of gaining formal admission to obtain admission in non-degree status. The non-degree application process is described below in the paragraph titled Non-Degree Admission Process.

Students may apply for formal admission to degree status without going through the non-degree admission process. However, many students find it to their benefit to first apply as a non-degree student.

FORMAL ADMISSION PROCESS

The University Board of Graduate Studies (UBGS) oversees all INPR programs, and is the body that will grant formal admission in degree-status to any student that meets UBGS approval. All applicants must submit a formal written proposal to the UBGS and must appear before the UBGS with his/her adviser/committee chair to defend that proposal.

The formal admission process for entry into the INPR degree program begins with discussions with faculty in expectation of identifying those who will serve as the dissertation committee, including an adviser/committee chair with whom the student sketches out a tentative plan for earning a doctoral degree. Development of the plan will involve interaction with all committee members. The student should incorporate feedback received from committee members and produce a detailed proposal as described below.

Prior to scheduling the proposal defense before the University Board of Graduate Studies and prior to finalizing the formal written proposal, the student must request from the Graduate School approval for all dissertation committee members, including the chair of the committee. The *INPR Dissertation Committee Form* must be completed by each prospective member of the committee. His/her signature on the form attests to his/her commitment to be a fully-engaged member of the committee until the student has completed his/her INPR doctoral degree *and also certifies that the faculty member meets the requirements for participation on the committee.*

Once the committee chair and members are identified and approved, the remainder of the formal admission process consists of the following:

1. A detailed proposal must be submitted to the Graduate School.
2. The written proposal must be reviewed by a subcommittee of the University Board of Graduate Studies before the student and adviser will be invited to defend the proposal before the full Board.
3. A 30 minute presentation (with questions and answers) must be presented to the University Board of Graduate Studies.
4. The student and his or her committee must address any written comments that result from the presentation to the University Board of Graduate Studies.
5. Once completed satisfactorily, the University Board of Graduate Studies will provide formal admission into the INPR program.

The proposal must detail the entire doctoral program, including courses, satisfaction of residency requirements, qualifying examination, and detailed plans for the dissertation. The proposal document must be prepared in consultation with the applicant's adviser/dissertation chair and the other members of the dissertation committee.

In addition to the above, application for admission to degree status in the INPR program requires that the student submit the following:

1. A completed application form and application fee.
2. Official transcripts from all colleges/universities except Marquette.
3. Proof of an earned master's degree.
4. Three letters of recommendation.
5. The results of a standardized test (GRE, GMAT, LSAT, MCAT, etc., as appropriate) if required due to a graduate GPA of less than 3.500.
6. *(For international students only)* the results of the TOEFL exam or other acceptable proof of English proficiency (waived if the student's undergraduate or prior graduate academic work was done at an English-speaking college or university).

If the student began his/her INPR studies in a non-degree status, any documents that were submitted in support of non-degree admission need not be resubmitted.

The University Board of Graduate Studies will accept proposals as they are completed, and will schedule the applicant to appear before the UBGS as soon as possible. The applicant's defense before the UBGS will be scheduled three to four weeks after submission of the written proposal.

NON-DEGREE ADMISSION PROCESS

As noted above, formal admission to the INPR program requires that a student's dissertation committee chair and membership be identified and secured, that the course work and research be refined, that a formal written proposal be developed and submitted to the UBGS, and that the student and the committee chair defend the proposal before the UBGS. This process can take up to nine months to complete.

In order to allow students to begin taking course work prior to completion of the formal admission process, students may apply for admission in a non-degree status. Admission in a non-degree status requires the following:

1. Submit a completed application form and application fee.
2. Secure written support from a Marquette faculty member, with whom the applicant has discussed his/her INPR ideas, that the proposal is viable. It is not required that the faculty member that submits this support ultimately become the chair or even a member of the committee, but it is expected that in most cases the faculty will be on the student's dissertation committee. Furthermore, the student should select non-degree course work in consultation with the dissertation chair (if identified) or the faculty member providing written verification.
3. Submit official transcripts from all current and previous colleges/universities except Marquette.
4. Submit proof of an earned master's degree with a minimum GPA of 3.500.

5. If the applicant has a cumulative GPA of less than 3.500 in his/her master's degree (or equivalent post-baccalaureate work), the results of a current (within five years) standardized test (GRE, GMAT, MAT, LSAT, MCAT, as appropriate) must be submitted.
6. *(For international students only)* submit a TOEFL score or other acceptable proof of English proficiency (waived if the student's undergraduate or graduate education was conducted in an English-speaking college or university).
7. Applicants in non-degree status must submit the formal proposal to the UBGS prior to completing nine credits, and must receive UBGS approval for admission in degree status before completion of twelve credits.

Non-Degree Course Work

Once the Graduate School has approved the student's admission in a non-degree status, he/she may begin taking course work. Students who have taken doctoral courses under non-degree status at Marquette may request that a maximum of twelve credits be accepted by the Interdisciplinary Ph.D. program. These courses may contribute toward completion of the INPR program as long as the courses are appropriate, they are acceptable to the student's dissertation committee (once composed), and the student earns a grade of B or above in each course. There is no obligation by the dissertation committee to accept courses taken in a non-degree status. Credits taken in a non-degree status beyond the limit of 12 may be taken to provide foundation or prerequisite background.

DOCTORAL REQUIREMENTS

An interdisciplinary doctoral student completes a minimum of 30 credit hours of course work beyond the master's degree and meets all other requirements as stated in the section on doctoral study. Because no individual department administers an interdisciplinary doctorate, certain understandings, commitments, and restrictions beyond those required in regular degree programs are necessary. Additional details can be obtained from the vice provost for research and dean of the Graduate School, or at the Graduate School's Web site www.marquette.edu/grad/programs_interdis.shtml.

COURSE DESCRIPTIONS

Each interdisciplinary degree proposal specifies the disciplines to be incorporated into the doctoral program. Students select course work from the departments that support those disciplines as well as the courses listed below.

INPR 8995. Independent Study in Interdisciplinary Ph.D. Program 1-3 sem. hrs.
Prereq: Cons. of dept. ch.; cons. of graduate prog. dir.

INPR 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program; Ph.D. candidates pursuing an approved interdisciplinary Ph.D. program.

INPR 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INPR 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons of prog. dir. and admitted to INPR program.

INPR 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.; cons. of prog. dir. and admitted to INPR program.

INTERNATIONAL AFFAIRS (INAF)

See **POLITICAL SCIENCE (POSC)**

LAW ENFORCEMENT LEADERSHIP AND MANAGEMENT (LELM)

Associate Dean and Assistant Professor: Caulfield
Dean of the College of Professional Studies: Deahl
Adjunct Instructor: Kammholz, McGury, Perlman, Waters
Note: Faculty members and their ranks are for the 2009-2010 academic year.

DEGREE OFFERED

Certificate

PROGRAM DESCRIPTION

The College of Professional Studies offers an online, non-degree graduate program leading to a certificate in law enforcement leadership and management. This program offers law enforcement officers an opportunity to strengthen their leadership and management skills in order to better serve their departments and their communities while putting themselves in a good position for promotion.

Several objectives underlie the scope and content of the program:

1. Apply ethical frameworks to the frequently experienced ethical dilemmas, which will result in socially responsible policing.
2. Collaborate with communities in solving socially complex problems that are frequently linked to criminal behavior.
3. Achieve understanding of resource management and resource allocation in law enforcement in order to operate and evaluate the efficiency and effectiveness of a law enforcement agency.
4. Practice risk management principles to minimize civil liabilities by knowing the current legal responsibilities of law enforcement administrators.

PREREQUISITES FOR ADMISSION

Applicants must have a baccalaureate degree from a college or university of recognized standing and must be an active law enforcement officer.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

CERTIFICATE REQUIREMENTS

The certificate program requires completion of two CJAD courses and two PUBS courses, for a total of four courses (12 credits). All four courses, CJAD 6510, CJAD 6511, PUBS 6571, and PUBS 6581, are required and make up the certificate.

Students must complete the certificate program within three years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the certificate in law enforcement leadership and management.

LEADERSHIP STUDIES (LEDR)

Associate Dean and Assistant Professor: Caulfield
Dean of the College of Professional Studies: Deahl
Associate Professor: Krejci, Soeka
Adjunct Assistant Professor and CPS Chaplain: Class
Adjunct Instructor: Benner, Braaksma, Coan, Essuman, Goergen, Kammholz, Kendrigan, Lotz, Lucey, McAvoy, O'Neil, Perlman, Rondini, Ruscitti, Waters
Note: Faculty members and their ranks are for the 2009-2010 academic year.

DEGREES OFFERED

Master in Leadership Studies, Plan B only; Certificate

SPECIALIZATIONS

Master's: Criminal Justice Administration, Dispute Resolution, Engineering, Health Care Administration, Non-Profit Sector, Public Service, Sports Leadership
A general track, requiring no specialization, is also available.
Certificate: None

PROGRAM DESCRIPTIONS

MASTER'S DEGREE PROGRAM

The College of Professional Studies offers a professional degree program leading to the master in leadership studies (M.L.S.), where students may choose either a general track or one of seven specializations.

CRIMINAL JUSTICE ADMINISTRATION

The criminal justice administration specialization seeks to produce broadly-educated, highly-motivated, thoroughly-trained professionals and scholars to meet the challenges of urban society. Several objectives underlie the scope and content of the program: 1) to provide urban stewards with an ethical and scholarly understanding of the issues and ramifications of current and anticipated policies in criminal justice; 2) to develop persons capable of exercising independent, analytical thought consistent with the needs of a democratic society; and 3) to provide a core of leaders familiar with the issues of criminal justice management and policy analysis.

DISPUTE RESOLUTION

The dispute resolution specialization attempts to combine the fields of law, business, psychology, sociology, political science, health sciences, education, and communication in dealing with today's multi-faceted issues in resolving disputes. The program seeks to train professionals, primarily those in the fields of law, health care, education, and business, to practice as third party neutrals in the field of dispute resolution, or to be knowledgeable participants in dispute resolution processes.

Marquette University also offers master's and certificate programs in dispute resolution. (See the program section on Dispute Resolution for description and details.)

ENGINEERING

The engineering specialization offers students the opportunity to deepen an understanding of their own technical area of expertise or to gain an understanding of a technical area of engineering other than their own. This added technical expertise coupled with the leadership core will assist engineers in working more effectively on cross function engineering teams. Students will learn to serve as skilled leaders in an engineering environment, as well as integrate their leadership and technical skills when introducing new technology into their functional groups.

HEALTH CARE ADMINISTRATION

The health care administration specialization seeks to prepare working professionals to meet the leadership challenges of today's health care system. As managed care and the integration of health care delivery continue to evolve, new skills and knowledge are needed to keep pace with current health care demands. The program provides a foundation in finance, economics, policy, leadership, systems, and outcome planning and evaluation, specifically related to the changing health care system. Through the many elective offerings (informatics, case management, marketing, program development, administrative practicum, conflict resolution, long-term care and more), students may explore a wide range of special interests.

NON-PROFIT SECTOR

The non-profit sector specialization seeks to provide training for individuals who plan a career in the third sector. Administrative and leadership preparation are particularly central to this training as executives handle budgets, board memberships, personnel oversight, corporate statutes, and program development.

PUBLIC SERVICE

The public service specialization prepares students to apply public service principals that encourage community engagement in urban environments and to apply frameworks to ethical dilemmas resulting in socially responsible public policy. Several objectives underlie the scope and content of this specialization: 1) to develop persons who can demonstrate the cultural and communication skills necessary to interact in a reciprocal exchange that honors the human dignity of all persons; 2) to develop persons who can apply theory and principals of group dynamics when assuming multiple group roles and responsibilities; and 3) to provide urban stewards with the necessary skills to collaborate with community leaders in solving complex urban problems.

Marquette University also offers a master's program in public service. (See the program section on Public Service for description and details.)

SPORTS LEADERSHIP

The sports leadership specialization seeks to provide training and an understanding of the depth and unique character of the sports industry. With a heavy emphasis on the application of leadership principles and practices to the business of athletics, the specialization objective is to increase the competency of sports leadership professionals.

CERTIFICATE PROGRAM

The College of Professional Studies offers a 15 credit non-degree graduate program leading to the certificate in leadership studies. With a heavy emphasis on ethics and leadership, the program objective is to increase the leadership competency of working professionals in our community.

PREREQUISITES FOR ADMISSION

Applicants to leadership studies must hold a baccalaureate degree, or its academic equivalent, from a college or university of recognized standing. The undergraduate background must be appropriate to the chosen course of study. Generally, applicants should have a minimum cumulative grade point average of 3.000 (on a scale of 4.000) in their undergraduate course work. Minimally two years of work experience is preferred.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. (*For master's applicants only*) a statement of purpose.
5. Official test scores from the GRE (preferred), GMAT or LSAT. Waived if the applicant has completed any advanced degree from any school – M.A., M.S., M.B.A., Ph.D., J.D., or M.D.
6. (*For international applicants only*) a TOEFL score or other acceptable proof of English proficiency.

Additional application requirements may be required for particular specializations. Students should contact the program coordinator for details.

MASTER'S REQUIREMENTS

Students must complete a total of thirty-six (36) credit hours of course work for the master in leadership studies. Either the general track or one of the seven specializations (criminal justice administration, dispute resolution, engineering, health care administration, non-profit sector, public service, sports leadership) must be chosen.

Students must complete prescribed combinations of core leadership studies (LEDR) courses, plus specialization credits or elective credits for the general track. Students must also choose one of three **integrative learning options**:

1) 6 credits of a professional project (LEDR 6998),
2) 6 credits of a research article of publishable quality (LEDR 6998), or
3) 6 credits of additional course work followed by a comprehensive examination.

For options 1 and 2 above, students must submit the project outline to be approved by their program adviser and by the Graduate School.

Students must complete the program within six years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the degree of master in leadership studies.

GENERAL TRACK

Students that choose the leadership studies general track must complete 36 graduate-level credits: 27 credits of core course work (LEDR 6000, 6005, 6010, 6015, 6020, 6025, 6030, 6035, and 6040); 3 credits of elective course work; and 6 credits for completing one of the three integrative learning options outlined above.

SPECIALIZATIONS

Students that choose a specialization in criminal justice administration, dispute resolution, health care administration, non-profit sector, or public service must complete 36 graduate-level credits: 18 credits of core course work, 12 credits in the area of specialization, and 6 credits for completing one of the three integrative learning options outlined above.

The engineering specialization requires 36 graduate-level credits: 15 credits of core course work, 15 credits in one of two engineering tracks (electrical or mechanical), and 6 credits for completing one of the three integrative learning options listed above.

The sports leadership specialization requires 36 graduate-level credits: 15 credits of core course work, 15 credits in the area of specialization, and 6 credits for completing one of the three integrative learning options listed above.

CRIMINAL JUSTICE ADMINISTRATION

Students must complete a total of 36 credit hours of course work: 18 credits of required core course work (LEDR 6000, LEDR 6005, LEDR 6010, LEDR 6015 OR 6020, LEDR 6025, and LEDR 6030 OR 6035), 6 credits of required specialization course work (CJAD 6400 and 6405), and 6 credits of elective specialization course work (chosen from CJAD 6410, 6415, 6420, 6425, 6430, 6435, 6440, 6510*, 6511*, 6931, 6964, and 6995). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

* Law enforcement leadership and management certificate students only

DISPUTE RESOLUTION

Students must complete a total of 36 credit hours of course work: 18 credits of required core course work (LEDR 6000, LEDR 6005, LEDR 6010, LEDR 6015 OR 6020, LEDR 6025, and LEDR 6030 OR 6035), and 12 credits of required specialization course work (DIRS 6600, 6605, 6610, and 6615). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

ENGINEERING

Students must complete 36 graduate-level credit hours of course work: 15 credits of core course work (LEDR 6000, LEDR 6005, LEDR 6010 OR 6030, LEDR 6015 OR 6020, and LEDR 6025), 15 credits in one of two engineering tracks (electrical or mechanical), and 6 credits for completing one of the three integrative learning options listed above.

Students completing the electrical engineering track must complete EECE 5310, EECE 5460, EECE 6430, EECE 6810, and either ENMA 6040 or ENMA 6070.

Students completing the mechanical engineering track must complete MEEN 5275, MEEN 5350, MEEN 5410, MEEN 6473, and either ENMA 6040 or ENMA 6070.

HEALTH CARE ADMINISTRATION

Students must complete a total of 36 credit hours of course work: 18 credits of required core course work (LEDR 6000, LEDR 6005, LEDR 6010, LEDR 6015 OR 6020, LEDR 6025, and LEDR 6030 OR 6035), and 12 credits of required specialization course work (HEAL 6820, HEAL 6841, HEAL 6848, and NURS 6009). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

NON-PROFIT SECTOR

Students must complete a total of 36 credit hours of course work: 18 credits of required core course work (LEDR 6000, LEDR 6005, LEDR 6010, LEDR 6015 OR 6020, LEDR 6025, and LEDR 6030 OR 6035), and 12 credits of required specialization course work (NPSE 6520, 6525, 6530, and 6535). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

PUBLIC SERVICE

Students must complete a total of 36 credit hours of course work: 18 credits of required core course work (LEDR 6000, LEDR 6005, LEDR 6010, LEDR 6015 OR 6020, LEDR 6025, and LEDR 6030 OR 6035), 6 credits of required specialization course work (PUBS 6205 and 6210), and 6 credits of elective specialization course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964, and 6995). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

SPORTS LEADERSHIP

Students must complete a total of 36 credit hours of course work: 15 credits of required core course work (LEDR 6000, 6005, 6010, 6025, and LEDR 6015 OR 6020), 3 credits of required specialization course work (SPLE 6001), and 12 credits of elective specialization course work (chosen from SPLE 6100, 6200, 6300, 6400, 6931, 6964, and 6995). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

CERTIFICATE REQUIREMENTS

The certificate program requires completion of five courses (15 credits) selected from a prescribed list of LEDR courses. Of these five courses, four are required. The remaining course is an elective course that may be selected from the LEDR course listings.

The required courses are LEDR 6000, LEDR 6005, LEDR 6010 OR LEDR 6030, and LEDR 6015.

Students must complete the certificate program within three years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the certificate in leadership studies.

COURSE DESCRIPTIONS

Leadership (LEDR)

LEDR 6000. History and Theory of Leadership and Ethics 3 sem. hrs.
Presents analysis of historical concepts regarding leadership with a special focus on leadership ethics. Studies developmental processes related to ethical leadership behavior. Introduces quantitative and qualitative research methodologies appropriate for leadership issues.

LEDR 6005. Self-Leadership 3 sem. hrs.
Studies aspects of the self that directly impact leadership. Includes the study of intellectual, emotional, spiritual, and physical aspects. Arenas of self-leadership include: time and money usage, attitude and mood management, daily routines and stress management. Explores the ethics of self-leadership. Highly applications-focused. Includes qualitative and quantitative methodologies appropriate for measuring the self. *Prereq: LEDR 6000.*

LEDR 6010. Conflict Resolution, Negotiation and Team Leadership 3 sem. hrs.
Negotiations, team-building and case analysis. Focuses on group dynamics and the tools and techniques needed to understand conflict resolution. Exposes students to team-building and problem solving strategies. Emphasizes the steps and practices critical for negotiations to work effectively and the strategies and tactics necessary for success. Provides students with an opportunity to develop their skills by participating in negotiations and integrating their experiences with the principles presented in the assigned readings and course discussions. Develops negotiation skills by using the case study method. *Prereq: LEDR 6000.*

LEDR 6015. Influence of Leadership on Behavior in Organizations 3 sem. hrs.
Studies the influence of leadership on the behavior within and toward an organization, especially as related to organizational culture, governing bodies, strategic planning, succession planning, diversity and globalization. *Prereq: LEDR 6000.*

LEDR 6020. Leaders as Worldly Citizens 3 sem. hrs.
Studies leadership and organizational leadership behavior in the context of the external culture within which the organization is embedded. Studies the intersection of world religions, world history, world monetary systems, with leadership and ethics. Issues include: nationalism, education, democracy, economic development, distribution of resources, trade vs. aid, the plight of vulnerable peoples of the world, information technology issues. Simple analyses of databases with worldwide data will be conducted. *Prereq: LEDR 6000.*

LEDR 6025. Research Methods 3 sem. hrs.
Focuses on ethical principles of engaging human subjects for research purposes; applying concepts of validity, reliability and basic research designs; survey construction; interpreting research findings; evaluating the quality of leadership research conducted based on identified criteria; formulating a research question and hypotheses; and writing a research proposal. Methods applied in the context of leadership research. *Prereq: LEDR 6000 and one term of undergraduate statistics.*

LEDR 6030. Qualitative Research and the Social Impact on Leaders' Decisions 3 sem. hrs.
Using qualitative research methods, examines aspects of diversity such as age, gender, race, political affiliation, religious beliefs and sexual orientation. Particular attention is paid to the critical analysis of the use of qualitative research to inform leadership decision-making and the social impact of that decision-making on the diverse groups studied. *Prereq: LEDR 6000.*

LEDR 6035. Applied Quantitative Methods in Leadership Studies 3 sem. hrs.
Statistical methods applied and interpreted include: Chi-Square, t-tests, ANOVA, ANCOVA and regression. Methods studied in the context of leadership studies. Access to SPSS required. Undergraduate course in basic statistics recommended.
Prereq: Score of 50th percentile or above in the quantitative reasoning portion of the GRE or a statistics course with a grade of B or better within the past five years. Students who do not meet one of these two conditions are required to complete a foundational statistics course prior to registration.

LEDR 6040. Introduction to Business Processes 3 sem. hrs.
Presents an overview of fundamental business processes that will benefit leaders in multiple environments.

LEDR 6045. Communication Styles and Strategies for Leaders 3 sem. hrs.
Based on audience and situation, content focuses on teaching leaders to be effective in modifying their method and style of communication.
Prereq: LEDR 6000.

LEDR 6050. Transformational Leadership 3 sem. hrs.
In-depth study of transformational leadership, particularly as described by Bass and Riggio. Learning activities include an in-depth review of the literature on transformational leadership theory, in-class and online discussion and design of a longitudinal study for future implementation in the M.L.S. and M.A.P.S. programs, including writing the research proposal for submission to Marquette University's Institutional Review Board. *Prereq: LEDR 6000, 6005, 6010 or 6030.*

LEDR 6931. Topics in Leadership Studies 1-3 sem. hrs.
Examination of topics related to contemporary issues in leadership studies.

Prereq: LEDR 6000, 6005, and 6010 or 6030. LEDR 6964. Practicum in Leadership Studies 3 sem. hrs.
Prereq: LEDR 6000, 6005, and 6010 or 6030.

LEDR 6995. Independent Study in Leadership Studies 1-3 sem. hrs.
Prereq: Cons. of dept. ch.; cons. of prog. dir.

LEDR 6998. Professional Project in Leadership Studies 3 sem. hrs.
Required course for the integrative learning experience. Must be taken twice, over two terms, for a total of 6 credits. Two options: 1) complete a professional project or 2) complete a research article of publishable quality. S/U grade assessment.
Prereq: Fifteen core credits and 9 specialization credits completed. For the general track in leadership studies, 24 credits completed.

LEDR 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

LEDR 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Sports Leadership (SPLE)

SPLE 6001. Introduction to Sports Leadership 3 sem. hrs.
Overview of the diverse leadership opportunities within the sports industry. Discussion of current athletic issues and challenges from a leadership and managerial perspective.

SPLE 6100. Legal and Ethical Athletic Leadership 3 sem. hrs.
An introduction to the basic legal system's terminology and principles as applied to amateur and professional sports, as well as the ethical and moral issues involved. Examines risk management, legal status and rights, compliance issues, crisis management, liability, gender equity and other current issues.

SPLE 6200. Sports Communication 3 sem. hrs.
A study of the various components of communication skills within the industry including: special events, research, corporate sponsorship, media, media events, computer systems and constituent relations through technological and traditional means.

SPLE 6300. Social-Historical Foundations of Sports 3 sem. hrs.
Examination of the historical and sociological foundations of athletics in the U.S. Important areas of emphasis include: historical development of athletics, sport as a cultural product, social relations, organizational structures, and contemporary issues.

SPLE 6400. Strategic Governance in the Sports Industry 3 sem. hrs.
Analysis of the foundations of the sport industry including amateur and professional organizations. Statistically analyzes and evaluates the multifaceted elements of a successful athletic operation, including: consumer psychology, discretionary-spending patterns, and other contributing critical ingredients.

SPLE 6931. Topics in Athletic Leadership 3 sem. hrs.
Examination of topics related to contemporary issues in athletic leadership.

SPLE 6964. Practicum in Sports Leadership 3-6 sem. hrs.
Supervised experiences in sports leadership. Each student must negotiate an appropriate practicum plan and location with the graduate sports leadership faculty and the sports leadership practicum coordinator.
Prereq: Cons. of dept. ch.; cons. of prog. dir.

SPLE 6995. Independent Study in Sports Leadership 1-3 sem. hrs.
Prereq: Cons. of dept. ch.; cons. of prog. dir.

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE (MSCS) / BIOINFORMATICS (BIIN) / COMPUTATIONAL SCIENCES (CMPS) / COMPUTING (COMP)

Chairperson and Professor: Krenz
Assistant Chairperson: Manyo
Professor: Bankston, Bansal, Braunschweiger *(Emeritus)*, Clough, Corliss, Hamedani, Hanneken *(Emeritus)*, Harris, P. Jones, Lawrence *(Emeritus)*, Merrill, Moyer, Pastijn, Ruitenberg
Associate Professor: Ahamed, Brookshear *(Emeritus)*, Byleen, Factor, Kaiser, Rowe, Slattery, Struble
Research Associate Professor: Tonellato
Research Assistant Professor: Feng
Research Associate: Bolte
Assistant Professor: Brylow, Ge, Madiraju, Magiera, Sanders, Scott, Spiller
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

COMPUTATIONAL SCIENCES

Master of Science, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered; Doctor of Philosophy

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Master of Science, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered

BIOINFORMATICS

Master of Science, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered

COMPUTING

Master of Science, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered

SPECIALIZATION

M.S. (MSCS): Mathematics for Secondary School Teachers

PROGRAM OVERVIEW

The Department of Mathematics, Statistics and Computer Science offers a range of master's and doctoral programs in accord with the breadth of the disciplines it encompasses. Further information on each of the programs described below may be found on the departmental Web site.

COMPUTATIONAL SCIENCES (CMPS)

Computational science is the discovery, implementation, simulation, and application of models to solve scientific and engineering problems. The master's degree program accommodates students whose objectives are either the master's degree or preparation for doctoral study in some aspect of the computational sciences. The doctoral program is designed for

individuals of outstanding ability who show promise as researchers in an interdisciplinary environment.

The diverse research opportunities in our naturally interdisciplinary department are enhanced by the research programs of associated faculty on the Marquette campus in the sciences and engineering and Milwaukee area research laboratories and clinics. Consult the department Web site for the most current information.

PREREQUISITES FOR ADMISSION

Admission to the master's program in computational sciences requires an undergraduate degree in mathematics, statistics, computer science, or a related field such as engineering or an area of science, with at least a minor (3 courses beyond calculus) in mathematics, and proficiency in a high-level computer language.

Admission to the doctoral program in computational sciences requires (in addition to the prerequisites for master's admission) demonstrated promise for original research.

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by **January 15** for both the master's and doctoral programs.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation addressing the applicant's academic qualifications for graduate study in the intended program.
4. *(For doctoral and all international applicants*) GRE scores (General Test only).
5. *(For international applicants only*) a TOEFL score or other acceptable proof of English proficiency.
6. *(For doctoral applicants only)* English-language publications authored by the applicant, including a master's thesis or essay, if applicable (optional, but strongly recommended).

MASTER'S REQUIREMENTS

A master's student must complete a plan of study prepared in cooperation with an adviser and approved by the Graduate Committee of the Department of Mathematics, Statistics and Computer Science.

A master's student is admitted to the non-thesis program (Plan B) which requires at least 30 credit hours of course work and a non-credit essay that reflects the student's ability to synthesize source materials relating to a particular area of research or professional practice. An oral presentation of the essay is required.

A formal request to pursue a thesis (Plan A) must be approved by the department's Graduate Committee and the Graduate School. The Plan A student must complete a minimum of 30 credit hours, including six hours of thesis credits, and submit a thesis that must be an original contribution to the student's field of study. A public defense of the thesis is required.

All master's students in computational sciences must complete the 18-credit core, which consists of MSCS 6010-6060.

DOCTORAL REQUIREMENTS

A doctoral student in computational sciences must first complete a plan of study, designed to see the student through completion of the comprehensive examination. This plan of study should be prepared in cooperation with an adviser and approved by the Graduate Committee of the Department of Mathematics, Statistics and Computer Science.

Upon completion of the comprehensive examination, a doctoral student must then complete a program of study designed to see the student through completion of the program. This program of study should be defined, in cooperation with an adviser, on a *Doctoral Program Planning Form* and approved by the department's Graduate Committee.

The total program, exclusive of dissertation, will contain a minimum of 45 credit hours of approved course work beyond the bachelor's degree, including the 18-credit computational sciences core, which consists of MSCS 6010-MSCS 6060, and at least 2 credits of MSCS 6090 (research methods/professional development). Twelve hours of dissertation credits are also required. Approved programs of study will normally include 6 credits of courses outside the department and no more than 12 credits in undergraduate courses.

Advancement to candidacy for the doctoral degree is considered after successful completion of the comprehensive examination, completion of all course work specified in the *Doctoral Program Planning Form*, and successful completion of the qualifying examination, conducted by the student's doctoral committee. Typically, the doctoral committee also serves as the dissertation committee.

A doctoral student is expected to complete the core courses within the first two years of study, and to take the comprehensive examination at the first opportunity after their completion. A student who enters the program with the necessary core courses is expected to take the comprehensive exam at the first available time it is offered. No foreign language is required.

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE (MSCS)

The mathematics for secondary school teachers (MSST) specialization is designed for teachers who wish to do graduate work in the mathematical sciences but do not anticipate graduate study in mathematics beyond the master's level.

PREREQUISITES FOR ADMISSION

Mathematics for secondary school teachers (MSST) applicants should hold, or be eligible to hold, a teaching certificate for secondary school mathematics.

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by **January 15**.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation addressing the applicant's academic qualifications for graduate study in the intended program.
4. *(For international applicants only*) GRE scores (General Test only).
5. *(For international applicants only*) a TOEFL score or other acceptable proof of English proficiency.

MASTER'S REQUIREMENTS

A master's student must complete a plan of study prepared in cooperation with an adviser and approved by the Graduate Committee of the Department of Mathematics, Statistics and Computer Science.

A master's student is admitted to the non-thesis program (Plan B) which requires at least 30 credit hours of course work and a non-credit essay that reflects the student's ability to synthesize source materials relating to a particular area of research or professional practice. An oral presentation of the essay is required.

A formal request to pursue a thesis (Plan A) must be approved by the department's Graduate Committee and the Graduate School. The Plan A student must complete a minimum of 30 credit hours, including six hours of thesis credits, and submit a thesis that must be an original contribution to the student's field of study. A public defense of the thesis is required.

The mathematics for secondary school teachers (MSST) specialization requires successful completion of MSCS 5300 and either MSCS 6953 or 6954.

BIOINFORMATICS (BIIN)

Marquette University Program Co-director and Associate Professor: Struble
Professor: Bansal, Clough, Corliss, Courtright, Harris, Krenz, Merrill, Munroe
Associate Professor: Ahamed, Anderson, Feng, M. Johnson, Povinelli, Schläppi, Sem
Assistant Professor: Dorweiler, Madiraju, Wagner
Note: Faculty members and their ranks are for the 2009–2010 academic year.

Medical College of Wisconsin Program Co-director and Assistant Professor: Twigger
Professor: Cowley, Greene, Jacob
Associate Professor: Beard, Lei, Olivier, Volkman
Assistant Professor: Liang, T. Wang, X. Wang

This interdisciplinary program is jointly offered by Marquette University and Medical College of Wisconsin. The program prepares students for a multidisciplinary career in the biomedical sciences using mathematics, statistics, and computer science. It is designed to provide students quantitative tools for analyzing data and problems associated with molecular, cellular, physiological, and particularly, genetic systems. Students may select courses from a list of approved courses offered by the following departments at Marquette: Mathematics, Statistics and Computer Science; Biology; Biomedical Engineering; and Electrical and Computer Engineering. In addition, courses are offered by the Department of Physiology and the Division of Biostatistics at Medical College of Wisconsin. The program meets the needs of recent undergraduates seeking an advanced degree as well as employed professionals interested in opportunities for career advancement. Students may pursue the degree on a full-time or part-time basis. Many courses are offered evenings.

PREREQUISITES FOR ADMISSION

Applicants must have completed or be in the process of completing a bachelor's degree from an accredited college or university. Applicants with degrees in a wide range of scientific areas will be considered. These areas include: biological and medical science, computer science, mathematics, statistics, engineering, and physical sciences. Students may be admitted on a probationary basis if they are not fully prepared to take courses carrying graduate credit in both computer science and biology.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Marquette University Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. An essay outlining relevant work experience or education, career goals, possible areas of interest, and reasons for seeking admission to this program.
4. Three letters of reference from professors or professionals familiar with the applicant's abilities, academic work, and/or professional background.
5. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency. A recent GRE score is strongly recommended.

GENERAL INFORMATION

Students interested in applying to the program should consult the program Web site http://bioinformatics.mcw.edu for a list of currently approved courses and scheduled course offerings for the next term.

Special registration for this program is required, as courses are taken at both institutions. Students must register for BIIN 6947 through Marquette University **AND** for the matching MCW course through Medical College of Wisconsin.

MASTER'S REQUIREMENTS

Students are admitted to the program under Plan B (non-thesis option), although with the co-directors' approval, students may elect to transfer to Plan A (thesis option). In both options below, courses taken for credit in this program must be from the list of courses approved by the Steering Committee. Exceptions must be approved by the Steering Committee.

Plan B Option (36 credits)

Students must complete 36 credit hours of course work, of which at least 24 hours must be earned in graduate-level courses (6000-level and above).

Plan A Option (30 credits)

Students must complete 24 credit hours of course work, of which at least 18 credit hours must be earned in graduate-level courses (6000-level and above). Students must also complete a master's thesis for 6 credit hours and pass an oral examination concentrated on the thesis.

For both options, students are required to earn 6 credits for BIIN 6000 and 6005, 3 credits for BIIN 6980 Practicum in Bioinformatics, a minimum of 6 credits of approved computer science courses at the 6000-level, and a minimum of 6 credits of approved biological science courses at the 6000-level.

COMPUTING (COMP)

Program Director and Professor: Harris
Professor: Bankston, Corliss, Karshenas, Krenz
Associate Professor: Ahamed, Factor, Feng, Johnson, Povinelli, Riedel, Slattery, Struble
Assistant Professor: Brylow, Madiraju
Note: Faculty members and their ranks are for the 2009–2010 academic year.

The program is designed to meet the educational needs of present and future computing professionals interested in starting a career or updating their skills in areas such as systems analysis, software engineering, database design and administration, network design and administration, systems engineering, and technical support. Students may select courses (including some designated as EECE, MSCS, CSEN, COEN and COSC) from a large number of approved courses offered by the Department of Electrical and Computer Engineering, the Department of Mathematics, Statistics and Computer Science and other units on campus. Students may pursue the degree on a full time or part time basis. Many courses are offered evenings.

PREREQUISITES FOR ADMISSION

Applicants must have completed or be in the process of completing a bachelor's degree from an accredited college or university. Applicants should also have taken at least two terms of computer programming courses in a modern computer programming language with a knowledge of data structures (or equivalent work experience).

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Essay outlining relevant work experience or education, career goals, possible areas of interest, and reasons for seeking admission to this program.
4. Three letters of reference from professors or professionals familiar with the applicant's abilities, academic work, and/or professional background.
5. *(For international applicants only)* a TOEFL score (minimum 600 on the paper-based version, 250 on the computer-based version, 100 on the Internet-based version) or other acceptable proof of English proficiency.

GENERAL INFORMATION

Students interested in applying to the program should consult the program Web site www.mscs.mu.edu/mscs/graduate/comp/ for a list of the currently approved courses for the degree and scheduled course offerings for the next term.

MASTER'S REQUIREMENTS

Students are admitted to the program under Plan B (non-thesis option), and most students graduate under this plan. Students may transfer to Plan A (thesis option) on approval of a thesis outline by their adviser and the Computing Graduate Committee. The course of study is very flexible. Students complete a breadth requirement, primary and secondary concentrations, and additional courses suited to their backgrounds and career goals. The program director and faculty advisers work very closely with students to ensure that they achieve their educational goals through appropriate course selection.

Breadth Requirement (12 credits)

Computing students experience the breadth of the field. Students complete (or have completed before entering the program) at least three credits in four of the following five areas:

1. Information Management: MSCS 5800 or EECE 5810
2. Architecture and Organization: EECE 5710, EECE 5730, or have completed COSC 2200 before beginning the program
3. Operating Systems: COSC 3250 or EECE 5820
4. Programming Concepts and Skills: COSC 3410 or EECE 5620
5. Software Engineering: MSCS 5860 or MSCS 6050 or EECE 5610

More advanced 6000-level classes designated by the program in each area also satisfy the breadth requirement.

Concentrations (18 credits)

Computing students gain both breadth and an in-depth knowledge of their field. Concentrations provide in-depth knowledge areas and often reflect possible long-term career objectives. Each student must have one primary concentration of at least 12 credits, and one different secondary concentration of at least six credits. For students in Plan A (thesis option), the six thesis credits are considered a secondary concentration.

Courses taken to satisfy the breadth requirement also count toward primary and secondary concentrations. No course may be counted toward satisfying both a primary and a secondary concentration. The breadth and concentration requirements may be satisfied with any combination of approved 5000- and 6000-level classes, subject to the overall Plan A or Plan B requirements for 6000-level credits. Primary or secondary concentrations include:

- Foundations of Computation
- Distributed Computing
- Software Engineering, Programming Concepts and Skills
- Intelligent Systems and Information Management
- Architecture and Organization.

Specific courses in each concentration are designated by the computing program.

ADDITIONAL COURSE WORK

Courses beyond the breadth and concentration requirements are taken from a list of computer science and computer engineering courses approved by the computing program. Six out-of-program elective credits may be selected from other Marquette graduate courses germane to computing or its applications.

Plan B Option (36 credits)

Students must complete 36 credit hours of course work, of which at least 18 hours must be earned in graduate-level courses (6000-level and above).

Plan A Option (30 credits)

Students must complete 24 credit hours of course work, of which at least 12 hours must be earned in graduate-level courses (6000-level and above). Students must also complete a master's thesis for 6 credit hours and pass the oral examination concentrated on the thesis. The six thesis credits are considered the secondary concentration.

COURSE DESCRIPTIONS

Mathematics, Statistics and Computer Science (MSCS)

MSCS 5030. Concepts in Geometry and Calculus from an Advanced Standpoint

3 sem. hrs.

Topics chosen primarily from geometry and calculus, taught from an advanced standpoint to enrich and deepen the student's understanding. Emphasis on alternative approaches, generalizations, historical contexts and connections with prior mathematical studies. Offered alternate spring terms.

MSCS 5040. Concepts in High School Algebra and Number Theory from an Advanced Standpoint 3 sem. hrs.
Topics closely related to the high school mathematics curriculum, chosen primarily from algebra and number theory, taught from an advanced standpoint to enrich and deepen the student's understanding. Emphasis on alternative approaches, generalizations, historical contexts and connections with prior mathematical studies. Offered alternate spring terms.

MSCS 5110. Formal Languages and Computability 3 sem. hrs.
Regular languages, finite state automata, and lexical analysis; context free languages, push-down automata, parsing, and the rudiments of LL and LR parsers; general phrase-structure languages, Turing machines, the Chuch-Turing thesis, the halting problem, universal programming languages. Offered alternate years.

MSCS 5120. Abstract Algebra 1 3 sem. hrs.
Sets, mappings, operations on sets, relations and partitions. A postulational approach to algebraic systems including semigroups, groups, rings and fields. Homomorphisms of groups and rings, number systems, polynomial rings. Offered fall term.

MSCS 5121. Abstract Algebra 2 3 sem. hrs.
A continuation of MSCS 5120 with emphasis on groups, rings, fields, and modules.

MSCS 5200. Intermediate Analysis 1 3 sem. hrs.
Limits and continuity, differentiability, Riemann integration. Topology of N-dimensional spaces. Offered alternate fall terms.

MSCS 5201. Intermediate Analysis 2 3 sem. hrs.
Transformations of N-spaces, line and surface integrals, sequences and series, uniform convergence.

MSCS 5210. Complex Variables 3 sem. hrs.
Complex numbers, analytic functions, differentiation, series expansion, line integrals, singularities, and residues. Offered alternate spring terms.

MSCS 5300. History of Mathematical Ideas 3 sem. hrs.
Topics include: development of the number system (need for irrational and complex numbers); development of geometry including the effects of the discovery of non-Euclidean geometry; limit concept; need for axiomatic structures; 20th century problems. Current mathematics research and place of mathematics in today's world. Offered alternate spring terms.

MSCS 5320. Theory of Numbers 3 sem. hrs.
Integers, unique factorization theorems, arithmetic functions, theory of congruences, quadratic residues, partition theory. Offered alternate spring terms.

MSCS 5400. Compiler Construction 3 sem. hrs.
Lexical analysis, parsing, code generation, and optimization. Includes theoretical foundations and the practical concerns of implementation. Offered alternate years.

MSCS 5420. Foundations of Geometry 3 sem. hrs.
Modern postulational development of Euclidean and non-Euclidean geometries. Offered fall term.

MSCS 5430. Geometric Transformations 3 sem. hrs.
Overview of transformation geometry including a study of congruence, similarity, affine, projective and topological transformation groups.

MSCS 5450. Topology 3 sem. hrs.
Topological spaces, mappings, metric spaces, product and quotient spaces. Separation axioms, compactness, local compactness and connectedness. Offered alternate spring terms.

MSCS 5500. Theory of Differential Equations 3 sem. hrs.
Existence and uniqueness theorems, linear and non-linear systems, numerical techniques, stability. Offered alternate fall terms.

MSCS 5510. Elementary Partial Differential Equations 3 sem. hrs.
Fourier series, method of separation of variables, eigenfunction expansions, application of eigenfunctions to partial differential equations, Green's functions and transform methods.

MSCS 5540. Numerical Analysis 3 sem. hrs.
Numerical solution of algebraic and transcendental equations, linear systems and the algebraic eigenvalue problem, interpolation and approximation, numerical integration, difference equations, numerical solution of differential equations, and finite difference methods. Offered fall term.

MSCS 5600. Fundamentals of Artificial Intelligence 3 sem. hrs.
An introduction to the broad field of artificial intelligence. Topics include: problem solving by searching, knowledge representation, reasoning, planning, decision-making, learning, perception, and language processing. Offered alternate fall terms.

MSCS 5610. Data Mining 3 sem. hrs.
Techniques for extracting and evaluating patterns from large databases. Introduction to knowledge discovery process. Fundamental tasks including classification, prediction, clustering, association analysis, summarization, and discrimination. Basic techniques including decision trees, neural networks, statistics, partitional clustering, and hierarchical clustering. Offered alternate spring terms.

MSCS 5630. Mathematical Modeling and Analysis 3 sem. hrs.
Construction and analysis of mathematical models from biological, behavioral, and physical sciences. Offered spring term.

MSCS 5650. Theory of Optimization 3 sem. hrs.
Fundamental theorems describing the solution of linear programs and matrix games. Minimax, duality, saddle point property, simplex and specialized algorithms. Zero sum games, transportation and assignment problems, applications to economics.

MSCS 5670. Applied Combinatorial Mathematics 3 sem. hrs.
Permutations and combinations, recurrence relations, inclusions and exclusion, Polya's theory of counting, graph theory, transport networks, matching theory.

MSCS 5700. Theory of Probability 3 sem. hrs.
Random variables, distributions, moment generating functions of random variables, various derived probabilistic models and applications.

MSCS 5710. Mathematical Statistics 3 sem. hrs.
Sampling theory and distributions, estimation and hypothesis testing, regression, correlation, analysis of variance, non-parametric methods, Bayesian statistics. Offered alternate spring terms.

MSCS 5715. Computational Statistics 3 sem. hrs.
Analysis of raw data and selection of appropriate estimation and hypothesis testing techniques. Emphasis on exploratory analysis, model building, data transformations, multivariate and stepwise techniques, error analysis. Extensive use of statistical computer packages.

MSCS 5720. Statistical Methods 3 sem. hrs.
Probability, discrete and continuous distributions. Treatment of data, point and interval estimation, hypothesis testing. Large and small sample method, regression, non-parametric methods. An introduction to the basic understanding of statistical methods. Applications-oriented.

MSCS 5740. Biostatistical Methods and Models 3 sem. hrs.
Introduction to the statistics of life science and the use of mathematical models in biology. Data analysis and presentation, regression, analysis of variance, correlation, parameter estimation and curve fitting. Biological sequence analysis, discrete and continuous mathematical models and simulation. Offered fall term.

MSCS 5760. Time Series Analysis 3 sem. hrs.
Basic concepts of probability. Stationary time series. Autocorrelation and spectrum. Descriptive methods for time series data. ARMA and ARIMA models: estimation and forecasting. Identification and diagnostic techniques. Periodogram and spectral analysis. Use of softwares for time series analysis. Offered alternate spring terms.

MSCS 5780. Regression Analysis 3 sem. hrs.
Basic concepts of statistical inference, simple linear regression, multiple linear regression, diagnostic analysis, selecting the best equation, stepwise methods, nonlinear regression, use of statistical software. Offered alternate spring terms.

MSCS 5800. Principles of Database Systems 3 sem. hrs.
Topics include: database concepts and architecture, data modeling, formal query languages such as relational algebra, commercial query language SQL, database access from application programs and a brief examination of advanced concepts including transactions, distributed databases, security and XML.

MSCS 5860. Component-Based Software Construction 3 sem. hrs.
Introduction to software components in the context of the object-oriented paradigm. Component development, component selection and adaptation/customization, component deployment and assembly/integration, and system architecture. Industry standards such as JavaBeans, CORBA Component Model, and Microsoft COM/DOM/COM+. Offered fall term.

MSCS 5931. Topics in Mathematics, Statistics and Computer Science 1-3 sem. hrs.
Topics selected from one of the various branches of mathematics, statistics or computer science. Specific topics to be announced in the *Schedule of Classes*.

MSCS 6010. Probability 3 sem. hrs.
Foundations of probability for modeling random processes and Bayesian approaches, including: counting techniques, probability of events, random variables, distribution functions, probability functions, probability density functions, expectation, moments, moment generating functions, special discrete and continuous distributions, sampling distributions, prior and posterior distributions, Law of Large Numbers, Central Limit Theorem, Bayesian paradigm. Offered annually. *Prereq: Three semesters of mathematics beyond calculus.*

MSCS 6020. Simulation 3 sem. hrs.
Elements of statistical simulation and modeling with applications. Generation of random variables, Monte Carlo method, Markov chains, birth-and-death processes, queues, variance reduction, Markov chain Monte Carlo (MCMC) methods and applications, bootstrapping, validation and analysis of simulated data. Offered annually. *Prereq: MSCS 6010 and programming competency in a high-level language.*

MSCS 6030. Applied Mathematical Analysis 3 sem. hrs.
Foundational topics in analysis considered from a modeling and numerical viewpoint. Emphasizes techniques of proof and approximation, and their role in the solution of problems arising in applications. Offered annually.
Prereq: Multivariable calculus and linear algebra.

MSCS 6040. Applied Linear Algebra 3 sem. hrs.
Foundational linear algebra considered from a numerical viewpoint. Focus is on solutions of linear systems of equations, eigenvalues and eigenvectors, and transformations. Emphasizes and illustrates proof and numerical implementation using problems arising in applications. Offered annually.
Prereq: Multivariable calculus and linear algebra.

MSCS 6050. Elements of Software Development 3 sem. hrs.
Students explore the software design and development processes through a term project. Concepts covered include: requirements gathering and analysis, mapping requirements to a design, sound coding and documentation practices, configuration management, testing and quality assurance, system deployment and maintenance. Offered annually.
Prereq: Programming in a high-level language, knowledge in data structures such as stacks, recursion, queues, trees and graphs.

MSCS 6060. Parallel and Distributed Systems 3 sem. hrs.
Students use and develop software for parallel and distributed computing systems. Topics include: job submission and management, tools for parallel and distributed software development, approaches for implementing parallel and distributed computation, parallel and distributed system architectures, and essential evaluation techniques. Offered annually.
Prereq: Data Structures and Algorithms 2 or equiv.

MSCS 6090. Research Methods/Professional Development 1 sem. hr.
Designed to introduce the process of research and communication of research in the computational sciences, including presentation and publication of research, preparation of grant proposals, and ethical considerations. May be repeated. Offered annually.

MSCS 6110. Applied Discrete Mathematics 3 sem. hrs.
Applied discrete mathematics for the mathematics, engineering and computer science graduate student. Emphasis on graph theory and counting problems that serve as a foundation for research areas in the second term. Theory and applications are covered for topics including trees, graph coloring, chromatic polynomials, generating functions, recurrence relations, distinct colorings and Polya's Theorem. Offered alternate years.
Prereq: COSC 1020 and MATH 1450 or equiv.; MATH 1451 and MATH 2100 or equiv.

MSCS 6120. Optimization 3 sem. hrs.
Principles of deterministic model building in operations research. Linear programming and duality. Dynamic and integer programming. Nonlinear optimization and parameter estimation.
Prereq: MATH 3100 or equiv.

MSCS 6130. Dynamical Systems 3 sem. hrs.
Theory of discrete and continuous dynamical systems. Periodic solutions, bifurcations, chaotic systems, attractors, fractal dimension, and simulation of these systems. Offered alternate years.
Prereq: MATH 5200 or equiv.

MSCS 6210. Theory of Statistics 3 sem. hrs.
Brief review of sampling distributions, Central Limit Theorem and Law of Large Numbers. Estimation, testing hypotheses, regression and correlation analysis, non-parametric methods. Offered alternate years.

MSCS 6220. Analysis of Variance and Covariance 3 sem. hrs.
Review of statistical inference. One-way layout and multiple comparison. Two-, three-, and higher-way layouts. Latin squares, incomplete block and nested design. Analysis of covariance.
Prereq: MATH 5710 or equiv.

MSCS 6230. Multivariate Statistical Analysis 3 sem. hrs.
Basic properties of random vectors, multivariate normal distribution, estimations of mean vector and covariance matrix, Wishart distribution, hypothesis testing, Hotelling's T2, multivariate analysis of variance, principal component analysis, factor analysis, canonical correlation analysis, classification and discriminant analysis.
Prereq: MATH 3100 and MATH 5710.

MSCS 6310. Computer Networks 1 3 sem. hrs.
An intensive study of computer networking and networking standards with hands-on experience. Following the ISO-OSI model, the first term concentrates on the lower four layers (physical, datalink, networking, and transport) and the second on the upper four (transport, session, presentation, and application). Offered regularly. *Prereq: COSC 3250.*

MSCS 6320. Computer Networks 2 3 sem. hrs.
See MSCS 6310. *Prereq: COSC 3250.*

MSCS 6330. Data Mining 3 sem. hrs.
Techniques for extracting "interesting" relationships and knowledge hidden in data, such as decision trees, association rules, clustering, neural networks, Bayesian classifiers, feature selection, pattern assessment, inductive logic programming, outlier analysis, data imputation, and data integration.
Prereq: COSC 2100 and COSC 5600; or COSC 2100 and COSC 5800; or COSC 2100 and MATH 5720; or equiv.

MSCS 6340. Component Architecture 3 sem. hrs.
Focuses on designing and implementing software components, and ways of specifying their interconnection and interaction. The primary technology is Java Beans, although other approaches such as ActiveX are also considered. Examines general notions relating to specifying and identifying components and the general distribution of resources.

MSCS 6350. Distributed Computing 3 sem. hrs.
Focuses primarily on the interconnection of software components, both in the way they communicate with one another, and in the way they are themselves distributed. The concentration is not as much on the technical detail of standards such as Corba, Java RMI, and Distributed Network Architecture, but on the ways these technologies can be used to construct dynamic infrastructures for welding diverse local environments into one community of cooperating parts. The emphasis is very much upon allowing heterogeneity, and on solving business problems related to distributed concentrations of data.

MSCS 6355. Mobile Computing 3 sem. hrs.
Focuses on the fundamentals of mobile computing, challenges in mobile computing, mobility management, mobile data management, context awareness and wireless communications, ubiquity of wireless communication technologies and standards, seamless access network services and resources from anywhere, at anytime, middleware for mobile computing, operation systems, programming languages, network protocols and security aspects of mobile computing, concepts in sensor networks, including operating systems, programming languages, network protocols, and programming models.
Prereq: COSC 2100 or equiv.

MSCS 6360. Enterprise Architecture 3 sem. hrs.
Focuses totally on the server side of communications, and on the ways of using software components as wrappers of all kinds of objects, so they can participate in highly distributed environments involving security and transactions. Attention is paid to establishing universal environments for naming resources and finding them, and to ways of managing the life cycle of both data and program components. The main technology considered is Enterprise Java Beans.

MSCS 6370. Information Representation 3 sem. hrs.
Focuses on using special grammars and their associated language for communicating business information universally amongst very diverse systems. The attention is not on the formalities of the grammars, but on the ways one can take advantage of knowing that documents are valid with respect to those grammars. The particular technology primarily considered is XML, and considers and uses many current standards from the XML community. Offered regularly.

MSCS 6380. Advanced Database Systems 3 sem. hrs.
Accessing databases from Web, JavaScript, JDBC, Java Servlets, database technology to Web related areas such as semi-structured databases and data integration, XML, XQuery, XPath, XML Schemas, distributed database design, distributed database transactions, and distributed query processing.
Prereq: Database Systems or equiv.

MSCS 6390. Professional Seminar in Computing 1 sem. hr.
Topic to be chosen each term from among issues important to all professionals in computing. All students in the computing program are expected to participate for the fall and spring terms, and one of the two summer terms. Offered every term. S/U grade assessment.
Prereq: Enrolled in M.S. in computing program.

MSCS 6410. Real Analysis 3 sem. hrs.
Involves study of algebraic structures of real analysis, function spaces, introduction to linear operators, measure and integration theory, convergence theorems, limits, continuity, derivatives. Offered alternate years. *Prereq: MATH 5200.*

MSCS 6420. Algebra 3 sem. hrs.
Studies groups, rings, fields and vector spaces including Sylow's theorems, field of quotients of an integral domain, structure of finitely generated modules over a principal ideal domain, Galois theory of equations, ordered fields, classical groups. Offered alternate years.
Prereq: MATH 5120 or equiv.

MSCS 6430. Logic and Set Theory 3 sem. hrs.
Näive set theory, first-order logic, elementary model theory, non-standard analysis, Gödel's incompleteness theorems for elementary arithmetic, axioms for set theory, ordinal and cardinal arithmetic, the continuum hypothesis, methods of inner models and forcing for proving consistency and independence results. *Prereq: MATH 5120 or equiv.*

MSCS 6440. Topology 3 sem. hrs.
Metric spaces, fundamental topology notions, subspace topology, product spaces, quotient spaces, separation axioms, Tietze's theorem, compactness, metrization, uniform spaces, function spaces, homotopy relation, fundamental group, computing manifold groups. *Prereq: MATH 5200 or equiv.*

MSCS 6770. Innovations in Secondary Mathematics: Meeting the NCTM Standards 3 sem. hrs.
Online course designed for teachers of secondary mathematics. Emphasizes relevant NCTM standards through discussion, projects, and implementation in a secondary mathematics classroom. Mathematics content amplifies and extends selected topics of secondary mathematics. Title and content vary. Credit may be earned multiple times-once for each title. *Prereq: Cons. of dept. ch.; one term of calculus and access to an algebra or geometry class of secondary students; or cons. of course coordinator. For students in MSST or College of Education.*

MSCS 6931. Topics in Mathematics, Statistics and Computer Science 3 sem. hrs.

MSCS 6953. Seminar in Mathematics Curriculum Development and Material 1 3 sem. hrs.
Psychology of learning as it correlates with the ability to grasp mathematics concepts; tests and measurements in relationship to programming and scheduling of students; selection of curriculum and materials for various ability levels; classroom learning activities in mathematics curriculum and an in-depth study of experimental programs.
Prereq: Teaching experience in secondary mathematics. For students in MSST or College of Education.

MSCS 6954. Seminar in Mathematics Curriculum Development and Material 2 3 sem. hrs.
Philosophy of education with particular attention to mathematics education; development by students of useful curricula in the form of teaching units, evaluation materials, and student and teacher bibliographies for specific topics, grade levels, and ability groups; aspects of supervision as related to the role of department chairperson. Offered occasionally.
Prereq: MSCS 6953. For students in MSST or College of Education.

MSCS 6960. Seminar in Mathematics, Statistics and Computer Science 1-3 sem. hrs.

MSCS 6964. Practicum for Research and Development in Computing 3 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: 3.00 MU GPA; must be enrolled in Plan B option of the M.S. in computing program and have completed at least 21 credit hours of course work with 15 credit hours earned in graduate (6000-level) courses. Available only to full-time students.

MSCS 6974. Practicum for Research in Computational Sciences 1-3 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

MSCS 6995. Independent Study in Mathematics, Statistics and Computer Science 1-3 sem. hrs.
Prereq: Cons. of dept. ch.

MSCS 6998. Professional Project in Mathematics, Statistics and Computer Science 0 sem. hrs.
SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

MSCS 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MSCS 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Bioinformatics (BIIN)

BIIN 6000. Introduction to Bioinformatics 3 sem. hrs.
The application of knowledge gained through previous course work in informatics, information systems, mathematics, medical and/or biological research to the design, development, implementation and evaluation of information systems and analysis methods applied to biomedical data. *Prereq: BIOL 1004 and CHEM 2112 which may be taken concurrently; and COSC 2100; and cons. of dept. ch.*

BIIN 6005. Bioinformatics 2 3 sem. hrs.
The application of knowledge gained through previous course work in informatics, information systems, mathematics, medical and/or biological research to the design, development, implementation and evaluation of information systems and analysis methods applied to biomedical data. *Prereq: BIIN 6000.*

BIIN 6931. Topics in Bioinformatics 3 sem. hrs. *Prereq: Cons. of dept. ch.*

BIIN 6947. Medical College of Wisconsin/ BIIN-Joint Degree 1-8 sem. hrs. Graduate-level course in selected areas of the life sciences offered at Medical College of Wisconsin. *Prereq: Cons. of dept. ch.*

BIIN 6960. Seminar in Bioinformatics 1-3 sem. hrs. Seminars in research and development tools and applications designed for M.S. in bioinformatics program.

BIIN 6980. Practicum in Bioinformatics 3 sem. hrs. An opportunity to participate in the practice of research and/or development in the area of bioinformatics. *Prereq: Admitted to BIIN program; BIIN 6000; and cons. of dept. ch.*

BIIN 6995. Independent Study in Bioinformatics 1-3 sem. hrs. *Prereq: Admitted to BIIN program; cons. of dept. ch.*

BIIN 6999. Master's Thesis 1-6 sem. hrs. S/U grade assessment. *Prereq: Cons. of dept. ch.*

MECHANICAL ENGINEERING (MEEN)

Chairperson and Professor: Kim
Associate Chairperson, Director of Undergraduate Studies and Professor: Fournelle
Director of Graduate Studies and Associate Professor: Rice
Professor: Blumenthal *(Emeritus)*, Brebrick *(Emeritus)*, Brower *(Emeritus)*, Cartz *(Emeritus)*, Craig, Harris, Heinrich, Marklin, Matar *(Emeritus)*, Nigro *(Emeritus)*, Reid *(Emeritus)*, Schimmels, Seitz *(Emeritus)*, Stango, Widera
Associate Professor: Borg, Cariapa, Domblesky, Jensen, Nagurka, Silver-Thorn, Weber
Assistant Professor: Goldsborough, Koch, Voglewede
Adjunct Professor: Bishop, Janc, Stilp
Adjunct Associate Professor: Hoffman, Shana, Toth
Research Professor: Gaggioli *(Emeritus)*
Research Associate Professor: Park
Research Assistant Professor: Bowman, Huang
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, students are admitted under Plan A (thesis option) but Plan B (non-thesis option) is also offered; Doctor of Philosophy

MISSION STATEMENT

In embracing the missions of the university and the College of Engineering, it is the mission of the Department of Mechanical Engineering to offer high quality, up-to-date, nationally-recognized engineering programs that prepare students for successful careers. This success is marked by the graduates' commitment to lifelong learning, a deep concern for the impact of their work on others, research that advances technical and scientific knowledge, and service to professional and civic communities. The department also strives to develop students and faculty who will be recognized as exceptional in their pursuit of excellence, sense of community, spirit of collaboration, and ability to define problems and accomplish goals.

SPECIALIZATIONS

Energy Systems, Manufacturing Systems, Mechanical Systems

PROGRAM DESCRIPTION

The Department of Mechanical Engineering offers a master's and a doctoral program in mechanical engineering.

Course work and research in the mechanical engineering program may involve the broad fundamentals of mechanical engineering or may concentrate on one or more of the following fields: energy systems, manufacturing systems, and mechanical systems. In these fields, engineering principles are applied not only to traditional equipment and methods but also to modern and emerging technologies. Typically, the engineering course work and research are augmented by laboratory studies. Although the study of advanced engineering mathematics and, often, basic science is necessary in all programs of study, the selection of subjects may vary depending upon the field of specialization and the student's professional objectives.

ENERGY SYSTEMS

A concentration in energy systems typically entails advanced study of *a*) thermodynamics, fluid mechanics, heat and mass transfer, and combustion; *b)* the application of these principles to phenomena and devices which constitute energy-conversion systems; and *c)* the analysis, simulation, and design of such systems as well as plants; e.g., chemical, metallurgical, food, etc., which are energy-intensive. Current research topics include: plant optimization, fuel cells, cogeneration systems, fluid mechanics and heat transfer in surface mount technology, engine emissions/process effluents, and jet engine propulsion systems.

MANUFACTURING SYSTEMS

A concentration in manufacturing systems engineering allows students to focus on a broad range of topics. These topics range from micro issues, such as material-related issues and cutting mechanisms in material removal processes, to macro analysis of complex manufacturing systems from either a process or ergonomics perspective. The focus of this concentration may be computer integrated manufacturing, material processing, mechanical behavior of materials, manufacturing processes, quality systems, or ergonomics within manufacturing. Normally, each of these multi-disciplinary areas requires certain core courses along with specialized studies, which may include advanced courses in other engineering disciplines, courses in mathematics and statistics, and/or courses in business administration. Current research topics include: cellular manufacturing, polishing and mass finishing processes, rapid prototyping, robotic systems, production integration (JIT, TQC, CIM), ergonomics of assembly operations, reliability/quality estimation, human performance and safety evaluation, and materials forming and joining processes.

MECHANICAL SYSTEMS

A concentration in mechanical systems typically entails advanced study of *a*) mechanical system design and analysis and *b)* modeling, simulation, and control. Mechanical design and analysis focuses on the use of physical and mathematical principles to understand the behavior of mechanical systems. It includes computer-aided optimal design, such as the design of multi-body, multi-degree-of-freedom mechanical systems. Modeling, simulation, and control involve the study of theoretical mechanics in conjunction with computational applications including advanced dynamics, kinematics, and stress analysis. Other applications include the modeling and control of manufacturing processes, including robotics and automated deformation processing. Current research areas include: surface mount technology, composite and polymeric materials, control in automated assembly, surface finishing processes, design of compliant machine tools, metal cutting/forming mechanics, finite element methods, and pressure vessels comprised of multi-layered composites.

PREREQUISITES FOR ADMISSION

Adequate preparation in engineering, mathematics, and science is required. If an applicant does not have an adequate undergraduate background, some remedial studies may be necessary, depending upon the graduate field of specialization the applicant selects.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. *(For doctoral applicants only)* a brief statement of purpose and copies of any published work, including master's theses and essays.
5. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
6. GRE scores (General Test only). Waived if applicant has an undergraduate degree from Marquette with GPA of 3.000 or above.

BACHELOR'S–MASTER'S PROGRAM

This program enables students to earn both their master of science degree in mechanical engineering and a bachelor of science degree from the College of Engineering in the span of five years. Only the thesis option is available with this program. Qualified students (3.500/4.000 GPA) who are enrolled in the Mechanical Engineering Department at Marquette University may apply for admission to this program during their undergraduate junior year. Students must submit an application to the Graduate School, indicate their interest in the five year program, and meet all other admission criteria as stated in the Application Requirements section. (GRE test scores are not required.)

Students select graduate level courses in their senior undergraduate year as their electives; these elective courses double-count toward the undergraduate and graduate degrees. However, only a maximum of 6 credit hours will apply toward the graduate degree. Upon completion of the first term as a master's candidate, the student must petition the Graduate School to transfer courses taken as an undergraduate to the master's degree.

Students begin their research for the thesis the summer between their junior and senior years. Their research is continued the summer between their senior and fifth years and throughout their fifth year, culminating in the preparation of a written thesis and defense.

MASTER'S REQUIREMENTS

A master's student may pursue a thesis program (Plan A) or a non-thesis program (Plan B). However, students who intend to continue for the doctoral

degree and those students who are receiving financial aid in the form of assistantships must select the thesis option. In Plan A, the student must complete 24 credit hours of course work, 6 credit hours of thesis work, and submit an approved thesis. In Plan B, the student must complete 33 credit hours of course work. A student in either the Plan A or the Plan B option must take a minimum of 3 credit hours of an approved math course (MEEN 6101, MEEN 6102, or MEEN 6103). A minimum of one-half of the total course work requirement in both plans must be 6000-level. All students are required to take at least one-half of their total course work from the Department of Mechanical Engineering course offerings. A maximum of 6 credit hours of graduate level credit from other accredited institutions may be accepted toward the requirements of the degree. Independent study course work can account for a maximum of 3 credit hours. The student must also attend and participate in the departmental seminar. Any exceptions to these requirements must be approved by the Graduate Committee.

MASTER'S LEARNING OUTCOMES

1. Apply knowledge of specialized mechanical engineering concepts in engineering analysis and design in a chosen area of specialization.
2. Effectively communicate ideas on design and analysis to peers, clients and customers.
3. Conduct guided research in a chosen area of specialization.

DOCTORAL REQUIREMENTS

A doctoral student must complete a program of study prepared in collaboration with his or her permanent adviser and outlined on an approved *Doctoral Program Planning Form*. This form must be submitted within the first year of the student's doctoral studies. The program normally requires 48 credit hours of course work beyond the baccalaureate degree, plus 12 credit hours of dissertation work. In cases in which the student enters the program with a master's degree in mechanical engineering or a closely related field, the student may request that the department and the Graduate School allow credits from the master's degree to satisfy up to 24 credit hours of the required course work. At least one-half of the total course work requirement must be from designated graduate-level courses. Students are required to take at least one-half of their total course work from the Department of Mechanical Engineering course offerings. A maximum of 6 credit hours of graduate-level credit from other accredited institutions may be accepted toward the requirements of the degree. Independent study course work can account for a maximum of 3 credit hours. All doctoral students are required to participate in the department graduate seminar activities.

A doctoral student must complete a departmental written proficiency exam prior to completion of the Marquette University doctoral residency requirement. This exam will be comprised of two components, one component being engineering mathematics and the other representing the student's declared area of specialization: energy systems, manufacturing systems, or mechanical systems. This examination is based upon material presented in the advanced undergraduate and master's degree level course work (approved math courses are MEEN 6101, MEEN 6102, and MEEN 6103).

A student must pass a doctoral qualifying examination (DQE) administered by his/her doctoral committee within one academic year after completing course work requirements. This exam must be passed at least one year prior to the submission and successful public defense of the dissertation. The dissertation must represent an original research contribution and demonstrate both high scholarly achievement and the ability to conduct independent research.

DOCTORAL LEARNING OUTCOMES

1. Apply knowledge of advanced concepts (i.e., concepts beyond those learned during the master of science program) in engineering mathematics and two out of three areas of specializations offered in the department (mechanical systems, energy systems, manufacturing systems).
2. Communicate ideas (specific to an area of specialization) via peer reviewed published and/or presented materials.
3. Conduct original research in a chosen area of specialization.

COURSE DESCRIPTIONS

MEEN 5220. Intermediate Dynamics 3 sem. hrs.
Develop an understanding of the principles of 3D rigid body kinematics (motion) and kinetics (forces and accelerations). Use these principles to analyze the dynamic behavior of mechanical systems. Learn to use analytical mechanics tools including virtual work and Lagrange's method. Develop a systematic approach for solving engineering problems.

MEEN 5230. Intermediate Mechanics of Materials 3 sem. hrs.
Review of beam theory; asymmetric bending, shear center, thin-walled sections; torsion of non-circular sections, open and closed thin-walled sections; energy methods, Castigliano's second theorem, statically indeterminate structures, internal static indeterminacy; curved beams.

MEEN 5240. Polymers and Polymer Composites 3 sem. hrs.
Introduction to physical/chemical structure of polymers, polymer characterization, polymer material properties and mechanical testing methods, elastic and viscoelastic polymer response, processing methods, composite materials, and the selection of polymers in design applications.

MEEN 5245. Fatigue and Fracture Mechanics 3 sem. hrs.
Application of fatigue and fracture models to engineering design. Stress-life (high cycle), strain-life (low cycle), and fatigue crack growth models for fatigue. Introduction to linear elastic fracture mechanics. Statistical considerations in failure. Fail safe design practices. Includes illustrative case studies.

MEEN 5250. Design of Machine Elements 2 3 sem. hrs.
Detailed design of gears and cams. Emphasizes integration of dynamics into design of machinery. Topics include balancing of machinery, selection of motors and critical frequency analysis, and miscellaneous power transmission components. Use of spreadsheets and computer programs to assist in the design of various components.

MEEN 5265. Intermediate Finite Element Method 3 sem. hrs.
Application of finite element method (FEM) to static and dynamic mechanical systems. Introduction to commercially available FEM programs.

MEEN 5270. Physical Systems Modeling 3 sem. hrs.
Principles of modeling of physical systems, including devices and processes. Development of models of physical systems: mechanical, electrical, fluid, thermal and coupled systems. Time-dependent behavior of interconnected devices and processes. Computer-based modeling and simulation of physical systems. Identification using models and measured data. Introduction to control systems analysis and design. Offered occasionally.

MEEN 5275. Mechatronics 3 sem. hrs.
Examines mechatronics, the synergistic combination of mechanical engineering, electronics, control engineering, and computer science, all integrated through the design process. Covers mechatronic system design, modeling and analysis of dynamic systems, control sensors and actuators, analog and digital control electronics, interfacing sensors and actuators to a microcomputer/microcontroller, discrete and continuous controller design, and real-time programming for control.

MEEN 5310. Internal Combustion Engines 3 sem. hrs.
Fundamentals of design and operation of internal combustion engines and how these affect performance, fuel requirements, and environmental impact. Study of fluid flow, thermodynamics, combustion, heat transfer and friction phenomena, and fuel properties relevant to engine power, efficiency and emissions. Examination of spark-ignition, diesel, stratified charge, HCCI and mixed-cycle engines.

MEEN 5330. Optics, Lasers and Spectroscopy in Engineering 3 sem. hrs.
Topical overview on the uses of optics, lasers, and spectroscopic measurement techniques in engineering and scientific disciplines. Technical content includes basic principles of geometric optics, principles behind and characteristics of laser operation, and linear spectroscopy. Emphasis on absorption and emission techniques for sensor development.

MEEN 5350. Transport Phenomena 3 sem. hrs.
Includes three closely related topics: fluid dynamics, mass transfer, and heat transfer. Fluid dynamics involves the transport of momentum, mass transfer is concerned with the transport of mass of various chemical species, and heat transfer deals with the transport of energy. In practice, rarely are these phenomena acting alone. Develops a more cohesive understanding of these interrelated processes.

MEEN 5360. Intermediate Thermodynamics 3 sem. hrs.
Covers fundamentals of thermodynamics, including classical and statistical approaches with application to equilibrium and non-equilibrium, non-reactive and reactive systems. May cover topics relevant to micro/nanoscale and biological systems.

MEEN 5410. Experimental Design 3 sem. hrs.
Application of statistical concepts to design engineering experiments to improve quality, production techniques, and reliability. Use and advantages of various models; factorial, fractional factorial, orthogonal arrays and fractional designs.

MEEN 5420. Failure Analysis 3 sem. hrs.
Methodology of failure analysis. Studies of brittle fracture, ductile fracture, fatigue, stress corrosion and electro-chemical corrosion as applied to the failure of metals. Involves some laboratory work and analyses of a variety of metallurgical failures.

MEEN 5430. Powder Metallurgy 3 sem. hrs. Introduces a modern technology with growing importance. Covers the basics of powder metallurgy with main emphasis on sintered steel. The primary topics covered are powder production, die compacting, sintering theory and practice, full density processing, properties under static and dynamic loading conditions.

MEEN 5440. Processing and Forming of Materials 3 sem. hrs.
Heat and mass transfer, thermodynamics, and stress analyses involved in materials forming process. Solidification and castings, vapor deposition of thin films and coatings. Sintering of powders and aggregates. Mechanical forming and drawing, forging, swaging, rolling. Absolute reaction rate theory for polymerization and chemical processes. Fabrication techniques for composite materials.

MEEN 5450. Mechanical Behavior of Materials 3 sem. hrs.
Stress and strain relationships for elastic behavior. Theory of plasticity. Plastic deformation of single crystals and polycrystalline aggregates. Dislocation theory, fracture, internal friction, creep and stress rupture and brittle failure.

MEEN 5475. Ergonomics 3 sem. hrs.
Covers biomechanical and physiologic aspects of workplace design, such as engineering anthropometry, cumulative trauma disorders, (including carpal tunnel syndrome), low back injuries, hand tool design and evaluation, methods of surveillance in industrial environments, modeling, and ergonomics guidelines. Laboratory sessions are offered to demonstrate ergonomic principles and also provide students with hands-on experience in collecting data and conducting experiments. Offered fall term. Two hrs. lec., 2 hrs. lab.

MEEN 5485. Welding Engineering 3 sem. hrs.
Arc welding physics, fundamentals of power supplies and welding circuits, fusion and solid-state welding processes, weld testing, analysis of welded joints, demonstrations using various processes.

MEEN 5570. Introduction to Biomaterials Science and Engineering 3 sem. hrs.
Introduction to the principal areas in materials science. Structure and bonding, crystallography and mechanical properties of materials. Techniques to study structure and properties of materials, structure and mechanical properties of bone and various implant materials and their mode of failures.

MEEN 5931. Topics in Mechanical Engineering 3 sem. hrs.
Topics may include energy conversion, mechanical analysis and design, and manufacturing systems.

MEEN 6101. Advanced Engineering Analysis 1 3 sem. hrs.
Matrices and linear algebra with applications. Tensor analysis and applications. Calculus of variation. Green's function techniques. Complex variable theory and applications. Topics in ordinary and partial differential equations.

MEEN 6102. Advanced Engineering Analysis 2 3 sem. hrs.
See MEEN 6101.

MEEN 6103. Approximate Methods in Engineering Analysis 3 sem. hrs.
Treatment of approximate methods for solving various problems in engineering. Matrix methods, variational methods (e.g., Ritz, Galerkin, etc.), finite difference methods, finite element method.

MEEN 6220. Advanced Dynamics 3 sem. hrs.
Kinematics of particles and rigid bodies. Basic principles of vector mechanics. Variational principles. Basic principles of analytical mechanics.

MEEN 6225. Advanced Vibrations 3 sem. hrs.
Theory of vibration with applications. Natural modes of vibration for lumped parameter systems. Response of lumped systems with damping. Response of distributed parameter system including bars, beams, etc.

MEEN 6230. Advanced Mechanics of Materials 3 sem. hrs.
Thick wall cylinders, rotating disks, initial stresses; stress concentration factors, cracks, discontinuity stresses; autofrettage, residual stresses; beams on elastic foundation, introduction to plates and shells, pressure vessel analysis.
Prereq: MEEN 5230; or MEEN 5250.

MEEN 6240. Composite Materials 3 sem. hrs.
Introduction to fiber/matrix materials systems with emphasis on continuous fiber-reinforced composites. Principles of anisotropic elasticity, classical lamination theory, and viscoelasticity. Analysis of mechanical, thermal, hygroscopic and combination loading of laminated composites. Review of manufacture/fabrication methods for advanced composites, consolidation techniques, and basic issues in the design of advanced composites.
Prereq: MEEN 5240; or cons. of instr.

MEEN 6310. Advanced Fluid Mechanics 3 sem. hrs.
Further development of fluid flow theory starting with classic potential flow solutions. Numerical and analytical techniques for both inviscid and viscid fluid flows, including boundary layer theory and stability. Transition routes and chaos with an introduction to turbulence. *Prereq: MEEN 5320 or equiv.; computer programming experience recommended.*

MEEN 6320. Turbulence 3 sem. hrs.
Advanced physical and mathematical description of fluid flow systems, including the fundamentals of turbulence motion. The development of the Reynolds stress equations, processes that govern dissipation and statistical description of scales. Includes the modeling techniques associated with turbulent velocity profiles as well as the development of zero, one and two equation closure models.
Prereq: MEEN 6310; computer programming experience recommended.

MEEN 6330. Advanced Thermodynamics 3 sem. hrs.
Fundamentals of thermodynamics, concentrating on a statistical approach; evaluation of properties in the dilute limit and beyond; applications to spectroscopy, micro/nano systems and/or chemical/biological reactions. *Prereq: MEEN 5360 or equiv.; computer programming experience recommended.*

MEEN 6340. Thermal Radiation Heat Transfer 3 sem. hrs.
Blackbody radiation characteristics. Non-black surface properties: emissivity, absorptivity and reflectivity and values for real materials. Blackbody radiation exchange and viewfactor algebra. Graybody exchange. Effects of non-diffuse, non-gray surface properties. Absorption-emission-scattering during transmission through media: transfer equation and approximate solutions. Emphasis on terrestrial solar and building thermal envelope through examples.

MEEN 6350. Convective Heat and Mass Transfer 3 sem. hrs.
Principles and mechanisms of convective transports of energy and of chemical species associated with laminar and turbulent flows, including condensation and boiling. Calculation of heat and mass transport coefficients. Mathematical modeling, with applications to engineering devices involving several of these processes, with and without phenomenological coupling. *Prereq: MEEN 6310.*

MEEN 6360. Computational Fluid Mechanics 3 sem. hrs.
Review of the fundamental thermofluids science, mathematical and computational principles underlying modern CFD software. Utilization of software for representative applications. Individual student project devoted to a new application. Offered occasionally.
Prereq: MEEN 6101 and MEEN 6320; or cons. of instr.

MEEN 6370. Fundamentals of Combustion 3 sem. hrs.
An introduction to thermochemistry, fundamentals of chemical kinetics, mechanisms of hydrocarbon oxidation, the governing equations for reacting flow, laminar and turbulent flames, droplet combustion and pollutant emissions. *Prereq: MEEN 3340.*

MEEN 6450. Plastic Deformation and Strengthening Mechanisms in Materials 3 sem. hrs.
Theory of elasticity for isotropic solids. Theory of dislocations to include elastic models of dislocations and interactions between dislocations. Strengthening mechanisms in solids including work hardening, solid solution strengthening and precipitation hardening.
Prereq: MEEN 5450; or cons. of instr.

MEEN 6460. Creep, Fracture and Fatigue in Materials 3 sem. hrs.
Thermally activated plastic deformation. Mechanisms of creep and stress rupture in materials. Fatigue. *Prereq: MEEN 5450; or cons. of instr.*

MEEN 6470. Statistical Methods in Engineering 3 sem. hrs.
Development of statistical models in engineering and statistical analysis of data. Statistical concepts. Inference methods. Application of statistical models to component reliability and probability design. Probability plotting; Monte Carlo simulation.

MEEN 6473. Computer Integrated Manufacturing 3 sem. hrs.
Primary objectives include the validation of the underlying philosophy behind computer integrated manufacturing and the definition of characteristics of various components which constitute a C.I.M. environment. Describes the benefits of C.I.M. and how to upgrade conventional plants to a C.I.M. operation.

MEEN 6475. Advanced Ergonomics/Human Factors Engineering 3 sem. hrs.
Fundamentals of ergonomics/human factors engineering (HFE) with emphasis on the application of basic principles to advances in engineering applications, research, and development. Topics include: engineering anthropometry, cumulative trauma disorders, low back disorders, electromyography, biomechanical modeling, and ergonomic guidelines. Requires research papers in the above areas or in a related ergonomics/HFE field. *Prereq: Cons. of instr.*

MEEN 6480. Metal Forming 3 sem. hrs.
Elements of von Mises plasticity theory-stress and deformation states, constitutive equations, and flow rules; plane and axisymmetric behavior. Solution techniques—exact, slipline theory, upper and lower bounds, finite bending, deep drawing.
Prereq: MEEN 5480 or equiv.

MEEN 6931. Topics in Mechanical Engineering 3 sem. hrs.
Topics may include thermofluid science, mechanical analysis and design, and manufacturing systems.

MEEN 6960. Seminar in Mechanical Engineering 0 sem. hrs.
Scholarly presentations on current topics in mechanical engineering and related areas by visiting and resident investigators. Required of all full-time graduate students. Offered every term. SNC/UNC grade assessment.

MEEN 6995. Independent Study in Mechanical Engineering 1-3 sem. hrs.
Offered every term.
Prereq: Cons. of instr. and cons. of dept. ch.

MEEN 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

MEEN 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

MEEN 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

NURSING (NURS)

Dean: Callahan
Dean Emeritus: Klein
Interim Associate Dean for Graduate Programs and Research, Associate Dean for Undergraduate Programs, and Clinical Assistant Professor: Kosmoski-Goepfert
Professor: Acord, Bull, Fehring, McLane *(Emeritus)*, Schank *(Emeritus)*, Siegel *(Emeritus)*, Wake
Associate Professor: Frenn, Haglund, Hanson, Theis *(Emeritus)*, VandeVusse, Wallenborn *(Emeritus)*, Weis *(Emeritus)*, Weiss, Wilson *(Emeritus)*, Winters
Assistant Professor: Belknap, Bobay, Bratt, Laabs, Lough, Sebern
Adjunct Associate Professor: Malin
Clinical Associate Professor: Hankes, O'Brien, Shaw
Clinical Assistant Professor: Dressler, Harrod
Clinical Instructor: Culhane, Heise, Jensen, Kirby, Lucey, Maki, Mowers-Anderson, Salentine, Schroeter, Stauber, Stroupe
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science in Nursing, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered; Post-master's Certificate; Doctor of Nursing Practice, Doctor of Philosophy

SPECIALIZATIONS

M.S.N.: Advanced Practice Nursing: Acute Care, Adults, Nurse-Midwifery, Older Adults, Pediatrics Primary Care, Pediatrics Acute Care; Clinical Nurse Leader; Health Care Systems Leadership

Post-master's Certificate: Acute Care Nurse Practitioner, Adult Clinical Nurse Specialist, Adult Nurse Practitioner, Gerontologic Clinical Nurse Specialist, Gerontologic Nurse Practitioner, Health Care Systems Leadership, Nurse-Midwifery, Pediatrics Primary Care, Pediatrics Acute Care

D.N.P.: Advanced Practice Nursing: Acute Care, Adults, Nurse-Midwifery, Older Adults, Pediatrics Primary Care, Pediatrics Acute Care; Health Care Systems Leadership

Ph.D.: None

PROGRAM DESCRIPTIONS

MASTER OF SCIENCE IN NURSING

The master of science in nursing program prepares nurses for roles in advanced practice nursing or nursing administration. Graduates are academically eligible to seek formal professional certification in such areas as: nurse practitioner, clinical nurse specialist, nurse-midwife, nurse administrator or clinical nurse leader.

Advanced Practice Nursing: Acute Care Nurse Practitioner

This specialization prepares the student to apply advanced clinical assessment skills to complex health problems commonly encountered by acutely ill adults across the health care continuum. Graduates will be academically eligible to take the national certification examination for the Acute Care Nurse Practitioner.

Advanced Practice Nursing: Adults

This specialization prepares the student for the care of adults, including knowledge of human responses, health promotion and disease prevention, advanced physical assessment, diagnosis, and management of health problems. Graduates will be academically eligible to take the national certification exam for either Clinical Nurse Specialist or as an Adult Nurse Practitioner.

Advanced Practice Nursing: Nurse-Midwifery

This specialization prepares the student for independent management of essentially normal newborns and women during the antepartum, intrapartum, and postpartum periods and for gynecologic care throughout the life-span. Graduates will be academically eligible to take the national certification examination of the American Midwifery Certification Board, Inc.

Advanced Practice Nursing: Older Adults

This specialization prepares the student for primary care and complex management of older adults with simple to complex health problems. Graduates will be academically eligible to take the national certification examination for Geriatric Nurse Practitioner or Clinical Nurse Specialist.

Advanced Practice Nursing: Pediatrics

This specialization prepares the student for independent management of children and families seeking health care for simple to complex health problems (primary care) and acute to critically ill problems (acute care pediatric nurse practitioner). Graduates will be academically eligible to take the national certification examination for Pediatric Nurse Practitioner/Clinical Nurse Specialist in Pediatrics (Primary Care) or Acute Care Pediatric Nurse Practitioner.

Clinical Nurse Leader

This specialization prepares the student to have competence in clinical outcomes management and health care environment management. Students complete core M.S.N. courses and a combination of illness management and health care systems leadership courses. These graduates remain at the point of care and assure patients receive health care in a safe, cost effective, timely manner by implementing lateral integration of care services. Graduates are academically eligible to take the AACN CNL® Certification Examination.

Health Care Systems Leadership

This specialization prepares the student for the administration of nursing services in a variety of health care organizations. Graduates will be academically eligible to take the national certification examination for Nursing Administration. Subspecialty areas are offered using six elective credits. They are: Care Management Systems, Community Health Leadership, Informatics, Staff

Development, Long Term Care Administration, and Conflict Resolution.

POST-MASTER'S GRADUATE CERTIFICATE

This program prepares the nurse who already has a master of science in nursing to become academically eligible for certification as an Advanced Practice Nurse or to practice as a Doctor of Nursing Practice.

DOCTOR OF NURSING PRACTICE

The doctor of nursing practice will emphasize development of nursing practice expertise at the highest level. The curriculum includes translational research, epidemiology, informatics, statistics, advanced clinical practice, health policy and professional issues. Specializations include health care systems leadership and advanced practice in acute care adults, adults, nurse-midwifery, older adults, or pediatrics (primary care or acute care). B.S.N. to D.N.P. and post-M.S.N. to D.N.P. options are available.

DOCTOR OF PHILOSOPHY

The doctor of philosophy program in nursing prepares teacher-scholars. The curriculum focuses on vulnerable populations, which include persons at high risk for adverse health outcomes. Persons who are vulnerable may include such groups as the unborn, chronically ill, frail elders, impoverished children and the marginalized. The graduate of this doctoral program will have the ability to advance health care through teaching, research and health care leadership.

Doctoral education in nursing is built on the master's level nursing foundation. It is characterized by the acquisition of research skills necessary for the discovery and use of new nursing knowledge and for preparation for teaching roles.

MASTER OF SCIENCE IN NURSING — SECOND DEGREE DIRECT ENTRY FOR NON-NURSES

The master's program for non-nursing graduates is designed for those individuals who hold baccalaureate degrees in fields other than nursing and who wish to become nurses. The program builds upon the student's broad educational preparation and provides an intense, accelerated, and specialized nursing curriculum to meet the student's career goals.

Students complete the nursing requirements and meet the bachelor of science in nursing program objectives in an intense 15 month pre-M.S.N. phase and progress to graduate study. During the spring term of the pre-M.S.N. phase, students select a graduate option. Note that some options highly recommend and/or require a year of practice prior to beginning clinical practice courses; this may necessitate part-time study. The NCLEX (National Council Licensure Examination) must be taken within 2 months of completion of the pre-M.S.N. phase.

An interview is required for admission to the M.S.N. pediatrics, nurse-midwifery and acute care options. *Note: Entry into the master's phase of the program is conditional. See #5 below.*

Students are then prepared in the M.S.N. program for nursing administration, clinical nurse leader or advanced nursing practice roles in: acute care, adults, children, nurse-midwifery, or older adults. Students may select the D.N.P. program.

Admission Requirements for M.S.N. – Second Degree Direct Entry for Non-nurses

1. Baccalaureate degree in a discipline other than nursing with a GPA of 3.000 or above, using a 4.000 system.
2. GRE scores (General Test only). Waived if applicant already has a master's degree or if undergraduate GPA is 3.200 or above.
3. Completion of three recommendation forms.
4. Maintain an average of B or above each term, **and** completion of the following prerequisite courses with grade of C or above:
   Anatomy and physiology: 5-6 credits (preferably within the last 5 years),
   Chemistry or biochemistry or biology or microbiology: 5-6 credits total (preferably within the last 5 years),
   Behavioral sciences, e.g., psychology, sociology: 3 credits,
   Statistics (including inferential): 3 credits (within the last 5 years).
5. Maintenance of 3.000 GPA each term and every summer session in pre-M.S.N. phase.
6. Full-time status is required for the pre-M.S.N. phase.

MASTER OF SCIENCE IN NURSING — SECOND DEGREE DIRECT ENTRY FOR A.D.N. NURSES

This program facilitates students who have an associate's degree in nursing and also have a bachelor's degree in a discipline other than nursing to complete a master of science in nursing degree. Prior to completing courses in the option of choice, students must complete NURS 2173, NURS 4500, NURS 4501 and NURS 6035.

Admission Requirements for M.S.N. — Second Degree Direct Entry for A.D.N. Nurses

1. Baccalaureate degree in a discipline other than nursing with a GPA of 3.000 or above, using a 4.000 system.
2. Associate's degree in nursing with a GPA of 3.000 or above, using a 4.000 system.
3. GRE scores (General Test only). Waived if applicant already has a master's degree or if undergraduate GPA is 3.200 or above.
4. Completion of three recommendation forms.
5. Resume and written statement of professional goals.
6. Official transcripts from all current and previous colleges/universities except Marquette.
7. Completion of the following prerequisite courses with grade of C or above:
   Anatomy and physiology: 5-6 credits
   Chemistry or biochemistry or biology or microbiology: 5-6 credits total
   Behavioral sciences (e.g. psychology, sociology): 3 credits
   Statistics (including inferential): 3 credits.

PREREQUISITES FOR ADMISSION

Applicants to the **master of science in nursing (M.S.N.)** program or the **doctor of nursing practice (D.N.P.)** program should have graduated with, or be about to graduate with, a bachelor's degree in nursing from a nationally accredited program with an upper division major in nursing. A cumulative undergraduate GPA of 3.000 on a 4.000 scale is required.

Prior to or during the first term of study, all master of science in nursing applicants must have taken undergraduate classes in nursing research and a statistics course which included inferential analysis (within the past 5 years).

Applicants that select an advanced practice nursing specialization must have taken an undergraduate course in health assessment. It is recommended that applicants to the health care systems leadership or to the advanced practice nursing specializations in acute care, nurse-midwifery, or pediatrics have a minimum of one year related professional experience.

Applicants to the **doctor of philosophy (Ph.D.)** program in nursing should have graduated with, or be about to graduate with, a bachelor's degree in nursing from a nationally accredited program or a master's degree in nursing from a nationally accredited program. For a bachelor's applicant, the requirements are: RN licensure, a GPA of 3.000 on a 4.000 scale, a statistics course within the last 5 years, acceptable GRE scores, three letters of reference, a goal statement, and a personal interview. Generally, for a master's applicant, a cumulative graduate GPA of 3.300 on a 4.000 scale is recommended. A graduate level research course is a required prerequisite.

Familiarity with computers and the Web (e.g., electronic retrieval of data, word processing) is required for all applicants. Some courses use Web-enhanced and/or hybrid teaching.

APPLICATION DEADLINES

Nov. 15	For spring admission: M.S.N., post-master's certificates, and Ph.D. programs
Dec. 31	For summer admission: direct entry program for non-nurses
Feb. 15	For fall admission: M.S.N., post-master's certificates, Ph.D., and D.N.P. programs

Ph.D. and D.N.P. applicants who apply after the Feb 15th deadline will be considered on a space-available basis for fall admission, provided their application is complete by June 1st.

M.S.N. and post-master's certificate applicants are not eligible for summer admission, and D.N.P. applicants must begin their program in fall.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. *(For master's and D.N.P. applicants only*) three completed recommendation forms prepared by previous or present employers and teachers familiar with graduate education in nursing.
4. *(For Ph.D. applicants only*) three Ph.D. letters of recommendation.
5. *(For master's and D.N.P. applicants only)* GRE scores (General Test only). Waived if undergraduate GPA is 3.200 or above. Waived for applicants who have a master's degree and the master's GPA is 3.200 or above.
6. *(For Ph.D. applicants only)* GRE scores (General Test only). Waived if applicant is Marquette M.S.N. graduate with GPA of 3.700 or above.
7. A resume and written statement of professional goals, including reasons for pursuing graduate study. For Ph.D. applicants, a curriculum vitae and objectives/career intentions, including research interests.
8. *(For Ph.D. applicants only*) sample of scholarly writing.

9. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

An interview is required for applicants to the advanced practice nursing specializations in acute care nurse practitioner, nurse-midwifery, and pediatrics.

With the exception of Second Degree Direct Entry M.S.N. applicants, an applicant must be registered in the United States as a professional nurse. Graduates of nursing schools in foreign countries must successfully complete the examination administered by the Commission on Graduates of Foreign Nursing Schools and must be licensed in Wisconsin.

Upon acceptance to the graduate program, students must complete and submit the *Graduate Student Health Status Report* form, information on CPR certification, and the criminal background check form, along with evidence of professional licensure and HIPPA training to the Office for Graduate Nursing Programs in the College of Nursing. Results of a T.B. skin test must be provided annually. The information is required for participation in the practica experiences and progression within the program.

Acute care nurse practitioner students must demonstrate evidence of current Advanced Cardiac Life Support certification and have experience working with acutely ill adults before commencing with the first clinical practicum course.

JOINT PROGRAM OF STUDY

M.S.N.-M.B.A. DEGREE

The College of Nursing, in conjunction with the Graduate School of Management, offers a program of joint study leading to a master of science in nursing (M.S.N.) degree with a specialization in health care systems leadership and a master of business administration (M.B.A.). Students seeking admission to the joint program apply to the Graduate School and must meet the admission requirements for both the M.S.N. and M.B.A. programs. However, official test scores from the Graduate Management Admission Test (GMAT) may substitute for the GRE admission requirement in the College of Nursing. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

Joint program students complete a total of 60 credits, including 6 credits of M.B.A. Foundation courses (ACCO 6000, ECON 6000, MANA 6000), 12 credits of nursing core courses (NURS 6000, NURS 6007, NURS 6009, NURS 6010), 24 credits of M.B.A. core courses (ACCO 6100, ECON 6100, FINA 6100, MANA 6100, MANA 6240, MARK 6100, OSCM 6100, a quantitative methods course [see M.B.A. elective core options], and 18 credits of health care systems leadership courses (HEAL 6820, HEAL 6841, HEAL 6846, HEAL 6848, NURS 6852, NURS 6853). A comprehensive examination in the nursing content area is required. MANA 6240, Strategic Management in a Global Economy, serves as the final integrating experience for the business content area. MANA 6240 may be taken only after completing all other core course requirements.

GENERAL INFORMATION

Clinical courses in the College of Nursing are restricted to students in the degree program. Various clinical facilities in the greater Milwaukee area, throughout Wisconsin, and in northern Illinois are utilized for practica.

While Marquette University is concerned about the professional advancement of its students, facilitates the process of certification, and provides excellent educational opportunities, it cautions that professional success in a chosen field requires, above all else, constant development of individual abilities, personal initiative, and a professional sense of commitment to fulfill all appropriate legal and technical responsibilities. Hence, the university assumes no responsibility for the success of the students in obtaining educational certification or other types of professional licensure.

Licensure in Wisconsin is mandatory for employment with compensation.

PROGRESSION POLICY

The College of Nursing Academic Progression Policy for Graduate Students applies to all course work taken during the academic year and summer sessions. The policies of the Graduate School on academic performance, professional integrity, professional performance, academic dishonesty, and student conduct are all followed by the College of Nursing. A variety of responses to problems in any of these areas may be implemented, depending on the nature of the problems encountered. Warnings, remediation plans, probation, immediate withdrawal from clinical or laboratory activities, suspension, and dismissal are all possible actions under these policies. The College of Nursing considers any of the following as possible grounds for dismissal:

- Lack of satisfactory academic progress as evidenced by a failure to achieve a minimum cumulative GPA of 3.000 while on academic probation.
- Serious or repeated problems with academic, laboratory or clinical performance.
- Serious or repeated problems with professional integrity and professionalism.
- Serious or repeated problems with academic honesty.
- A lack of substantial and visible progress toward completion of program requirements, including failure to complete the comprehensive or qualifying examination, thesis or dissertation, or capstone project.

SPECIAL FEES

1. $40 – Diagnostic Assessment Test for Licensure Examination for the M.S. program for Non-Nursing Graduates, after 15-month Pre-M.S.N. phase (Approximate fee. Exact amount based upon vendor costs in effect at time of registration.)
2. $300 – Uniforms (Approx. fee. Must be purchased through a private vendor. Vendor list available from the College of Nursing.)
3. $175 – Assessment Equipment (Stethoscope $70. Sphygmomanometer $60. Approx. fee. Exact amt. based upon vendor costs in effect at time of registration. Must be purchased through a private vendor.)
4. $50 – Cardiopulmonary Resuscitation (CPR) Certification (Prior to entering any clinical practicum. This certification must be maintained through the remainder of the student's program through biannual recertification.)

ACCREDITATION

Marquette University College of Nursing is accredited by the Commission on Collegiate Nursing Education, One Dupont Circle, NW, Suite 530, Washington, D.C. 20036-1120; (202) 877-6791, and the Accreditation Commission for Midwifery Education (ACME) of the American College of Nurse-Midwives (ACNM), 8403 Colesville Road, Suite 1550, Silver Spring, MD 20910-6374; (240) 485-1800.

MASTER'S REQUIREMENTS

The following requirements are in effect for academic year 2010–2011. Requirements may change due to changes in national standards.

Nursing students are admitted to the Graduate School under Plan B (non-thesis option). Plan B students are not required to write a thesis but must take a comprehensive written or oral examination. Students may change to the Plan A (thesis) option if an official *Change of Plan Form* is submitted to the Office for Graduate Nursing Programs and is approved by the Graduate School. A comprehensive exam is not required under the Plan A option.

The number of credits required to complete a degree is based on the area of specialization. Students completing a thesis must enroll for six additional thesis credits.

Specialization	Credits Required
Acute Care Nurse Practitioner	42
Adults	42
Nurse-Midwifery	49
Older Adults	42
Pediatrics	42
Clinical Nurse Leader	33
Health Care Systems Leadership	39

Students admitted to the master of science in nursing program will choose advanced practice nursing (selecting acute care nurse practitioner, adults, nurse-midwifery, older adults, OR pediatrics), clinical nurse leader, or health care systems leadership. All students in the master of science in nursing program will take the four core courses and all courses listed for their specific program option. Clinical practicum experiences include a minimum of five hours per credit.

CORE COURSES FOR ALL SPECIALIZATIONS (12 CREDITS)

NURS 6000 Theoretical Foundations of Nursing
NURS 6007 Ethics in Health Care
NURS 6009 Creating Nursing Care Systems
NURS 6010 Nursing Research Design and Methodology

SPECIALIZATION COURSE REQUIREMENTS

1. Advanced Practice Nursing: Acute Care – Nurse Practitioner

NURS 6030, NURS 6032, NURS 6035, NURS 6037, NURS 6240, NURS 6335, NURS 6340, NURS 6351, NURS 6352, and NURS 6353

2a. Advanced Practice Nursing: Adults – Nurse Practitioner

NURS 6030, NURS 6032, NURS 6035, NURS 6037, NURS 6240, NURS 6251, NURS 6252, NURS 6257, NURS 6242, and NURS 6244

2b. Advanced Practice Nursing: Adults – Clinical Nurse Specialist

NURS 6030, NURS 6032, NURS 6035, NURS 6242, NURS 6244, NURS 6251, NURS 6252, 6 credits of HEAL or NURS electives, and 3 free elective credits

3. Advanced Practice Nursing: Nurse-Midwifery

NURS 6030, NURS 6032, NURS 6035, NURS 6037, NURS 6740, NURS 6742, NURS 6744, NURS 6746, NURS 6752, and NURS 6753

4a. Advanced Practice Nursing: Older Adults – Nurse Practitioner

NURS 6030, NURS 6032, NURS 6035, NURS 6037, NURS 6240, NURS 6242, NURS 6244, NURS 6451, NURS 6452 and NURS 6453

4b. Advanced Practice Nursing: Older Adults – Clinical Nurse Specialist

NURS 6030, NURS 6032, NURS 6035, NURS 6242, NURS 6244, NURS 6451, NURS 6452, 6 credits of HEAL or NURS electives, and 3 free elective credits

5a. Advanced Practice Nursing: Pediatrics Primary Care

NURS 6030, NURS 6032, NURS 6244, NURS 6535, NURS 6536, NURS 6540, NURS 6542, NURS 6551, NURS 6552, and NURS 6553

5b. Advanced Practice Nursing: Pediatrics Acute Care PNP

NURS 6030, NURS 6032, NURS 6242, NURS 6535, NURS 6536, NURS 6540, NURS 6640, NURS 6651, NURS 6652, and NURS 6653

6a. Clinical Nurse Leader: Adults

NURS 6240, NURS 6242, NURS 6340, HEAL 6845, HEAL 6846, and 6 credits (variable credits per term) of NURS 6964 (practica)

6b. Clinical Nurse Leader: Children

NURS 6536, NURS 6540, NURS 6542, HEAL 6845, HEAL 6846, and 6 credits (variable credits per term) of NURS 6964 (practica)

6c. Clinical Nurse Leader: Obstetrics

NURS 6740, NURS 6742, NURS 6744, HEAL 6845, HEAL 6846, and 6 credits (variable credits per term) of NURS 6964 (practica)

7. Health Care Systems Leadership

HEAL 6820, HEAL 6841, HEAL 6846, HEAL 6848, NURS 6851, NURS 6852, NURS 6853, and 6 free elective credits

POST-MASTER'S REQUIREMENTS

This program prepares the nurse who already has a master of science in nursing to become academically eligible for certification as an Advanced Practice Nurse or to practice as a D.N.P. Programs are offered in the following specialities: acute care nurse practitioner, adults, geriatrics, nurse-midwifery, pediatrics, and health care systems leadership. Specific information regarding application and course requirements may be obtained from the College of Nursing, Clark Hall, P.O. Box 1881, Milwaukee, WI 53201-1881, (414) 288-3810.

DOCTORAL REQUIREMENTS

DOCTOR OF NURSING PRACTICE

The doctor of nursing practice (D.N.P.) program is designed to prepare advanced practice nurses and nurse administrators at the highest level. Graduates of the program will be prepared to:

1. Provide evidence-based advanced nursing care to individuals, families, communities and/or clinical populations.
2. Apply analytical methodologies to evaluate and monitor patient, population, and care system outcomes.
3. Analyze and apply models, theories, and scientific evidence to improve health care of diverse populations.
4. Demonstrate advanced levels of scholarship, clinical judgment, systems thinking, and accountability in nursing practice.
5. Employ consultative and leadership skills within nursing and interdisciplinary health care teams to transform health care and complex health care delivery systems to improve health.

Curriculum

The doctor of nursing practice (D.N.P.) is a post baccalaureate degree requiring 66 credits for the advanced practice options and 63 credits for the health care systems leadership option to be completed in three years by full-time students. In addition, a "bridge" program was created for advanced practice nurses already holding an M.S.N. who want to pursue the D.N.P. For those with an M.S.N., transcripts will be evaluated and programs will be tailored according to previous course work. A minimum of 24 credits is required.

The specific domains of content for this program include: core courses for all options; health promotion illness/management for advanced practice options; research and statistics for all options; practica courses for all options; nurse-midwifery courses; and health care systems courses such as finance, outcomes management, human resources, program evaluation and mediation for the health care systems leadership option. Specializations in acute care, adult and older adult nursing will share course work with the specialized client care focus in the practica courses.

Contact the College of Nursing for more information.

DOCTOR OF PHILOSOPHY

The doctor of philosophy (Ph.D.) program in nursing is designed to prepare teachers of nursing and scholars who will contribute to the body of knowledge related to vulnerable populations. Graduates of the program will be prepared to:

1. Teach students to be nurses and advanced practitioners to be able to improve the health status of vulnerable populations.
2. Design and conduct independent research that will impact the health of vulnerable populations.
3. Develop, test, and refine theories as a basis for nursing science.
4. Analyze patterns of health and illness among vulnerable populations.
5. Synthesize research findings to provide leadership in health care.

Curriculum

The doctoral program is a 51 credit post-master of science in nursing program with course work in the following five categories:

Nursing Science (12 credits)
NURS 8000, NURS 8010, PHIL 6430, and NURS 8980

Research and Statistics (12 credits)
HEAL 8002, HEAL 8003, PSYC 8101, and PSYC 8102

Teaching (9 credits)
NURS 8020 and NURS 8981,
and one of the following:
COPS 8032 OR EDPL 8450

Cognates (6 credits)
Six credits supportive of dissertation.

Dissertation (12 credits)
A doctoral student will follow a program of study defined, in conjunction with an adviser, on an approved *Doctoral Program Planning Form*. The student must complete all requirements listed on the *Doctoral Program Planning Form*, pass a qualifying examination, and successfully defend a dissertation to complete the program. The doctoral dissertation must represent an original research contribution and show high attainment and clear ability to do independent research.

COURSE DESCRIPTIONS

Health (HEAL)

HEAL 5152. Death and Dying 3 sem. hrs.
Multidisciplinary perspective on death and dying. Includes historical, sociocultural, legal, and ethical dimensions, the dying process, grief and bereavement, and communities of care.

HEAL 5200. Natural Family Planning 3 sem. hrs.
Physiological, behavioral, and spiritual aspects important to teaching and using natural family planning.

HEAL 5201. Natural Family Planning Practicum 3 sem. hrs.
Practical application of theory and skills for teaching natural family planning.

HEAL 6010. Translational Research 3 sem. hrs.
Evaluation, translation, and integration of published research for clinical practice.
Prereq: NURS 6010, COPS 8310 or equiv.

HEAL 6012. Epidemiology 3 sem. hrs.
Study of patterns of health/illness in specific populations and analysis of risk. Application of epidemiology methods, including biostatistics.

HEAL 6049. Outcomes Management 3 sem. hrs.
Evolution of outcomes management. Exploration of methodologies, assessment instruments and issues that guide outcomes research.
Prereq: NURS 6010 or cons. of instr.

HEAL 6152. Death and Dying 3 sem. hrs.
Multidisciplinary perspective on death and dying. Includes historical, sociocultural, legal, and ethical dimensions, the dying process, grief and bereavement, and communities of care.

HEAL 6814. Seminar in Moral and Legal Implications of Health Care 3 sem. hrs.
The field of moral decision-making in health care and the legal implications. Open to all graduate students.

HEAL 6820. Health Care Program Development 3 sem. hrs.
Principles of population assessment, critical analysis of data, program development, implementation and evaluation. Includes one credit of practicum.
Prereq: NURS 6009; or cons. of instr.

HEAL 6822. Health Care Quality Improvement 3 sem. hrs.
Explores health care applications of quality improvement, including government and regulatory influences, standards and guidelines, quality programs and methods, and process redesign.

HEAL 6840. The Environment of Health Care Delivery 2-3 sem. hrs.
Overview of U.S. health care system, environmental influences, and current models for health care delivery (e.g., fee for service, modified fee for service, managed care, capitated care, IPOs, HMOs), and the ascendancy/descendency of various models in different geographic regions and in response to economic incentives. Offered annually.
Prereq: Enrolled in Graduate School.

HEAL 6841. Health Care Finance 3 sem. hrs.
Examination of financial principles, budgeting and reimbursement issues in health care.
Prereq: NURS 6009; or cons. of instr.

HEAL 6845. Case Management 3 sem. hrs.
Care services coordination of individuals and families to maximize resources for optimal health outcomes. Emphasis on integration of clinical and management processes. Includes one credit of practicum. *Prereq: Health profession experience or cons. of instr.*

HEAL 6846. Health Care Informatics 3 sem. hrs.
Study of informatics in health care with emphasis in information systems and use of communication technology. Includes evaluation of actual and potential applications of informatics in health care administration, clinical practice, research and education.

HEAL 6848. Health Care Policy 3 sem. hrs.
Concepts of public policy including the political process. Analysis of health care issues using a variety of policy models.

HEAL 6931. Topics in Health Care 1-4 sem. hrs.
In-depth study of current issues in health care. Course content will be announced each term.

HEAL 6963. Individual Study and Practice 1-3 sem. hrs.
Individual study and development of in-depth knowledge and skill in a selected area of health care. Experience and activities planned in an area for specialization, based on aptitude and interests of the student. May be repeated for credit.
Prereq: Cons. of instr.

HEAL 6995. Independent Study in Health Care 1-3 sem. hrs.
Offered every term. *Prereq: Cons. of instr.*

HEAL 7010. Translational Research 3 sem. hrs.
Evaluation, translation, and integration of published research for clinical practice.
Prereq: NURS 6010, COPS 8310 or equiv.

HEAL 7012. Epidemiology 3 sem. hrs.
Study of patterns of health/illness in specific populations and analysis of risk. Application of epidemiology methods, including biostatistics.

HEAL 7049. Outcomes Management 3 sem. hrs.
Evolution of outcomes management. Exploration of methodologies, assessment instruments and issues that guide outcomes research.
Prereq: NURS 6010 or cons. of instr.

HEAL 8002. Qualitative Research 3 sem. hrs.
Analysis of key qualitative research methods, issues related to these approaches, and the nature of knowledge generated.

HEAL 8003. Quantitative Research 3 sem. hrs.
Exploration and analysis of advanced quantitative methodologies and issues related to these approaches.
Prereq: PSYC 8101 which may be taken concurrently and PSYC 8102 which may be taken concurrently.

Nursing (NURS)

NURS 5050. Health Assessment for Registered Nurses 3 sem. hrs.
Develops assessment skills to systematically collect and analyze data to make clinical judgments related to health status.

NURS 6000. Theoretical Foundations of Nursing 3 sem. hrs.
The study of knowledge paradigms, theory analysis, and theory development. Includes examination of exemplar nursing theories. Offered annually.
Prereq: Admitted to NURS program.

NURS 6007. Ethics in Health Care 3 sem. hrs.
Uses ethical frameworks to explore a variety of moral issues impacting nursing and health care. Offered annually.

NURS 6009. Creating Nursing Care Systems 3 sem. hrs.
Study of systems and organizations. Application to health care delivery, analysis and development of innovative models, including entrepreneurial practices with emphasis on maximizing leverage of advanced practice nursing and its impact on health care delivery systems. Offered annually.
Prereq: Admitted to NURS program.

NURS 6010. Nursing Research Design and Methodology 3 sem. hrs.
Study of scientific methodologies appropriate for research in nursing. Critique and utilization of research studies. Includes proposal development. Offered every term. *Prereq: Statistics.*

NURS 6012. Advanced Clinical Nursing Research 3 sem. hrs.
Development of research designs and statistical evaluation appropriate for advanced clinical nursing. Includes instrumentation, measurement issues, multivariate designs, evaluation research, and qualitative methods.
Prereq: Admitted to NURS program; and NURS 6010.

NURS 6020. Curriculum and Instructional Strategies for Nursing 3 sem. hrs.
Provides knowledge base in curriculum development, including philosophical foundations and educational theories. Examines teaching/learning strategies specific to implementation of the instructional process; design and use of evaluation tools for classroom and clinical education. Offered annually.
Prereq: Admitted to NURS program.

NURS 6021. Curriculum and Instruction in Associate Degree Nursing 2 sem. hrs.
Designed for faculty in associate degree nursing program. Exploration of associate degree curriculum development including conceptual framework and competencies; related concepts of instruction including organization of learning opportunities, teaching strategies and performance evaluation.
Prereq: Admitted to NURS program.

NURS 6030. Pathophysiological Concepts for Advanced Nursing Practice 3 sem. hrs.
Investigation of normal physiologic and pathologic mechanisms of disease as a foundation for clinical assessment, decision-making and management. Establishment of knowledge base necessary for the provision of health care in an advanced nursing specialty. Offered annually.
Prereq: Admitted to NURS program.

NURS 6032. Pharmacology for Advanced Nursing Practice 3 sem. hrs.
Pharmacodynamics, major drug categories, and prescribing responsibilities.
Prereq: Admitted to NURS program.

NURS 6035. Advanced Health Assessment 3 sem. hrs.
Develop advanced assessment skills to systematically collect, analyze, and interpret data to make sound clinical judgments related to a client's health status. Includes appropriate diagnostics and their interpretation. Includes 1 lab credit.
Prereq: Admitted to NURS program.

NURS 6037. Management of Episodic Health Problems 3 sem. hrs.
Assessment, differential diagnoses, interventions and evaluation of adults and older adults with acute, episodic, self-limiting conditions. Offered annually.
Prereq: NURS 6032 and 6035 which may be taken concurrently.

NURS 6240. Complex Health Problems 3 sem. hrs.
Analysis of patterns of common health problems and select treatment modalities common to adults and older adults. Offered annually.
Prereq: Admitted to NURS program; and NURS 6032.

NURS 6242. Concepts and Interventions for Health Problems Across the Life-Span 3 sem. hrs.
Theories, models, and management of health related problems across the life-span. Evaluation of therapeutic nursing interventions.
Prereq: Admitted to NURS program; and NURS 6010 which may be taken concurrently.

NURS 6244. Health Promotion Across the Life-Span 3 sem. hrs.
Theories and models of health promotion, wellness, and risk reduction. Designing therapeutic interventions to promote the health of individuals and aggregates across the life-span.

NURS 6251. Advanced Nursing of Adults 1–Practicum 3 sem. hrs.
Application of the clinical judgment process to advanced nursing of adults. Emphasis on systematic data gathering, documentation, health promotion, and risk assessment of adults across the life cycle. Offered annually.
Prereq: NURS 6032 and NURS 6037 and NURS 6240 which may be taken concurrently and NURS 6244 which may be taken concurrently.

NURS 6252. Advanced Nursing of Adults 2–Practicum 3 sem. hrs.
Illness management in adults in the context of the family and environment. Emphasis on diagnosis and therapeutic interventions.
Prereq: NURS 6240 and NURS 6242 which may be taken concurrently.

NURS 6257. Advanced Nursing of Adults 3–Practicum 3 sem. hrs.
Care of select populations with emphasis on management of complex illness processes. Focuses on care coordination and aggregate interventions. *Prereq: Admitted to NURS program; and NURS 6242 and NURS 6252.*

NURS 6335. Differential Diagnosis and Advanced Skills for the Acutely Ill Adult 3 sem. hrs.
Advanced nursing knowledge and skills for assessment of acutely ill adults using technology. Differential diagnoses, selection and interpretation of appropriate diagnostic tests. Includes 40 hours of clinical practice. *Prereq: NURS 6032 and NURS 6037, both which may be taken concurrently; and cons. of acute care option coordinator.*

NURS 6340. Complex Acute Care Problems 3 sem. hrs.
Analysis of complex pathophysiological conditions commonly encountered among acutely ill adults with selection of appropriate treatment modalities. Emphasis on recognizing patterns of acute illness and on developing clinical reasoning. Offered annually. *Prereq: NURS 6032 and NURS 6037 which may be taken concurrently and NURS 6240 which may be taken concurrently; NURS 6030 may be taken concurrently.*

NURS 6342. Advanced Acute Care Concepts and Issues 3 sem. hrs.
Analysis of concepts and issues in the advanced management of acute and critically ill adults, including therapeutic nursing interventions. *Prereq: NURS 6351.*

NURS 6351. Advanced Nursing Care of the Acutely Ill 1–Practicum 3 sem. hrs.
Development of the clinical judgment process and advanced skills for collaborative care of adults experiencing acute illness in the hospital-based/tertiary care environment. Emphasis on systematic data gathering, documentation, health promotion, and primary, secondary, and tertiary risk reduction strategies. *Prereq: NURS 6030 which may be taken concurrently and NURS 6032 and NURS 6037 and NURS 6240 which may be taken concurrently and NURS 6340 which may be taken concurrently.*

NURS 6352. Advanced Nursing Care of the Acutely Ill 2–Practicum 3 sem. hrs.
Application of clinical judgment to advanced nursing care of complex adults and families experiencing acute illness in the hospital-based/tertiary care environment. Focuses on diagnosis and treatment of complex health problems. *Prereq: NURS 6351 and NURS 6342 which may be taken concurrently.*

NURS 6353. Advanced Nursing Care of the Acutely Ill 3–Practicum 3 sem. hrs.
Implementation of the acute care advanced practice role in providing nursing care to complex acutely ill adults. Emphasis on case management and coordination within and between systems. *Prereq: NURS 6352.*

NURS 6440. Theoretical Constructs: Dimensions of Aging 3 sem. hrs.
Theory development in advanced gerontological nursing with emphasis on age-related changes, cultural dimensions, socioeconomic stressors, vulnerability, maturational crises and care at the end of life.

NURS 6442. Illness Management and Nursing Therapeutics of Older Adults–Theory 3 sem. hrs.
Advanced study of hardy and frail elders experiencing health deviations with emphasis on prevention, restoration, palliation, and related interventions. *Prereq: Admitted to NURS program; and NURS 6032 and NURS 6037 and NURS 6240 which may be taken concurrently and NURS 6440 which may be taken concurrently.*

NURS 6444. Issues in Long Term Care Administration 3 sem. hrs.
Focuses on long term care quality outcome management, rules and regulations, and reimbursement issues in a changing health care environment.

NURS 6451. Health Promotion and Illness Prevention of Older Adults–Practicum 3 sem. hrs.
Analysis of factors to promote optimal functioning in the elderly and research based health promotion strategies. Advanced assessment and differential diagnosis. Implementation of nursing strategies for salutogenesis. *Prereq: Admitted to NURS program; and NURS 6037 which may be taken concurrently and NURS 6440 which may be taken concurrently.*

NURS 6452. Illness Management and Nursing Therapeutics of Older Adults–Practicum 3 sem. hrs.
Analysis of health problems and research-based interventions for hardy and frail elders. Continued skill development in advanced assessment and differential diagnosis. Implementation of advanced nursing strategies. *Prereq: Admitted to NURS program; and NURS 6442 which may be taken concurrently.*

NURS 6453. Advanced Practicum: Care of Older Adults 3 sem. hrs.
Case management of aggregates of older adults with complex needs. Implementation of specialized knowledge and skills. Offered annually. *Prereq: Admitted to NURS program; and NURS 6452.*

NURS 6535. Advanced Assessment in Parent/Child Nursing 3 sem. hrs.
Comprehensive health assessment of infants, children, and adolescents. Includes 1 credit practicum. Offered annually. *Prereq: Admitted to NURS program.*

NURS 6536. Complex/Chronic Pediatric Health Conditions 3 sem. hrs.
Study of the theoretical and empirical bases for management of children and adolescents with complex and chronic health conditions across the health care continuum. *Prereq: Admitted to the NURS program; NURS 6542 or NURS 6640; or cons. of instr.*

NURS 6540. Seminar in Child and Family Health 3 sem. hrs.
Exploration of advanced concepts related to the physical, psychosocial and developmental dimensions of child and adolescent health. Analysis of family theories and models relevant to advanced practice nursing of children. *Prereq: Admitted to NURS program.*

NURS 6542. Nursing Therapeutics for Acute/Episodic Illnesses in Children and Adolescents 3 sem. hrs.
Study of the theoretical basis for the diagnosis and case management of children and adolescents with common age-related acute or episodic illness. Focuses on differential diagnosis and nursing therapeutics. *Prereq: Admitted to NURS program.*

NURS 6551. Advanced Nursing Care of Children and Families 1–Practicum 3 sem. hrs.
Assessment and intervention for children and families regarding common health concerns, with an emphasis on well child care. *Prereq: NURS 6030 which may be taken concurrently and NURS 6032 and NURS 6540 which may be taken concurrently and NURS 6535.*

NURS 6552. Advanced Nursing Care of Children and Families 2–Practicum 3 sem. hrs.
Assessment and intervention for children and families with common to complex health concerns. Beginning development of indirect care skills. *Prereq: NURS 6551.*

NURS 6553. Advanced Nursing Care of Children and Families 3–Practicum 3 sem. hrs.
Assessment and intervention for children and families with common to complex health concerns. Refinement of direct and indirect care skills. *Prereq: NURS 6009 and NURS 6552.*

NURS 6640. Nursing Therapeutics for Acute/Critical Illnesses in Children and Adolescents 3 sem. hrs.
Focuses on differential diagnosis, clinical management, and nursing therapeutics for hospitalized children and adolescents with acute or critical illness. *Prereq: NURS 6535.*

NURS 6651. Acutely Ill Children Practicum 3 sem. hrs.
Assessment and intervention for children and families regarding common acute health concerns. Includes clinical hours that focus on the health care needs of the well child/child with illness not requiring hospitalization, as well as clinical practice with acutely ill hospitalized children. *Prereq: NURS 6030, NURS 6032, NURS 6540, and NURS 6640 which may be taken concurrently.*

NURS 6652. Acutely/Chronically Ill Children Practicum 3 sem. hrs.
Assessment, intervention, and clinical management of acute/chronic illness in children. Collaboration with physicians and other health care providers and agencies to provide and coordinate services. *Prereq: NURS 6651.*

NURS 6653. Critically Ill Children Practicum 3 sem. hrs.
Assessment, intervention, and clinical management of critical illness in children. Clinical experience in developing APN competencies with selected patient populations of children with complex, critical health needs and their families. *Prereq: NURS 6652.*

NURS 6740. Advanced Concepts in Women's Health Care Management Across the Life-Span 2-3 sem. hrs.
Strategies to promote health and wellness across the life-span in the provision of primary care for women, emphasizing nurse-midwifery management. Examines sociocultural implications in the environment impacting upon clients and providers. *Prereq: Admitted to NURS program; and NURS 6032 which may be taken concurrently; or cons. of instr. Non-nurse-midwifery students take theory-only portion for 2 credits; student nurse-midwives must enroll for 3 credits, including practicum.*

NURS 6742. Advanced Concepts in Antepartum Management 2-3 sem. hrs. Study and application of nurse-midwifery process strategies to promote biopsychosocial and spiritual health in women and families experiencing pregnancy. Includes families with potential health deviations. *Prereq: NURS 6740; or cons. of instr. Non-nurse-midwifery students take theory-only portion for 2 credits; student nurse-midwives must enroll for 3 credits including practicum.*

NURS 6744. Advanced Concepts in Postpartum and Newborn Management 2-3 sem. hrs. Postpartum nurse-midwifery management of mothers, neonates, and families, including those with potential health deviations. *Prereq: NURS 6740; or cons. of instr. Non-nurse-midwifery students take theory-only portion for 2 credits; student nurse-midwives must enroll for 3 credits, including practicum.*

NURS 6746. Professional Issues in APN/D.N.P. Practice 3 sem. hrs. Overview of history, trends and dynamic social forces affecting education, regulation, growth and development of APN/D.N.P. professional practice. Examination of legislation, policy, practice issues and leadership in providing quality care for diverse populations. *Prereq: NURS 7997 which may be taken concurrently, or admitted to master's nurse-midwifery program.*

NURS 6752. Nurse-Midwifery Care During Labor and Birth 5 sem. hrs. Nurse-midwifery management of women during the intrapartal period. Assessment of maternal-fetal status, with appropriate interventions and non-technologic approaches, in the context of family-centered care. Includes theory and practicum. Offered annually. *Prereq: Admitted to NURS program; and NURS 6037 and NURS 6740 and NURS 6744; or cons. of instr.*

NURS 6753. Advanced Practicum in Nurse-Midwifery 8 sem. hrs. Development of nurse-midwifery practice role through intensive clinical experience. Strengthening clinical practice and leadership for professional challenges in nurse-midwifery. Practicum hours to be determined by individual student's progression through program experience requirements. *Prereq: Admitted to NURS program; and NURS 6752.*

NURS 6851. Health Care Systems Leadership 1 3 sem. hrs. Evolution and application of concepts and systems related to organizations, management and nursing. *Prereq: Admitted to NURS program; and NURS 6009.*

NURS 6852. Health Care Systems Leadership 2 2-3 sem. hrs. Human resource management and development. Focuses on system interactions and interrelationships. Includes legal and ethical dimensions, quality improvement, and risk management. Includes 1 credit of practicum. *Prereq: Admitted to NURS program; and NURS 6851.*

NURS 6853. Health Care Systems Leadership–Practicum 3 sem. hrs. Advanced practicum in a selected administrative role and setting. Offered annually. Includes one credit of seminar, two credits practicum. *Prereq: Admitted to NURS program; and NURS 6852 which may be taken concurrently.*

NURS 6931. Topics in Nursing 1-4 sem. hrs. In-depth study of current trends in nursing. Subject to be announced each term. *Prereq: Admitted to NURS program.*

NURS 6963. Individual Study and Practice 1-3 sem. hrs. Individual study and development of in-depth knowledge and skill in a selected area of nursing. Experience and activities planned in an area for specialization, based on aptitude and interests of the student. May be repeated for credit. Offered every term. *Prereq: Admitted to NURS program; and cons. of instr.*

NURS 6964. Clinical Nurse Leader Practicum 3-6 sem. hrs. Clinical immersion to implement the role components of the clinical nurse leader including clinical outcomes and care environment management. Offered annually. *Prereq: HEAL 6845, HEAL 6846, NURS 6000, NURS 6007, NURS 6009, NURS 6010, NURS 6240, NURS 6340.*

NURS 6995. Independent Study in Nursing 1-3 sem. hrs. Offered every term. *Prereq: Admitted to NURS program; and cons. of instr.*

NURS 6999. Master's Thesis 1-6 sem. hrs. Offered every term. S/U grade assessment. *Prereq: Admitted to NURS program; approved thesis proposal; cons. of associate dean.*

NURS 7980. Residency for D.N.P. with Adults 3 sem. hrs. Clinical immersion in the care of adults. Emphasis on advanced, evidence-based care management in the context of family, community, and culture. *Prereq: NURS 6257.*

NURS 7981. Residency for D.N.P. with Acutely Ill Adults 3 sem. hrs. Clinical immersion in a specialty practice/service with complex acutely ill adults. Emphasis on advanced, evidence-based care management within and between systems. *Prereq: NURS 6353.*

NURS 7982. Residency for D.N.P. with Older Adults 3 sem. hrs. Clinical immersion in the care of older adults. Emphasis on advanced, evidence-based care management in the context of family, community, and culture. *Prereq: NURS 6453.*

NURS 7983. Residency for D.N.P. with Children and Families 3 sem. hrs. Clinical immersion in primary care/specialty practice with children and/or adolescents. Emphasis on advanced, evidence-based care management in the context of family, community, and culture. *Prereq: NURS 6553.*

NURS 7984. Residency for D.N.P. with Ill Children/Adolescents 3 sem. hrs. Clinical immersion in practice with children and/or adolescents with acute/chronic illness. Emphasis on advanced, evidence-based care management in the context of family, community, and culture. *Prereq: NURS 6653.*

NURS 7985. Residency for D.N.P. in Nurse-Midwifery 3-8 sem. hrs. Clinical immersion in nurse-midwifery practice. Emphasis on advanced evidence-based nurse-midwifery care. *Prereq: Cons. of instr.*

NURS 7986. Residency for D.N.P. in Health Care Systems Leadership 3 sem. hrs. Clinical immersion in health care systems leadership. Emphasis on advanced, evidence-based care management in the context of organizations, community, and culture. *Prereq: NURS 6853.*

NURS 7996. Doctor of Nursing Practice Capstone 1 3 sem. hrs. Identification and development of an evidence-based capstone project that focuses on the scholarship of practice. Integration of knowledge obtained in prior D.N.P. course work. *Prereq: HEAL 7010 or concurrent; final year of program.*

NURS 7997. Doctor of Nursing Practice Capstone 2 3 sem. hrs. Implementation, evaluation and dissemination of an evidence-based capstone project that focuses on the scholarship of practice. *Prereq: NURS 7996.*

NURS 8000. Nursing Knowledge Development 3 sem. hrs. Examination of paradigmatic, theoretical, and conceptual dimensions of the nursing discipline with an emphasis on strategies for knowledge generation. *Prereq: PHIL 6430 which may be taken concurrently.*

NURS 8010. Vulnerable Populations 3 sem. hrs. Concepts, theories, and research relevant to vulnerable populations, with emphasis on the multiple contextual influences on health and illness.

NURS 8020. Nursing Education Research, Policy, and Leadership 3 sem. hrs. Philosophical foundations, theories, nursing education research and policy. Strategies to improve nursing education for the care of vulnerable populations.

NURS 8980. Nursing Research Seminar and Practicum 1-3 sem. hrs. Guided individual research experience. Develops skills related to grant writing, dissertation, and the conduct of research projects. *Prereq: HEAL 8002 or HEAL 8003 or concurrent. Offered every term.*

NURS 8981. Residency in Nursing Education 1-3 sem. hrs. Application of knowledge, theories, and skills to academic teaching in nursing. Offered every term. *Prereq: Cons. of associate dean for graduate programs and research.*

NURS 8999. Doctoral Dissertation 1-12 sem. hrs. S/U grade assessment. Offered every term. *Prereq: Admitted to NURS program; and cons. of dept. ch.*

NURS 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs. Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9974. Graduate Fellowship: Full-Time 0 sem. hrs. Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs. Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

NURS 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment. *Prereq: Cons. of dept. ch.; and admitted to NURS program.*

PHILOSOPHY (PHIL)

Chairperson and Associate Professor: South
Assistant Chairperson and Associate Professor: Foster
Professor: Anderson *(Emeritus)*, Ashmore *(Emeritus)*, Carter, Jones, Kainz *(Emeritus)*, O'Malley *(Emeritus)*, Tallon, R. Taylor, Teske *(Emeritus)*, Vandevelde, Wreen
Associate Professor: Adams, P. Coffey (*Emeritus*), Gibson, Goldin, Harrison, Ibañez-Noé, Luft, Monahan, Nolan, Peressini, Prendergast *(Emeritus)*, Rice *(Emeritus)*, Rousseau *(Emerita)*, Schmidt, Snow, Starr, Twetten
Assistant Professor: Crockett, Tobin, Trivigno

Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Arts, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered; Doctor of Philosophy

Note: Students in the social and applied philosophy specialization are admitted under Plan B only.

SPECIALIZATIONS

Master's: History of Philosophy, Social and Applied Philosophy

Doctoral: Ancient Philosophy, British Empiricism/Analytical Philosophy, Christian Philosophy, Early Modern European Philosophy, Ethics, German Philosophy, Medieval Philosophy, Phenomenology-Existentialism, Philosophy of Religion

PROGRAM DESCRIPTION

The Philosophy Department's master's program in the history of philosophy and the doctoral program are based on the history of philosophy, ancient through contemporary, as the necessary experience for a mind critically able to face contemporary philosophical issues. The master's program in social and applied philosophy provides rigorous philosophical training for individuals who are interested in working in a variety of non-academic contexts or for pursuing further graduate studies.

PREREQUISITES FOR ADMISSION

Applicants are expected to have 18 semester hours of undergraduate philosophy course work, six hours of which should be in survey courses (history of philosophy) for admission to the doctoral program or the master of arts program with a specialization in history of philosophy.

APPLICATION DEADLINE

Applicant files must be completed by February 15 for admission consideration. Applications for admission received after this date will be considered as space permits.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. A statement of purpose outlining applicant's achievements and intentions in philosophy.
4. Letters of recommendation from at least three professors or professionals familiar with applicant's academic work and/or academic background.
5. GRE scores (General Test only).
6. A sample of philosophical writing.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

JOINT PROGRAM OF STUDY

M.A.-J.D. DEGREE

The Department of Philosophy, in conjunction with the Law School, offers a program of joint study leading to a master's degree in philosophy and a juris doctor degree. Students seeking admission to the joint program must apply to both the Graduate School and the Law School and must meet the admission requirements for each. Students start this joint program as a law student. Upon completion of the law program, students will be officially admitted to the philosophy program for completion of the remainder of the joint program.

Joint program students complete 81 credit hours in the Law School, 21 credit hours in philosophy, and nine credit hours in joint program courses.

To participate in the M.A.-J.D. program in social and applied philosophy or in history of philosophy, the law student must receive the prior written approval of the associate dean for academic affairs in the Law School and must comply with the regulations of the Graduate School. The student must have completed 27 credit hours at the Law School with a cumulative average of 3.000 before entering either master of arts program in philosophy. Students may seek admission to the joint program at any time, but must complete both programs in four years (six years for part-time students), in accord with Law School academic regulations.

In general, joint program students will pay tuition at the full-time (flat tuition) Law School rate while a full-time law student, regardless of whether or not they are taking additional graduate courses. Upon receiving the juris doctor degree, joint program students will pay Graduate School tuition at the per credit rate for graduate courses. Part-time law students will pay the per credit Law School rate for all courses.

Additional details about the M.A.-J.D. program are available on the Philosophy Department Web site, at the Philosophy Department office, or from the Law School Admissions office.

MASTER'S REQUIREMENTS

The Department of Philosophy offers two master of arts specializations in the philosophy program: history of philosophy, and social and applied philosophy.

History of philosophy: Course work must include: a course in Plato or Aristotle (PHIL 6605 or 6610), a course in Augustine or Aquinas (PHIL 6620 or 6640), a course in Descartes, Hume, Kant, or Hegel (PHIL 6650, 6655, 6660, or 6662), and a fourth course in the history of philosophy to be approved by the director of graduate studies.

A master's student may choose to be in either Plan A (thesis option) or Plan B (course option).

Students are assumed to be in Plan B unless a formal request is made to and approved by the Graduate School.

In Plan A, the student must complete 24 credit hours of graduate-level course work and six credit hours of thesis work, display an understanding of the fundamentals of predicate logic demonstrated either by course work or by a department exam, pass a comprehensive examination, and submit an approved thesis. Also, the student must have reading knowledge of French or German, or another foreign language approved by the department. At least 18 credits of the course work requirement must be in philosophy and must include the four core courses as outlined above. The comprehensive examination requires a critical knowledge of the philosophical classics and of contemporary philosophical literature.

In Plan B, the student must complete 30 credit hours of graduate-level course work, display an understanding of the fundamentals of predicate logic demonstrated either by course work or by a department exam, and pass a comprehensive examination. No essay or foreign language is required for the Plan B master's program. At least 18 credits of the course work requirement must be in graduate-level philosophy courses, including one course in ethics and the four core courses as outlined above. Up to six credit hours of upper division undergraduate courses approved for graduate credit may be counted toward this degree. Courses must be individually approved by the director of the graduate program. Plan B master's degrees are considered terminal degrees by the Department of Philosophy.

Social and applied philosophy (Plan B master's only): This program requires 30 hours consisting of the following: PHIL 6310 and 6960; one course from PHIL 6605, 6610, 6620 or 6640; one course from PHIL 6650, 6652, 6655, 6660 or 6662; two electives from the graduate philosophy course offerings; PHIL 6965 (practicum–6 credits) or PHIL 6965 (3 credits) plus an additional philosophy elective; and two graduate level cognate courses from an area outside philosophy. The cognate courses are to be approved by the student's adviser and the coordinator of the master of arts social and applied philosophy specialization. The student must display an understanding of the fundamentals of predicate logic demonstrated either by course work or by a department exam.

No comprehensive exam or foreign language is required for the Plan B master's program. Plan B master's degrees are considered terminal degrees by the Philosophy Department.

DOCTORAL REQUIREMENTS

A doctoral student in the philosophy program must complete a program of study defined on an approved *Doctoral Program Planning Form*. Normally, the student must complete 60 credit hours of graduate-level course work beyond the baccalaureate degree, plus 12 credit hours of dissertation work. The student also must complete the foreign language requirements, display an understanding of the fundamentals of predicate logic demonstrated either by course work or by a department exam, pass qualifying examinations (written and oral), and submit and successfully defend a dissertation.

Course work must include: a course in Plato or Aristotle (PHIL 6605 or 6610), a course in Augustine or Aquinas (PHIL 6620 or 6640), a course in Descartes, Hume, Kant, or Hegel (PHIL 6650, 6655, 6660, or 6662), and a fourth course in the history of philosophy to be approved by the director of graduate studies. With written approval from the department chair, up to 12 credit hours of required course work may be taken in other fields.

The doctoral candidate is expected to make use of research and reflection available in languages other than English. Two foreign languages are required. The program requires French or German and either French, German, Latin, or Greek for the second foreign language. In exceptional circumstances, an alternative foreign language may be substituted for the above list.

COURSE DESCRIPTIONS

PHIL 6120. Problems in Logic 3 sem. hrs.
An investigation into logical and meta-logical problems of perennial and contemporary relevance. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6310. History and Theory of Ethics 3 sem. hrs.
A theoretical investigation into the moral dimensions of human life. Covers the principal traditions in Western moral philosophy as well as significant work in contemporary moral philosophy. Offered fall term. *Prereq: Cons. of dept. ch.*

PHIL 6320. Natural-Law Ethics 3 sem. hrs.
Classical and/or contemporary theories of natural law. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6330. Problems in Ethics 3 sem. hrs.
Considers various metaethical and normative problems, such as: values; the justification and nature of ethical norms; moral responsibility; moral failure; the relation of morality to religion, law, and aesthetics. Offered every fourth term. *Prereq: Cons. of dept. ch.*

PHIL 6340. Aesthetics 3 sem. hrs.
Considers one or more of the following problems in aesthetic theory: expression, representation, art and knowledge, aesthetics and society, method. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6410. Philosophy of Process 3 sem. hrs.
An introduction to the metaphysical thought process of philosophers such as Bergson and Whitehead. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6420. Philosophy of Language 3 sem. hrs.
Studies topics such as the structure and function of language, philosophy and linguistics, and language and mind. Considers philosophers such as Austin, Morris and Chomsky. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6430. Philosophy of Knowledge 3 sem. hrs.
A study of major epistemological problems and theories of knowledge. Offered every fourth term.
Prereq: Cons. of dept. ch.

PHIL 6440. Philosophy of Science 3 sem. hrs.
A survey of basic problems and methods in contemporary philosophy of science. Emphasizes problems arising from current space-time theory, quantum mechanics, and the use of variant models and methodologies in the exact sciences. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6450. Philosophy of Mind 3 sem. hrs.
A study of what mind is and its relation to the body; various concepts related to the mental and to human action. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6460. Philosophy of Freedom 3 sem. hrs.
A systematic investigation of problems involved in the assertion of human freedom. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6470. Problems in Metaphysics 3 sem. hrs.
Studies doctrines on the nature of ultimate reality; associated topics such as substance, relation, process or change, causality, universals, particulars, space, time, eternity, freedom, necessity; and the meaning of metaphysics as a philosophical discipline. Offered every fourth term.
Prereq: Cons. of dept. ch.

PHIL 6480. Recent Christian Metaphysics 3 sem. hrs.
A study of recent Christian metaphysical thought through one or more major figures, such as Marechal, Lonergan, Gilson, Tillich, or through thematic problems. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6510. Philosophy of Religion 3 sem. hrs.
Inquiry into the religious dimensions of human existence and into divine reality. Topics include: religion as a cultural institution, religious experience, the existence and nature of God, the problem of evil, faith and reason, religious language, and the rationality of religious belief. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6530. Philosophy of History 3 sem. hrs.
Study of both critical and speculative philosophy of history. Problems such as the nature of the historian's inquiry, types of historical understanding, theories of historical explanation, the possibility of pattern and purpose or value in history. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6605. Plato 3 sem. hrs.
A study of Plato's thought, especially his ethics, epistemology, psychology and metaphysics. Offered fall term. *Prereq: Cons. of dept. ch.*

PHIL 6610. Aristotle 3 sem. hrs.
A study of Aristotle's thought, especially his metaphysics, epistemology and psychology. Offered fall term. *Prereq: Cons. of dept. ch.*

PHIL 6620. Augustine 3 sem. hrs.
The early philosophical dialogues and *The Confessions*, *The City of God*, and *The Trinity*, considered in their significance as sources of Christian thought. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6630. Plotinus and Early Christian Neo-Platonists 3 sem. hrs.
A study of the origin and character of neoplatonic thought, especially its metaphysics, epistemology and psychology, and its appropriation by Christian thinkers. Concentration on writers such as Plotinus, Proclus, Boethius and Pseudo-Dionysius. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6635. Medieval Islamic Thought 3 sem. hrs.
Islamic philosophical thought of the medieval period. Possible figures covered: al-Kindi, al-Farabi Ibn Sina (Avicenna), al-Ghazali, Ibn Rushd (Averroes) including Greek philosophical and Islamic theological foundations, as well as the influence of Islamic philosophy on Christian and Jewish thought in the Middle Ages. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6640. St. Thomas Aquinas 3 sem. hrs.
A study of St. Thomas Aquinas' philosophy, especially his metaphysics, epistemology, and psychology. Offered spring term. *Prereq: Cons. of dept. ch.*

PHIL 6650. Descartes 3 sem. hrs.
A study of some principal works of Descartes. Offered every fourth term. *Prereq: Cons. of dept. ch.*

PHIL 6652. Post-Cartesian Rationalism 3 sem. hrs.
A study of major works of the post-Cartesian rationalists: Spinoza and Leibniz. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6654. Locke/Berkeley 3 sem. hrs.
A study of the major works of Locke and Berkeley, including Locke's *An Essay Concerning Human Understanding*, and Berkeley's *Principles of Human Knowledge* and *Three Dialogues Between Hylas and Philonous*. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6655. Hume 3 sem. hrs.
A study of some of Hume's major works, including either *A Treatise of Human Nature or Enquiry Concerning Human Understanding, Enquiry Concerning the Principles of Morals* and/or *Dialogues Concerning Natural Religion*. Offered every fourth term. *Prereq: Cons. of dept. ch.*

PHIL 6660. Kant 3 sem. hrs.
A study of some principal works of Kant including the *Critique of Pure Reason*. Offered spring term.
Prereq: Cons. of dept. ch.

PHIL 6662. Hegel 3 sem. hrs.
Hegel's system as found in the *Phenomenology of Spirit* or the *Logic*. Offered every fourth term.
Prereq: Cons. of dept. ch.

PHIL 6664. Husserl 3 sem. hrs.
A textual study of some principal works. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6670. Classical American Philosophy 3 sem. hrs.
A textual study of the principal works of American philosophers, such as Peirce, James, Dewey. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6680. Early Analytic Philosophy 3 sem. hrs.
A study of the early development of the Vienna Circle and of the principal works of Moore, Russell and Austin. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6685. Contemporary Analytic Philosophy 3 sem. hrs.
A study of major post-positivist developments in the analytic tradition including the thought of figures such as Quine and Sellars. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6690. German Phenomenology-Existentialism 3 sem. hrs.
Reading and discussion of the works of such thinkers as Kierkegaard, Nietzsche, Heidegger, Jaspers and Scheler. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6695. French Phenomenology-Existentialism 3 sem. hrs.
A study of problems, such as meaning vs. absurdity, theism vs. atheism, and intersubjectivity vs. solipsism, in such thinkers as Sartre, Marcel, Camus and Merleau-Ponty. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6710. Political Philosophy 3 sem. hrs.
Consideration of the genesis and justification of the state; questions concerning the best form of government; problems especially germane to democracy, such as the nature and justification of equality and liberty, and of the balance of power and the majority rule. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6750. Philosophy of Law 3 sem. hrs.
A study of the various philosophical approaches to the basic problems and values in law. Offered every sixth term. *Prereq: Cons. of dept. ch.*

PHIL 6953. Text/Seminar on Ancient Philosophy 3 sem. hrs.
Either the study of a specific period within Ancient Philosophy, such as Pre-Socratic thought or Roman moral philosophy; or the intensive reading of a major work such as Plato's *Sophist* or *Theaetetus* or Aristotle's *Metaphysics* or *Nicomachean Ethics*; or the investigation of a theme running through Ancient Philosophy such as problems with the veracity of perception, the ontological status of ideas, or Aristotle and the Peripatetics. Offered every fourth term. *Prereq: Cons. of dept. ch.*

PHIL 6954. Text/Seminar on Early or High Medieval Philosophy 3 sem. hrs.
Either the study of individual thinkers, such as St. Anselm, St. Bonaventure, St. Albert the Great; or on specific texts, such as St. Thomas' *Treatise On Spiritual Substances*; or on problems, such as the nature of man according to St. Bonaventure or doctrines on Divine Illumination in the 13th century. Offered every fourth term.
Prereq: Cons. of dept. ch.

PHIL 6955. Text/Seminar on Later Medieval or Renaissance Philosophy 3 sem. hrs.
Either the study of individual thinkers, such as William of Ockham, Duns Scotus, Nicholas of Cusa, Giordano Bruno, Niccolo Machiavelli; or on themes running through these periods, such as the nature of man, or theories of knowledge, or the Platonism of the 15th and 16th centuries. Offered every sixth term.
Prereq: Cons. of dept. ch.

PHIL 6957. Text/Seminar on Nineteenth-Century Philosophy 3 sem. hrs.
Either the study of major philosophers, such as Marx, Fichte, or Peirce; or on major texts, such as Hegel's *Logic*, or Kierkegaard's *Concluding Unscientific Postscript*; or on philosophical problems, such as the individual and the social order, or pragmatic views of knowledge and truth. Offered annually. *Prereq: Cons. of dept. ch.*

PHIL 6958. Text/Seminar on Twentieth-Century Philosophy 3 sem. hrs.
Either the study of philosophical movements, such as existentialism, phenomenology, analysis, or pragmatism; or of specific philosophers, such as Sartre or Russell; or of major philosophical works, such as *Philosophical Investigations*, or *Being and Time*. Offered annually. *Prereq: Cons. of dept. ch.*

PHIL 6959. Seminar in Philosophy 1-3 sem. hrs.
Subjects and credits according to arrangement. Offered annually. *Prereq: Cons. of dept. ch.*

PHIL 6960. Seminar in Applied/Professional Philosophy 3 sem. hrs.
Study of ethical issues which cut across professions and disciplines. Consideration given to issues such as human rights, allocation of social resources, confidentiality, informed ethics, truth telling, etc. Offered spring term. *Prereq: PHIL 6310 and cons. of dept. ch.*

PHIL 6965. Practicum in Philosophy 3-6 sem. hrs.
Internship designed to develop a student's ability to use philosophical thinking and concepts in dealing with problems which arise in the context of a specific job, vocation, or institutional setting. Students arrange placement on an individual basis. Offered fall, spring and summer terms. S/U grade assessment. *Prereq: Cons. of dept. ch.*

PHIL 6995. Independent Study in Philosophy 1-3 sem. hrs.
Prereq: Cons. of dept. ch.

PHIL 6998. Professional Project in Philosophy 1-12 sem. hrs.

PHIL 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

PHIL 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHIL 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PHYSICAL THERAPY

The College of Health Sciences offers a three-year professional program that leads to a doctor of physical therapy degree. Both current Marquette undergraduate students and transfer students with undergraduate degrees from other institutions are encouraged to apply for 10 to 20 spaces in the program.

Current Marquette students should contact the Department of Physical Therapy and complete an application through the Registrar. Deadline is February 1.

The Department of Physical Therapy will also admit a number of new-to-Marquette individuals to the fourth year (external transfers to the first professional year) of the program. The minimal requirements are as follows:

1. Candidates must possess a bachelor's degree.
2. Candidates must have completed the 22 credits of prerequisite course work. No applicant will be accepted with a GPA below 2.40 and depending on the applicant pool, a higher GPA may be required to successfully gain entry into the program. All prerequisite course work must have been taken at an accredited four-year institution.
3. Twelve credits of social sciences and/or humanities must have been completed as a liberal arts core.
4. Candidates must have completed a minimum of 80 hours of validated experience in a physical therapy clinic as a volunteer or as an employee under the supervision of a physical therapist.
5. Official transcripts.
6. Official Graduate Record Examination (GRE) scores.

An application may be obtained from the Department of Physical Therapy or the physical therapy program's Web site at www.marquette.edu/chs/pt/apply/index.shtml. The deadline for submitting a complete application is February 1. The best candidates will be selected from the pool of applicants.

For more information about the doctor of physical therapy, contact the Department of Physical Therapy by phone at (414) 288-7161 or by mail at Marquette University, Department of Physical Therapy, P.O. Box 1881, Milwaukee, WI 53201-1881.

COURSE DESCRIPTIONS

Clinical Laboratory Science (CLLS)

CLLS 5931. Topics in Clinical Laboratory Science 1-4 sem. hrs.
Selected topics in clinical laboratory science. Specific topics determined each term. Offered annually.

Exercise Science (EXSC)

EXSC 5192. Advanced Exercise Physiology 4 sem. hrs.
Lecture/lab. Advanced course in the study of the body's response to physical activity. Focus is on laboratory techniques standard in exercise physiology research.

Physical Therapy (PHTH)

PHTH 6515. Pathophysiology and Aging 4 sem. hrs.
Lecture/clinical observations. Presents the pathophysiology of cardiovascular, respiratory, renal, endocrine and immune system disorders. Details background information on the aging process. Compares and contrasts age-related and pathological changes which occur in the major physiological systems over time. Explores modes of providing service to aged clients. *Prereq: Dept. cons.*

PHTH 6518. Physiology of Activity 3 sem. hrs.
Lecture/laboratory. Concentrates on the assessment of activity tolerance in, and basic principles of, exercise prescriptions for normal healthy individuals through the life-span who are either trained or untrained. Emphasizes functional approach and examines factors that enhance or impede performance. Introduces various training strategies. *Prereq: Dept. cons.*

PHTH 6525. Kinesiology 1: The Upper Extremity 3 sem. hrs.
Anatomy of the muscular and joint systems in normal and abnormal conditions in the upper extremities. Includes surface anatomy, the biomechanics of normal and abnormal muscle and joint action. Lecture, demonstration and laboratory practice.
Prereq: Dept. cons.

PHTH 6526. Kinesiology 2: The Spine and Lower Extremity 3 sem. hrs.
Continuation of PHTH 6525 with emphasis on head, trunk and lower extremities, including an introduction to normal gait, posture, and surface anatomy. Lecture, demonstration and laboratory practice.
Prereq: PHTH 6525 and dept. cons.

PHTH 6570. Advanced Biomechanics and Kinesiology 4 sem. hrs.
Advanced analysis of human movement including gait, orthotics and prosthetics. Rehabilitation focuses on physical therapy interventions for patient/clients with chronic diseases and other conditions necessitating long-term therapeutic intervention. *Prereq: Dept. cons.*

PHTH 6667. Neurological Rehabilitation 1 2 sem. hrs.
Lecture and discussion-based. Covers the pathology, etiology, and epidemiology of common neurological diseases. Clinical presentation, differential diagnosis, evaluation, and medical/surgical interventions for the diseases are the focus of the first of a 2 part course series. *Prereq: Dept. cons.*

PHTH 6668. Neurological Rehabilitation 2 4 sem. hrs.
Continuation of Neurological Rehabilitation 1. Lectures and labs focus on physical therapy interventions for specific impairments, disease-specific conditions, and overall function. Evidence-based practice guidelines are utilized when available, objective tests and measures are emphasized, and case studies are utilized to integrate and apply information. *Prereq: Successful completion of PHTH 6667 and dept. cons.*

PHYSICIAN ASSISTANT STUDIES

The College of Health Sciences offers a professional curriculum that leads to a master of physician assistant studies.

Entrance into the program is highly competitive. Applicants complete a series of prerequisites and are required to have completed either the GRE or ACT/SAT examinations. Prior health care experience is not required; however, applicants must have a minimum of 200 hours of direct patient contact experience to apply. The curriculum consists of 21 consecutive months of didactic medical course work followed by a consecutive 12-month period of clinical clerkships. Successful completion of the curriculum qualifies graduates to sit for the National Certifying exam, which leads to licensure in most states. All components of the master's program including application materials and curriculum requirements are administered by the Department of Physician Assistant Studies. Additional information is available in Marquette University's *Undergraduate Bulletin* and at the physician assistant program's Web site, www.marquette.edu/chs/pa.

PHYSICS (PHYS)

Chairperson and Professor: Brown
Professor: Karkheck, Matthys, Mendelson *(Emeritus),* Tani *(Emeritus)*
Associate Professor: Collins, Politano
Assistant Professor: Kunz, Stockdale
Research Associate Professor: Sorbjan
Visiting Assistant Professor: Wolfmeyer
Note: Faculty members and their ranks are for the 2009–2010 academic year.

Marquette University currently does not offer a graduate degree program in physics. However, certain upper division undergraduate courses in the Department of Physics have been approved for graduate credit and may be taken, as appropriate, by graduate students in other graduate programs. To earn graduate credit for an upper division course, students must have the approval of their major departments and must complete extra work in the course beyond that required for undergraduate credit.

COURSE DESCRIPTIONS

PHYS 5012. Quantum Mechanics 3 sem. hrs. Quantum states, state vectors, observables and operators. The formal structure of quantum mechanics. Time evolution of the state vector. The Hamiltonian. Position and momentum representations, and the wave function. One-dimensional wave mechanics and the harmonic oscillator. Three-dimensional wave mechanics. Symmetry, angular momentum, and the hydrogen atom. Fermions, and bosons. Perturbation methods. Offered spring term.

PHYS 5024. Modern Optics 3 sem. hrs. Geometric optics, classical wave theory of optics, interference, diffraction, polarization, electromagnetic theory of light, interaction of light and matter, lasers and coherence. Offered spring term.

PHYS 5031. Electricity and Magnetism 1 3 sem. hrs. Electrostatics: Coulomb's law and Gauss' law. The electric field in dielectric materials. Microscopic theory of Ohm's law and steady state currents. The magnetic field, Biot-Savart law, Ampere's law, the vector potential. Magnetic materials. Electromagnetic induction, Faraday's law. Maxwell's equations and electromagnetic waves. Offered fall term.

PHYS 5032. Electricity and Magnetism 2 3 sem. hrs. Boundary value problems: The solution of electrostatic and magnetostatic problems in continuous media. Microscopic theories of the dielectric and magnetic properties of materials. Electromagnetic waves in bounded regions. Reflection, refraction and dispersion. Radiation from accelerated charges. Antennae. Electrodynamics and the theory of special relativity. Offered spring term.

PHYS 5046. The Physical Basis of the Biological Environment 3 sem. hrs. The molecular processes of life occur in a complex aqueous environment. Biological molecules and their environments are governed by the principles of physics. Goes beyond introductory physics and chemistry to present the mechanics of non-rigid bodies, the theory of multipolar electric and magnetic fields, and thermal and quantum physics, which are brought to bear on interpretation of the optical spectra and calorimetric analysis of complex molecules and structures.

PHYS 5048. Mathematical Methods for Physicists 3 sem. hrs. Presents mathematical methods applied to physical problems including Fourier Analysis, special functions, eigenvalue problems, the calculus of variations, probability and statistics.

PHYS 5049. Computational Physics 3 sem. hrs. Computational techniques applied to problems in the physical sciences. Construction of models of physical systems. Generation and analysis of data. The role of models in developing physical theories. Assignments will use a variety of programming environments and commercial software.

PHYS 5062. Introduction to Thermodynamics 3 sem. hrs. Fundamental concepts of thermodynamics: temperature, internal energy, entropy and thermodynamic potentials. Laws of thermodynamics, their consequences and applications. Introduction to statistical thermodynamics. Offered fall term.

PHYS 5065. Introduction to Molecular Biophysics 3 sem. hrs. An introduction to the field of biological physics which develops the science and illustrates the applications of the techniques of X-ray diffraction and spin resonance to problems of biological interest: protein structural dynamics, ion channels, and transport through cell membranes.

PHYS 5071. Atomic Physics 3 sem. hrs. Quantum mechanics of one and many electron atoms. Spin, orbital, and total angular momentum. Atoms in electric and magnetic fields, the Stark effect and the Zeeman effect. Atomic transitions, symmetry and selection rules. The periodic table and shell structure. Modern spectroscopy.

PHYS 5072. Introduction to Nuclear and Elementary Particle Physics 3 sem. hrs. Experimental methods in nuclear and particle physics. Theories of nuclear structure, radioactivity, decay schemes, fission and fusion models, conservation laws. Elementary particle classifications and the Standard Model.

PHYS 5075. Introduction to Solid-State Physics 3 sem. hrs. Crystal structure of solids, the reciprocal lattice and diffraction. Lattice vibrations and thermal properties. Electrons in metals, band structure and semiconductors. The Fermi surface. Dielectric and magnetic properties of solids. Superconductivity.

PHYS 5931. Topics in Contemporary Physics 3 sem. hrs. Topics drawn from areas of current interest, such as: astrophysics, atmospheric physics, condensed matter physics or particle physics.

POLITICAL SCIENCE (POSC)/ INTERNATIONAL AFFAIRS (INAF)

Chairperson and Professor: McCormick
Assistant Chairperson and Associate Professor: Barrington
Professor: Dobbs, Fleet, Friman, LeBlanc, Swank
Associate Professor: Hanley, McAdams
Assistant Professor: Azari, Drope, Engel, Young
Adjunct Professor of American Government: O'Brien
Emerita Professor of American Politics: Boles
Emeritus Professor of American Government: Wolfe
Emeritus Professor of Political Philosophy: Rhodes
Emeritus Professor of International Politics: Thomas
Visiting Assistant Professor: Giaimo
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

POLITICAL SCIENCE

Master of Arts, students are admitted under Plan B (non-thesis option) but may request Plan A (thesis option)

INTERNATIONAL AFFAIRS

Master of Arts, students are admitted under Plan B (non-thesis option) but may request Plan A (thesis option)

PROGRAM DESCRIPTION

The Department of Political Science at Marquette University offers master's programs aimed at preparing students for doctoral study in political science and international affairs and for careers in related fields. Programs are offered in the following two specialties: political science and international affairs. The department offers a joint bachelor's and master's degree program that enables Marquette University students to earn a bachelor's and a master's degree in five years. In conjunction with the Law School, students also can pursue a joint master of arts-juris doctor (M.A.-J.D) program in political science or international affairs. Through the combined program, full-time students can complete the juris doctor and master of arts degrees in only four years. Furthermore, law school graduates can pursue an accelerated master of arts degree through awards of transfer credit for work completed as part of the juris doctor degree. Joint degree programs are also available in conjunction with the communication and the business administration graduate programs.

PREREQUISITES FOR ADMISSION

An applicant to the Department of Political Science should have graduated with, or be about to graduate with, a bachelor's degree from an accredited institution in an undergraduate program sufficient in quality and scope to prepare the individual for specialized work in his or her chosen field.

APPLICATION DEADLINE

No official deadline exists for the political science or international affairs master's programs. However, applications submitted after the Graduate School's official financial aid deadlines will be considered only as space permits, even if the applicant

is not requesting financial aid. The deadlines for financial aid consideration are February 15 for the following fall term and November 15 for the following spring term.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. GRE scores (General Test only). Not required for five-year B.A.-M.A. applicants; M.A.-J.D. applicants may substitute LSAT scores for GRE scores; M.A.-M.B.A. applicants may substitute GMAT scores for GRE scores.
5. A statement of purpose.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

BACHELOR'S-MASTER'S PROGRAM

The joint bachelor's and master's program allows Marquette University students to earn both a bachelor's degree with a major in political science or international affairs and a master's degree in political science or international affairs in five years.

Students will complete 9-12 hours of graduate credit in political science or international affairs during their senior undergraduate year. These graduate courses double-count toward the undergraduate and graduate degrees. Should a student be denied admission to the master's program of choice (political science or international affairs), the courses will be counted toward the undergraduate degree. Upon completion of the first term as a master's candidate, the student must petition the Graduate School to transfer the courses taken as an undergraduate to the master's degree. All remaining master's degree requirements may be completed during the subsequent summer, fall, and spring terms.

Candidates for admission should have undergraduate junior status, have completed at least 3 upper division political science courses, and should have a political science GPA of at least 3.50. Candidates for admission should submit transcripts and three letters of recommendation, but need not submit GRE scores. Candidates for admission to this program should notify the assistant chair of their intentions.

JOINT PROGRAMS OF STUDY

M.A.-J.D. DEGREE

The Department of Political Science, in conjunction with the Law School, offers a program of joint study leading to a master's degree in political science or international affairs and a juris doctor degree.

Students seeking admission to the joint program must apply to both the Graduate School and the Law School and must meet the admission requirements for each, but their application to the Graduate School may include LSAT scores in lieu of GRE scores. Students start this joint program as a law student. Upon completion of the law program, students will be officially admitted to the political science or the international affairs program for completion of the remainder of the joint program.

Joint program students complete 81 credit hours in the Law School, 21 credit hours in political science, and 9 credit hours in joint program courses. In addition, applicants for the political science or international affairs master of arts program who already hold a J.D. degree may request that a maximum of 9 credits from their previous law studies be counted toward the fulfillment of their master of arts degree requirements.

In general, joint program students will pay tuition at the full-time (flat tuition) Law School rate while a full-time law student, regardless of whether or not they are taking additional graduate courses. Upon receiving the juris doctor degree, joint program students will pay Graduate School tuition at the per credit rate for graduate courses. Part-time law students will pay the per credit Law School rate for all courses.

Additional details about the M.A.-J.D. program are available from the Political Science Department office or from the Law School Admissions office.

M.A.-M.B.A. DEGREE

The Department of Political Science, in conjunction with the Graduate School of Management, offers a program of joint study leading to a master of arts (M.A.) degree in political science or international affairs and a master of business administration (M.B.A.) degree. The program is designed for students whose interests overlap business and politics or business and international affairs. Joint degree students are able to complete both degree programs in less time than if both degrees were pursued separately.

Students seeking admission into the joint degree program must submit to the graduate school separate applications for admission to both programs, including two sets of required documentation, and must meet the admission requirements of each program. However, applicants may submit GMAT scores in lieu of GRE scores. Acceptance into one program does not guarantee acceptance into the other. If a student is accepted into one program and not the other, the student can still choose to accept the admission offer from the first program but would not be considered a joint degree student. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

Joint degree students count 9 credits of course work in each program toward the required course work credits of the other program. Thus, 9 of the 40 credits required for the master of business administration degree beyond foundations, if required, will come from POSC courses, and 9 of the 30 credits required for the master of arts degree in political science or international affairs will come from GSM courses.

M.A. IN POLITICAL SCIENCE OR IN INTERNATIONAL AFFAIRS AND IN COMMUNICATION

The Department of Political Science, in conjunction with the J. William and Mary Diederich College of Communication, offers a program of joint study leading to a master of arts degree in political science or international affairs and a master of arts degree in communication. The program is designed for students whose interests overlap politics and aspects of communication such as advertising, journalism, or broadcasting. Joint degree students are able to complete both degree programs in less time than if both degrees were pursued separately.

Students seeking admission into the joint degree program must submit to the graduate school separate applications for admission to both programs, including two sets of required documentation, and must meet the admission requirements of each program. Acceptance into one program does not guarantee acceptance into the other. If a student is accepted into one program and not the other, the student can still choose to accept the admission offer from the first program but would not be considered a joint degree student. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

Joint degree students count 9 credits of course work in each program toward the required course work credits of the other program. Thus, 9 of the 36 credits required for the master of arts degree in communication will come from POSC courses, and 9 of the 30 credits required for the master of arts degree in political science or international affairs will come from COMM courses.

MASTER'S REQUIREMENTS

A student in either political science or international affairs is admitted to a non-thesis program (Plan B) which requires 30 credit hours of course and seminar work. The Plan B student must pass written and oral comprehensive examinations to complete the program.

Students are presumed to be in Plan B unless a formal request to transfer to a thesis program (Plan A) is approved by the department chairperson and the Graduate School. Plan A requires 24 credit hours of course and seminar work and six credit hours of thesis work. The Plan A student must pass written and oral comprehensive examinations and submit an approved thesis to complete the program.

At least 18 credits of the 30 credit hour requirement for Plan B students (15 credits of the 24 credit hour requirement for Plan A students) must be fulfilled in strictly graduate level course work (courses numbered 6000 or above). Up to 12 credit hours of 5000-level courses may be approved for graduate credit for Plan B students (9 credit hours for Plan A students). With the approval of the department chairperson, a student may receive up to 9 credit hours toward the master of arts degree in cognate courses taken outside the department. Cognate fields for the international affairs program include other areas of political science.

CORE SEMINARS

Students in the political science program must complete POSC 6101 and three of the following core seminars: POSC 6201, 6401, 6601 and 6801.

Students in the international affairs program must also complete POSC 6101, and the following two core seminars: POSC 6401 and 6601. Students in the international affairs program will concentrate their remaining work in comparative and international politics courses.

RESEARCH PAPERS

Students in either program, political science or international affairs, must complete at least two conference-quality research papers. These papers must deal with significant questions and demonstrate rigorous analytical and, as appropriate, methodological

skills. The instructors in whose courses the papers are written must certify that the student has fulfilled this requirement. Specific details and certification forms are available from the department office.

COMPREHENSIVE EXAMINATIONS

A candidate for the master of arts degree in political science must pass written and oral comprehensive examinations covering two of the following fields: political philosophy, American politics, comparative politics, international politics.

A candidate for the master of arts degree in international affairs must pass written and oral comprehensive examinations in the fields of comparative politics and international politics. The examinations normally are taken after the student has completed 24 credit hours of course work.

The written examination is based on comprehensive reading lists for each subfield, the student's course work, and sample questions provided in advance. The oral examination supplements the written examination and is based on the comprehensive reading lists and the student's course work. The examining committee is normally composed of three faculty members chosen by the department assistant chairperson in consultation with the student and his or her adviser. Details on the examinations, the reading lists, and the sample questions are available from the department office.

COURSE DESCRIPTIONS

POSC 5191. The Logic of Social Inquiry: The Kennedy Assassination 3 sem. hrs.
The question of who killed President John F. Kennedy, and whether there was a conspiracy. The physical evidence; eyewitness testimony; Lee Harvey Oswald, Jack Ruby, and suspected conspirators. The logic of social inquiry, and how we can approach "conspiracy" as a hypothesis to be tested. Offered annually.

POSC 5195. Politics of the Internet 3 sem. hrs.
The origins and growth of the Internet. Legal and regulatory dilemmas posed by the Internet. The impact of the Internet on politics, society and economics.

POSC 5201. The United States Congress 3 sem. hrs.
Membership, legislative process, and internal distribution of power in the U.S. Congress. Congressional relationships with the presidency, executive bureaucracy, interest groups, and public. Offered every two years on campus and annually at Les Aspin Center.

POSC 5211. The American Presidency 3 sem. hrs.
The evolution and contemporary status of the American presidency. Presidential elections, policy-making, advisory systems, and relationships with Congress, the bureaucracy, and the courts. Problems and techniques of decision-making. Offered every two years.

POSC 5212. American Political Parties 3 sem. hrs.
Examines the nature and development of American political parties. Traces continuity and change in the American party system beginning in the early Republic, assessing the rise and fall of the Whigs, the dynamic between machine politics and progressive reform, and the shifts in party ideas and policy stances that inform contemporary political debates. The question of ideological change in American political parties is further explored by contemporary work on factions, polarization, and culture war. Assesses changes to the parties as organizations in the wake of reforms to the candidate selection process from an institutional perspective. Explores the question of how American political parties compare to their counterparts in other advanced industrial democracies.

POSC 5213. Elections, Parties, and Political Opinion 3 sem. hrs.
The development, functions, and membership of political parties in the United States. The opinions Americans hold on various issues, and how these opinions are influenced by institutions, including the family, schools, and the media. Why Americans vote as they do, including the effect of political parties and issues. Voter apathy and alienation and their sources. Offered every two years.

POSC 5216. American Public Policy 3 sem. hrs.
U.S. domestic policy with special attention to the politics of national policy in the areas of the economy, social welfare, and the environment. The stages of the policy process: agenda-building, formation, budgeting, implementation, and evaluation. Offered every two years.

POSC 5221. Interest Group Politics 3 sem. hrs.
How groups are organized around particular economic interests and political preferences in order to influence policy-making institutions. The internal incentive structure of political organizations, including business, professional, trade union, and "public interest" groups. Functions of, and biases inherent in, the group process. Offered annually at Les Aspin Center only.

POSC 5231. Political Organizations 3 sem. hrs.
Political parties, social movements, interest groups, and civic associations. How citizens organize themselves to participate in the political process. How democratic institutions resolve the tension between individual citizenship and collective action. Explores theories of mobilization, questions of influence, and explanations of success.

POSC 5241. Constitutional Law 3 sem. hrs.
Development of American constitutional law in the areas of judicial power, separation of powers, the presidency, state and national regulation of commerce, the taxing and spending power, and the rise and decline of due-process property rights.

POSC 5251. Civil Rights and Liberties 3 sem. hrs.
Examines traditional civil rights and civil liberties, i.e., freedom of speech, freedom of religious exercise, criminal procedure and punishment, racial equality, privacy and autonomy, and sex/gender equality and sexual orientation equality. In adopting a law and society perspectives, this course focuses on both content of judicial rulings and the politics of related legislation and grass roots mobilizations that deal with these rights and liberties. Offered annually.

POSC 5261. Problems in Civil Liberties: Free Speech 3 sem. hrs.
Examines the constitutional principle of free speech through a close study of the major Supreme Court precedents and traces the foundations of competing legal positions to their roots in varying works of political philosophy.

POSC 5271. Problems in Civil Liberties: Privacy 3 sem. hrs.
Examines the constitutional principle of privacy through a close study of the major Supreme Court precedents and traces the foundations of competing legal positions to their roots in varying works of political philosophy.

POSC 5281. Urban Public Policy 3 sem. hrs.
Conditions in American cities and the extent to which they can be improved by political activity. Race relations, ethnicity and class and their effects on housing, education and income. Offered every two years.

POSC 5291. Urban Politics 3 sem. hrs.
Urban governmental structures and techniques of gaining power in urban areas. The role of elected and appointed officials, political parties, economic elites, neighborhood organizations, and ethnic groups in urban politics. Offered every two years.

POSC 5321. Business and Politics 3 sem. hrs.
Business participation in the policy making process. Business as a political actor. The regulation of business. Political influence of business. Constraints on business power. Business politics in historical perspective.

POSC 5331. Politics and Regulation 3 sem. hrs.
Economic and social regulation in America. Why we have regulations. Who is regulated. Who does the regulating. What the consequences of regulation are. Primary focus on business regulation and related topics.

POSC 5341. Politics of American Capitalism 3 sem. hrs.
Political economy of U.S. history. Individuals, firms, and business associations and their role in politics. Economic development and conflict as sources of political change.

POSC 5361. Politics of Race, Ethnicity, and Gender 3 sem. hrs.
The role of African-Americans, Asian-Americans, Hispanics, white ethnics, American Indians, and women in shaping American politics through elections, political parties, and public office. The nature and impact of political organizations representing these groups. Offered every two years.

POSC 5366. Religion and Politics 3 sem. hrs.
Religion and politics in contemporary America. The historic patterns and current interactions of religious movements, denominations, and individuals involved in American politics. Specific attention given to the rationales used for religious involvement in politics, the types of political behavior employed, and the consequences of that behavior.

POSC 5371. Media and Politics in the United States 3 sem. hrs.
Explores role and power of media in American political systems; history and development of national press, including court interpretations of freedom of the press; quality and impact of political reporting, with emphasis on election coverage; and media's relationships with other political actors.

POSC 5376. American National Security Policy 3 sem. hrs.
Defense policy processes in the United States; issues in defense decision-making, including the roles of the public, interest groups, Congress, the President, and executive agencies, with emphasis on the defense establishment; U.S. strategic doc-

trines since World War II; budgeting; civil-military relations. Offered every two years.

POSC 5406. Public Policy in Industrial Democracies 3 sem. hrs.
Politics of public policies in democratic political systems, with special attention to North America, Western Europe, and Japan. Alternative theoretical perspectives on the problem of social choice in democracies. Problems and policies in the areas of the economy, education, health, welfare, and the environment. Offered annually.

POSC 5411. Politics, Economics, and Democracy 3 sem. hrs.
The relationship between capitalism and democracy. The impact of economic factors on politics. The political consequences of the organization and power of private business. The impact of democratic politics and political institutions on economic actors and performance in capitalist democracies.

POSC 5421. Democracy, Authoritarianism, and Totalitarianism 3 sem. hrs.
Three "ideal types" of political systems, and their manifestations in countries at different points in time. Topics include: power, legitimacy, ruling elites, institution, and economics. Examination of political system change through coup, revolution, and peaceful transition.

POSC 5431. Modern Revolutions 3 sem. hrs.
Types and causes of revolutions. Modern case studies. The American, French, Russian, German and selected "Third World" revolutions, with attention to ideas, institutions, socio-economic conditions, and the nature of actual changes. Offered every two years.

POSC 5441. Designing Liberal Democracy 3 sem. hrs.
Exploring liberal democracy in theory practice, especially as concerns emerging democracies in the developing world. Includes consideration of the impact of economic development, ethnicity, language, legacies of colonialism and/or indigenous political organization, internal democracy, corruption, strategic location and institutional design. Offered every two years.

POSC 5501. European Politics 3 sem. hrs.
Nationalism and European identity; evolution of executive and legislative institutions; political parties; ongoing changes in the welfare state and state socialism; transformation of class structure; the challenge of post-industrial society. Includes both Eastern and Western Europe. Offered annually.

POSC 5511. Russian and Post-Soviet Politics 3 sem. hrs.
Developments in Russia and the other countries which emerge from the collapse of the Soviet Union. Brief coverage of tsarist and Soviet politics, with a particular emphasis on reasons for the USSR's collapse and Soviet legacies, followed by an overview of domestic and international politics in the region. Offered every two years.

POSC 5521. Chinese Politics 3 sem. hrs.
Origins of the Chinese Revolution, political change and conflict in post-1949 China, and the contemporary political system and political developments. Offered annually.

POSC 5531. Japanese and Korean Politics 3 sem. hrs.
Political culture, unique patterns of modernization, and the contemporary political system in Japan and the two Koreas.

POSC 5541. Latin American Politics 3 sem. hrs.
Government and politics in major Latin American countries. The politics of social change and development, seizures of power and rule by the military, and the role of external factors. Offered every two years.

POSC 5551. Politics of the Indian Subcontinent 3 sem. hrs.
The British in India; the Indian nationalist movement and the Hindu-Muslim struggle; political systems in India and Pakistan; the creation of Bangladesh; linguistic, economic, and social issues in South Asia. Offered every two years.

POSC 5561. Politics of the Developing World 3 sem. hrs.
Politics of agricultural development, industrialization, military intervention, and social and cultural conflict in Third World countries. Offered every two years.

POSC 5601. International Law 3 sem. hrs.
Law among states in peace and war. Historical background and political foundations of international law. The influence of judicial decisions, international courts and organizations, treaties, and practices of states upon the growing body of international law. Offered annually.

POSC 5611. International Organization 3 sem. hrs.
Development and characteristics of international organizations. Functions of the League of Nations, the United Nations, and other organizations. Major contributions to international peace. Main political and legal problems. Offered annually.

POSC 5621. Politics of the World Economy 3 sem. hrs.
Political and economic dynamics of the world economy; historical and theoretical roots; international trade and monetary relations and the impact of hegemony, interdependence, regimes, and domestic politics; trade, debt, multinational corporations, and the dynamics of dependency and development; communism, capitalism, and change. Offered annually.

POSC 5631. World Conflict and Security 3 sem. hrs.
Classical and contemporary theories of war and peace; just and unjust wars; principles of strategic analysis, arms control, and security policy-making; the proliferation of nuclear, chemical, and biological weapons. The international trade in arms; nationalism, ethnic conflict, and wars of secession. Offered annually.

POSC 5641. Politics of the Illicit Global Economy 3 sem. hrs.
Political and economic dynamics of the illicit dimension of the global economy; historical and theoretical roots; state efforts to control illicit flows of goods and services including drug trafficking, arms smuggling, illegal migration, traffic in women and children, money laundering; exploration of transnational organized crime as a challenge to state power.

POSC 5661. The Political Economy of Development 3 sem. hrs.
Introduces interaction between politics and economics in developing countries by examining political and economic development (and underdevelopment) through the lenses of the principal theoretical debates and substantive issues. Areas of inquiry include the general theories that underpin the study of the processes of economic and political reform, the roles of international and domestic institutions, and the influence of private interests including business, labor and civil society organizations. Substantive issues include poverty, conflict, human rights, foreign aid, investment and the environment.

POSC 5701. United States Foreign Policy 3 sem. hrs.
Objectives of American foreign policy. Problems facing the United States in its relations with other countries. Trade, aid, propaganda and alliances as instruments of foreign policy. Offered annually.

POSC 5711. International Politics of Europe 3 sem. hrs.
Evolution of the post-war settlement in Europe. Western European and Eastern European integration, relations between Western and Eastern Europe, Europe and the superpowers, French-German and intra-German relations, Europe and the Third World, European security issues.

POSC 5721. International Politics of the Middle East 3 sem. hrs.
Historical and religious background of Middle East politics; comparative ideologies and political systems in the Middle East; Arab-Israeli relations; Persian Gulf politics; politics in the Maghreb; great power interests in the region.

POSC 5731. International Politics of Asia 3 sem. hrs.
Principal patterns and problems of international politics in Asia, including international political economy, development and security issues, and the impact of global trends. Regional focus varies.

POSC 5741. United States-Latin American Relations 3 sem. hrs.
United States response to reform and revolutionary movements and governments in Latin America. The politics of trade, foreign investment, foreign assistance, and human rights. Offered every two years.

POSC 5801. Citizens, Beasts, or Gods? 3 sem. hrs.
Evaluates the comparative congeniality to mankind of pre-political 'states of nature,' political citizenship, and the life of philosophy; selections from the works of Rousseau, Nietzsche, Chesterton and Aristotle are read. Offered annually.

POSC 5811. The Best Constitution 3 sem. hrs.
Examines the relationship between constitutional design and human flourishing; selections from the works of Plato and others are read. Offered annually.

POSC 5821. Democracy and Its Problems 3 sem. hrs.
Diagnoses the instability of popular governments in antiquity and considers the remedy provided by the American constitutional republic; selections from the works of Thucydides, Publius, Tocqueville and others. Offered annually.

POSC 5841. Enlightenment Political Thought 3 sem. hrs.
The Enlightenment's contribution to modern doctrines of individual rights, representative government, popular sovereignty, free enterprise, religious toleration, and freedom of speech. Authors such as Locke, Voltaire, Hume, Publius, Rousseau and Burke. Offered every two years.

POSC 5851. Karl Marx 3 sem. hrs.
Primary works on freedom and alienation, history, capitalism, revolution, and socialism that have inspired Marxist movements. Offered every two years.

POSC 5861. The Political Philosophy of Capitalism 3 sem. hrs.
Is capitalist society just or unjust? Does capitalism promote or inhibit the realization of freedom? Does capitalism promote or inhibit the pursuit of human excellence? Authors such as Rousseau, Adam Smith, Marx, Weber. Offered every two years.

POSC 5871. Politics and Literature 3 sem. hrs.
Study of the central questions of political philosophy through the lens of literature, with special focus on how literature approaches the questions of the best regime and the best type of human life. Offered every two years.

POSC 5881. Postmodern Politics 3 sem. hrs.
Nietzsche and his successors on the insufficiency of modern ethics and modern politics since the Enlightenment. Focuses on the postmodern critique of modernity's contributions to consumerism, globalization and technology. Offered every two years.

POSC 5931. Topics in Political Science 2-3 sem. hrs.
Lectures and discussion in a broad area which, because of its topicality, is not the subject of a regular course. May be taken a maximum of three times.

POSC 6101. Contemporary Political Research 3 sem. hrs.
Approaches to the scientific study of politics; data-collection techniques; case studies, the comparative method, statistical analysis. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6201. American Politics 3 sem. hrs.
The development of the field of American politics. Currently used concepts and approaches. Extensive reading, short papers, and discussion. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6211. Congress and the Presidency 3 sem. hrs.
Examination of major literature, theories and concepts used to understand the relationship between the Congress and the presidency. Offered alternative years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6221. Interest Groups 3 sem. hrs.
How various kinds of organizations attempt to exercise political influence, including the use of incentives to attract members, lobbying, attempts to influence public opinion, involvement in electoral politics, and litigation. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6231. Elections and Voters 3 sem. hrs.
Why voters vote the way they do, including policy preferences, partisanship, and retrospective assessments. The dynamics of elections including the role of media, other elites, money, and interest groups. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6361. Women and Public Policy 3 sem. hrs.
The development of public policies to advance the status of women throughout U.S. history, with an emphasis on 1961–date. The role of women's groups and social movements. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6401. Comparative Politics 3 sem. hrs.
The development of the field of comparative politics. Currently used concepts and approaches. Extensive reading, short papers, and discussion. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6411. Comparative Political Economy of Advanced Industrial Societies 3 sem. hrs.
The relationships between capitalism and democracy. The impact of economics on the development and operation of democratic institutions, political behavior, and public policy. The impact of politics on economic development, performance and policy. The political economy of the welfare state. The transition to post industrial society. Globalization and the democratic nation state. Offered alternative years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6421. Political Economy of East Asia 3 sem. hrs.
Considers topics in the Political Economy of East Asia such as the rise of Japan and the Four Tigers, the Japanese economy in the 1990s, the East Asian Financial Crisis, the reform of the Chinese economy, economic relations among the East Asian Countries, and the relationship between East Asian economies and the world economy. These topics are considered in light of various theories of political economy, and theories of political economy are evaluated in light of developments in East Asia.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6441. Comparative Nationalism 3 sem. hrs.
Definitions of nation and nationalism; causes of nationalism; nationalism and democracy; modern nationalism in Europe, Asia and Africa.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6446. Comparative Democratization 3 sem. hrs.
Definitions of democracy and democratization; causes of regime transition and consolidation; market economics and democracy.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6461. Politics of Development 3 sem. hrs.
The interplay between economic growth and the development of political institutions and practices, looking at both the historical experiences of advanced industrial societies and those of developing countries currently attempting to expand the capabilities of both their economies and their political institutions. Emphasis on the political factors and conditions on which economic development depends, and on how such growth and expansion in turn affect the political order. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6501. European Politics 3 sem. hrs.
The evolution of the European nation-state system. The origins, evolution, and transformation of electoral and party systems, modes of interest representation, and national political institutions. The ascent and crisis of the Keynesian welfare state. Variations in national models of capitalism and their impacts on politics. The evolution and contemporary politics of European integration. Globalization and European political economies. Offered alternate years.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6521. Chinese Politics 3 sem. hrs.
China's problems and prospects. Economic and political reforms. International relations. An overview and history of relevant literature.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6601. International Politics 3 sem. hrs.
The development of the field of international politics. Currently used concepts and approaches. Extensive reading, short papers, and discussion. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6621. International Political Economy 3 sem. hrs.
The development of the study of international political economy. Currently used concepts and approaches. Extensive reading, short papers, discussion, and a final research paper.

POSC 6631. International Security 3 sem. hrs.
Covers the theories, concepts, and issues underlying conflict and security in the contemporary world. Includes classical and modern perspectives on war and peace, the sources and causes of civil wars and regional conflict, and the prospects for arms control and world peace-keeping operations. Students will be expected to write a research paper on a selected topic concerning contemporary international security. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6641. Globalism and Crime 3 sem. hrs.
Theories of globalization, state sovereignty, and transnational organized crime; politics of gray and black markets; spatial dimensions of transshipment, global cities; organized crime and state power; intersection of public and private authority in managing transborder flows; drug trafficking, money laundering, and migrant smuggling and trafficking are among the subjects explored.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6642. Nations, States and Nationalism 3 sem. hrs.
Explores the origins and nature of nations, states, nationalism and violent secessionist movements. Addresses differing concepts of the ethnic and civic nations, the rationale for nation-states as against multiethnic states, and the sources of violent nationalisms. The core of this research seminar addresses the conflicting principles of the right of national self-determination as demanded by various ethnic groups, as against the territorial integrity and sovereignty of states as invoked by national governments. Requires a research paper on a selected topic that relates to the above issues. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6651. International Human Rights 3 sem. hrs.
The development of international human rights; measures to promote and protect human rights at the global and regional levels. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6701. United States Foreign Policy 3 sem. hrs.
Policies of the United States toward other nations; policy formation. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6731. International Politics of Asia 3 sem. hrs.
Security issues among Asian states. The political economy of Asia. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6801. Political Philosophy 3 sem. hrs.
Explores the differentiation of justice and power with special reference to the authority of a higher law or principle of right; selections from the works of Thucydides, Plato, Aristotle, Machiavelli, and others. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6954. Research Seminar in American Politics 3 sem. hrs.
Research in a broad area of American politics. Potential topics include, but are not limited to: Metropolitan Politics, The American Political Economy in Comparative Perspective, Problems in Civil Liberties. May be taken more than once.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6956. Research Seminar in Comparative Politics 3 sem. hrs.
Research in comparative politics. Focuses on traditional comparative politics or contemporary problems. May be taken more than once.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6958. Research Seminar in International Politics 3 sem. hrs.
Research in international politics. Focuses on traditional international topics of international politics or contemporary problems. Topics may include Japanese and German foreign policy.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6960. Research Seminar in Political Philosophy 3 sem. hrs.
Research in a broad area of political philosophy. Focuses on individual thinkers (e.g., Plato, Aristotle, Machiavelli, Rousseau) or on contemporary problems. May be taken more than once. Offered alternate years. *Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.*

POSC 6986. Internship in Political Science 1-3 sem. hrs.
Practical learning experience in politics. Requires appropriate written work relating the experience to appropriately broad academic literature on the subject. Arrangements to be worked out by student, faculty member and agency concerned. Normally may be taken only once. Offered every term. S/U grade assessment.
Prereq: Cons. of dir. of graduate studies; degree status in the POSC or INAF program; and at least one related course.

POSC 6995. Independent Study in Political Science 1-4 sem. hrs.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 6998. Professional Project in Political Science 1-12 sem. hrs.

POSC 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9977. Field Placement Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

POSC 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch., cons. of graduate prog. dir., or cons. of adviser.

PSYCHOLOGY

CLINICAL MENTAL HEALTH COUNSELING
See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

CLINICAL PSYCHOLOGY
See **CLINICAL PSYCHOLOGY (CLPS)**

COUNSELING
See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

COUNSELING PSYCHOLOGY
See **COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (CECP)**

PUBLIC SERVICE (PUBS)

Associate Dean and Assistant Professor: Caulfield
Dean of the College of Professional Studies: Deahl
Associate Professor: Bobay, Soeka
Adjunct Assistant Professor and CPS Chaplain: Class
Adjunct Instructor: Benner, Braaksma, Coan, Essuman, France, Kammholz, Kendrigan, Lotz, Lucey, McAvoy, McGury, Pavlik, Perlman, Rondini, Ruscitti, Truka, Waters
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREE OFFERED

Master of Arts in Public Service, Plan B only

SPECIALIZATIONS

Criminal Justice Administration, Dispute Resolution, Health Care Administration, Leadership Studies, Non-Profit Sector

PROGRAM DESCRIPTION

Public Service is an interdisciplinary program administered by Marquette University's College of Professional Studies. Within the program, students may pursue focused study in one of the five specializations described below.

CRIMINAL JUSTICE ADMINISTRATION

The criminal justice administration specialization seeks to produce broadly-educated, highly-motivated, thoroughly-trained professionals and scholars to meet the challenges of urban society. Several objectives underlie the scope and content of the program: 1) to provide urban stewards with an ethical and scholarly understanding of the issues and ramifications of current and anticipated policies in criminal justice; 2) to develop persons capable of exercising independent, analytical thought consistent with the needs of a democratic society; 3) to provide a core of leaders familiar with the issues of criminal justice management and policy analysis.

DISPUTE RESOLUTION

The dispute resolution specialization attempts to combine the fields of law, business, psychology, sociology, political science, health sciences, education, and communication in dealing with today's multi-faceted issues in resolving disputes. The program seeks to train professionals, primarily those in the fields of law, health care, education, and business, to practice as third party neutrals in the field of dispute resolution, or to be knowledgeable participants in dispute resolution processes.

Marquette University also offers master's and certificate programs in dispute resolution. (See the program section on Dispute Resolution for description and details.)

HEALTH CARE ADMINISTRATION

The health care administration specialization seeks to prepare working professionals to meet the leadership challenges of today's health care system. As managed care and the integration of health care delivery continue to evolve, new skills and knowledge are needed to keep pace with current health care demands. The program provides a foundation in finance, economics, policy, leadership, systems, and outcome planning and evaluation, specifically related to the changing health care system. Through the many elective offerings (informatics, case management, marketing, program development, administrative practicum, conflict resolution, long-term care and more), students may explore a wide range of special interests.

LEADERSHIP STUDIES

The leadership studies specialization prepares students to meet the challenges of leadership on multiple levels, including self-leadership, leadership in the context of interpersonal relationships, leadership where diversity is the norm, and leadership in organizations. This specialization prepares students to be ethical leaders who are skilled at: leading themselves, leading and managing relationships, leading in organizations, leading and managing change, and leading within a variety of contexts.

Marquette University also offers master's and certificate programs in leadership studies. (See the program section on Leadership Studies for description and details.)

NON-PROFIT SECTOR

The non-profit sector specialization seeks to provide training for individuals who plan a career in the third sector. Administrative and leadership preparation are particularly central to this training as executives handle budgets, board memberships, personnel oversight, corporate statutes, and program development.

PREREQUISITES FOR ADMISSION

Applicants to the public service specializations must hold a baccalaureate degree, or its academic equivalent, from a college or university of recognized standing. The undergraduate background must be appropriate to the chosen course of study. Generally, applicants should have a minimum cumulative grade point average of 3.000 (on a scale of 4.00) in their undergraduate course work. Previous professional experience will be a serious consideration in the admission decision.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation from academic or professional sources.
4. Official test scores from the GRE (preferred), GMAT, or LSAT. Waived if the applicant has completed any advanced degree from any school – M.A., M.S., M.B.A., Ph.D., J.D., or M.D.
5. A statement of purpose.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

MASTER'S REQUIREMENTS

Students must complete a total of thirty-six (36) credit hours of course work for the master of arts in public service. One of the five specializations (criminal justice administration, dispute resolution, health care administration, leadership studies, non-profit sector) must be chosen.

Students must complete 12 credits of required core course work, 3 credits of constrained elective core course work, plus 15 specialization credits of course work. Students must also choose one of three **integrative learning options**:

1) 6 credits of a professional project (PUBS 6998),
2) 6 credits of a research article of publishable quality (PUBS 6998), or
3) 6 credits of additional course work followed by a comprehensive examination.

For options 1 and 2 above, students must submit the project outline to be approved by their program adviser and by the Graduate School.

Students must complete the program within six years. Students are expected to earn a B or above in all courses and must maintain a 3.000 cumulative grade point average to earn the degree of master of arts in public service.

CRIMINAL JUSTICE ADMINISTRATION

Students must complete a total of 36 credit hours of course work: 12 credits of required core course work (PUBS 6200, 6205, 6210 and 6225), 3 credits of elective core course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964 and/or 6995), 6 credits of required specialization course work (CJAD 6400 and 6405), and 9 credits of elective specialization course work (any CJAD course not yet chosen). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

Students enrolled in the law enforcement leadership and management (LELM) certificate program may take PUBS 6571 in lieu of PUBS 6240 and may take PUBS 6581 in lieu of PUBS 6200. The two final courses that make up the LELM certificate (CJAD 6510 and 6511) will go toward CJAD elective specialization requirements for this degree.

DISPUTE RESOLUTION

Students must complete a total of 36 credit hours of course work: 12 credits of required core course work (PUBS 6200, 6205, 6210 and 6225), 3 credits of elective core course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964 and/or 6995), and 15 credits of required specialization course work (DIRS 6600, 6605, 6610, 6615 and 6964). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

HEALTH CARE ADMINISTRATION

Students must complete a total of 36 credit hours of course work: 12 credits of required core course work (PUBS 6200, PUBS 6205, PUBS 6210 or NURS 6007, and PUBS 6225), 3 credits of elective core course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964 and/or 6995), 12 credits of required specialization course work (HEAL 6820, HEAL 6841, HEAL 6848 and NURS 6009), and 3 credits of elective specialization course work (chosen from ACCO 6000; DIRS 6600; GERT 6001, 6002; HEAL 6845, 6846; HURE 6170, 6535, 6580; NURS 6440, 6444, 6453; PUBS 6964, 6995; or other courses approved by adviser). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

LEADERSHIP STUDIES

Students must complete a total of 36 credit hours of course work: 12 credits of required core course work (PUBS 6200, 6205, 6210 and 6225), 3 credits of elective core course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964 and/or 6995), 12 credits of required specialization course work (LEDR 6000, 6005, 6010, and LEDR 6030 or 6035), and 3 credits of elective specialization course work (any LEDR course not yet chosen). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

NON-PROFIT SECTOR

Students must complete a total of 36 credit hours of course work: 12 credits of required core course work (PUBS 6200, 6205, 6210 and 6225), 3 credits of elective core course work (chosen from PUBS 6215, 6220, 6230, 6235, 6240, 6931, 6964 and/or 6995), 12 credits of required specialization course work (NPSE 6520, 6525, 6530 and 6535), and 3 credits of elective specialization course work (chosen from CJAD 6415, 6430, 6931; GERT 6001, 6002; HEAL 6820, 6822, 6841, 6848; HURE 6170; MANA 6100; PUBS 6964; or other courses approved by adviser). For the final 6 credits, students must choose one of the three integrative learning options outlined above.

COURSE DESCRIPTIONS

Criminal Justice Administration (CJAD)

CJAD 6400. Critical Issues in Criminal Justice 3 sem. hrs.
A comprehensive overview of the American criminal justice system, including the functions of its components, analysis of the current and controversial legal issues, the role of the various participants and the effects of crime control. Examines crime statistics, the causes of crime, and highlights the role of the courts and the legal constraints derived from the Constitution on arrest, prosecution, and conviction. Topics may include: current Supreme Court issues, hate crime, domestic violence, gun control, the death penalty, police civil liability, privacy rights, wrongful conviction and public policy, plea bargaining, and reforms to the justice system.

CJAD 6405. Criminological Theory in Public Service and Social Policy 3 sem. hrs.
The study of criminological theories which inform the construction and operation of criminal justice administration and policy. Offered annually.

CJAD 6410. Juvenile Justice 3 sem. hrs.
Provides students with a practical understanding of juvenile justice through an in-depth analysis of the components of the current system, the perspectives of the participants and the successes and failures of the process. Examines the theory and practice of juvenile law, constitutional and national trends and current legislative efforts in the juvenile justice arena.

CJAD 6415. Victims and Victims Policy 3 sem. hrs.
Overview of issues facing victims in modern society and society's efforts to make the victim whole.

CJAD 6420. Correctional Management and Policy Analysis 3 sem. hrs.
Critical study of selected areas of correctional management such as organization theory, management philosophy and leadership, human resource management, labor relations, and current issues in the administration of institutional and community corrections.

CJAD 6425. Females: Offenders, Victims and Workers in the Criminal Justice System 3 sem. hrs.
Focuses on current status of women and girls in both the study of crime and the process of decision-making about women victims and offenders in the criminal justice system. Examines status of women workers and their access to employment within the criminal justice system.

CJAD 6430. Clinical Issues in Criminal Justice 3 sem. hrs.
Investigation of the clinical issues impacting criminal justice policy, including mental illness and criminal behavior, legal insanity, post-traumatic stress disorder and crime, civic and criminal commitment, prisoner's rights, and the treatment of juveniles and adult offenders.

CJAD 6435. Forensic Psychology in Criminal Justice 3 sem. hrs.
Explores the interface between psychology and the legal process. Examines the role of psychology in addressing a wide range of legal issues, including: evaluations regarding competency to stand trial, criminal responsibility, risk of dangerousness, child custody and placement, fitness for duty, etc. Looks at issues associated with providing psychological service.

CJAD 6440. Issues in Criminal Justice Policy-Making 3 sem. hrs.
Analysis of key issues affecting the complex processes of criminal justice at every stage of the criminal justice system.

CJAD 6445. Race, Gender and Ethnicity in Criminal Justice 3 sem. hrs.
A critical examination of the interplay between race, gender, crime and the administration of justice in America. Focuses on the social, economic and political aspects of women, minorities and crime. Includes the examination of both the real and perceived relationship between race/gender/ethnicity and generalized criminal conduct. Topics for discussion include: racial profiling, disproportionate minority representation, police conduct, arrest rates and the death penalty.

CJAD 6510. Policies in Policing 3 sem. hrs.
Examines contemporary policy making processes adopted by federal, state, and local police agencies. In-depth analysis of the most critical policies police administrators must consider. Policies include: recruitment, selection, and promotion of personnel, use of force, emergency vehicle operation, accreditation, discretion and training.

CJAD 6511. Legal Issues in Law Enforcement 3 sem. hrs.
Focuses on risk management principles and legal responsibilities of law enforcement administrators with the intent of minimizing civil liabilities. Examines constitutional issues, Supreme Court case decisions, Fair Labor Standards Act, Family Leave and Medical Act, workplace harassment issues, management rights, contracts, internal investigations and the disciplinary process. *Prereq: Acceptance to the graduate certificate program for law enforcement leadership and management.*

CJAD 6931. Topics in Criminal Justice 1-3 sem. hrs.
Examination of topics related to contemporary issues in criminal justice.

CJAD 6964. Practicum in Criminal Justice 3-6 sem. hrs.
Supervised experiences in criminal justice. Each student must negotiate an appropriate practicum plan and location with the graduate criminal justice faculty and the criminal justice practicum coordinator. Offered every term.
Prereq: Cons. of dept ch. and cons. of CJAD dir.

CJAD 6995. Independent Study in Criminal Justice 1-3 sem. hrs.
Prereq: Cons. of dept. ch. and cons. of CJAD dir.

Dispute Resolution (DIRS)

DIRS 6600. Mediation 3 sem. hrs.
Mediation as facilitated negotiation, three-party processes vs. two-party processes, interest-based bargaining vs. positional or adversarial bargaining. Concepts will be explored through the use of class role plays, which are videotaped and critiqued as a part of mediation training.

DIRS 6605. Advanced Mediation 3 sem. hrs.
An exploration of more advanced issues in the practice of mediation, including brokering, emotions in mediation, agenda, joint session, caucuses, agreements and multi-party/multi issue cases.
Prereq: DIRS 6600.

DIRS 6610. Dispute Resolution Theory 3 sem. hrs.
The development of conflict between and among individuals, organizations, and governmental units; various models for conflict and types of conflict resolution will also be surveyed.
Prereq: DIRS 6600.

DIRS 6615. Advanced Issues in Dispute Resolution 3 sem. hrs.
Explores current theoretical and applied issues in mediation. These issues may include: communication theories and models, legislative enactments, dispute resolution systems design, and court-connected dispute resolution systems. Case studies provide an opportunity to examine the theory through an applied approach. *Prereq: DIRS 6600.*

DIRS 6705. Dispute Resolution and the Family 3 sem. hrs.
Explores the many ways that dispute resolution processes are used in the family dynamic, including the division of marital property, the resolution of child custody issues, the resolution of parent-child behavioral issues, the resolution of contested adult guardianships, the resolution of issues involving the termination of parental rights, and the placement of adult family members in institutional settings. Includes an analysis of the roles of unique stakeholders, such as guardian *ad litem,* medical personnel, and extended family members. Uses a significant number of role plays to allow students to apply and refine their skills. *Prereq: DIRS 6600.*

DIRS 6710. Dispute Resolution and Education 3 sem. hrs.
Explores the many ways dispute resolution processes are used in the educational context, including: collective bargaining agreements, student peer mediation programs, student-teacher disputes, ombuds programs in higher education, and the mediation of special education disputes. Addresses problem solving skills helpful to any teacher or school administrator in dealing with parents, students, and colleagues. Uses a significant number of role plays to allow students to apply and refine their skills.
Prereq: DIRS 6600.

DIRS 6715. Dispute Resolution and the Workplace 3 sem. hrs.
Explores the many ways that dispute resolution processes are used in the workplace, including: interest arbitration, grievance arbitration, the negotiation of collective bargaining agreements, ombuds systems, peer review panels, mediation systems in unionized and non-unionized environments, and the use of processes to address issues of sexual discrimination, sexual harassment, and the lack of retention and promotion of minority workers. Uses a significant number of role plays to allow students to apply and refine their skills. *Prereq: DIRS 6600.*

DIRS 6720. Arbitration 3 sem. hrs.
Explores the adjudicative process of arbitration or private-judging in commonly used contexts, such as labor, construction, securities, and consumer disputes. Examines the United States Supreme Court's line of precedent regarding the enforceability of arbitration clauses in contracts. Addresses common techniques used in the arbitration process.
Prereq: DIRS 6600.

DIRS 6725. Negotiation 3 sem. hrs.
Explores a variety of styles of negotiation, focusing primarily on interest-based bargaining. Addresses criticisms of the efficacy of interest-based bargaining in some depth. Uses a significant number of role plays for instructional purposes, utilizing scenarios from two-party single issue negotiations to multi-party multi-issue negotiations. *Prereq: DIRS 6600.*

DIRS 6730. Dispute Resolution Systems Design 3 sem. hrs.
Explores the process by which you design, implement, and administer a dispute resolution system. Analyzes methods of stakeholder investment, intake, screening, referral, record keeping, data collection and evaluation. Compares methods used in a variety of dispute resolution systems, including internal and external mediation systems, arbitration, and ombuds programs. Emphasizes ethical standards applicable to system administration. Students are required to design and document a system.
Prereq: DIRS 6600.
DIRS 6735. Dispute Resolution and Health Care 3 sem. hrs. Explores the many ways dispute resolution processes are used in health care, including the resolution of: patient payment disputes with hospitals, health care providers, and health maintenance organizations (HMOs); disputes regarding treatment options; disputes among professionals treating the same patient; lifestyle issues (smoking and alcoholic beverages) in long term care facilities; health care provider malpractice; and end-of-life issues among providers, family members, and hospital ethics committees. *Prereq: DIRS 6600.*

DIRS 6931. Topics in Dispute Resolution 1-3 sem. hrs.
Examination of selected issues in dispute resolution that go beyond the scope of regular course offerings.

DIRS 6964. Practicum in Dispute Resolution 1-3 sem. hrs.
Required of all students; for example, an internship may be established with a community mediation center, a court system, a hospital peer review committee, or a public school teachers' collective bargaining unit. Placements will be arranged on an individual basis. S/U grade assessment.
Prereq: DIRS 6600 and DIRS 6605.

DIRS 6995. Independent Study in Dispute Resolution 1-3 sem. hrs.

DIRS 6998. Professional Project in Dispute Resolution 3 sem. hrs.
Required course for the professional project. Students are required to enroll in this course twice, over the course of two terms, for a total of 6 credits. Includes facilitated research meetings to explore research topics and methods, individual research and the completion of the written project. S/U grade assessment.

DIRS 6999. Master's Thesis 6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

DIRS 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

Non-Profit Sector (NPSE)

NPSE 6520. Non-Profit Organizations: Trends in the Third Sector 3 sem. hrs.
Introduction to the development, challenges, and opportunities in the non-profit sector. Includes case studies of governance, business practices, social entrepreneurship, and grant writing.

NPSE 6525. Financial Matters in the Non-Profit Sector 3 sem. hrs.
Examination of various financial issues affecting the non-profit sector including: fund-raising from donors and foundations, grant proposals, budgeting, and personnel/program costs.
Prereq: NPSE 6520.

NPSE 6530. Social Justice and Social Activism 3 sem. hrs.
Examines the meaning and implications of social justice; considers the history of social activism from both religious and non-sectarian traditions.
Prereq: NPSE 6520.

NPSE 6535. Legal Aspects of the Non-Profit Sector 3 sem. hrs.
Examines a range of legal issues that confront non-profits including: articles and by-laws, fiduciary obligations, governance and boards of directors, charitable solicitations, and for-profit ventures.
Prereq: NPSE 6520.

NPSE 6540. Restorative Justice 3 sem. hrs.
Examines the complex, dynamic relationship between traditional justice system approaches and emerging policy, theory and research in restorative and community justice. Emphasis on the challenges of administering transformative justice within a diverse, multicultural population and the roles played by the three key stakeholder groups: victims, offenders, and community. Explores the vision associated with this unconventional paradigm, along with a range of issues related to its operational implementation. Contrasts restorative justice with the dominant retributive/punitive model of justice and provides an introduction to a variety of both established and emerging applications including victim/offender reconciliation programs and family/group conferencing.

NPSE 6931. Topics in Non-Profit Sector 1-3 sem. hrs.
Examination of topics related to contemporary issues in the non-profit sector.

Public Service (PUBS)

PUBS 6200. Leadership in Public Service 3 sem. hrs.
Focuses on the importance of applied ethical frameworks and on contemporary leadership practice and civic engagement in the public service and non-profit environments. Learning activities include: case studies of current events, online and in-class discussion and discussions with a number of guests who are in leadership positions in public and non-profit organizations.

PUBS 6205. Urban Policy and Public Service Administration 3 sem. hrs.
Examination of the role of governmental and nongovernmental agencies in the development and application of public policy. Special attention devoted to the interplay between the government and everyday society.

PUBS 6210. Ethics in Public Service 3 sem. hrs.
Normative concepts and issues within a public service setting. Consideration of ethical principles and standards for urban professionals. Historical, philosophical, and theological roots and their relationship to contemporary applications.

PUBS 6215. Nature of Cities 3 sem. hrs.
An interdisciplinary examination of the individual, group, and institutional aspects of everyday life in urban America. Addresses both historical and contemporary contexts.
PUBS 6220. Organizational Behavior in Public Service 3 sem. hrs. Application of organizational behavior theory, concepts and models in public service and non-profit environments. Studies socially responsible behavior as related to global issues. Learning activities include: in-class and online discussion, case analysis, group work and a final project.

PUBS 6225. Urban Research Methods 3 sem. hrs.
Strategies for conducting research in urban settings. Includes the conceptualization, execution, evaluation, and presentation of research projects.

PUBS 6230. Legal Issues in Public Service 3 sem. hrs.
Survey of the common law, statutory law, and constitutional law affecting individuals and organizations in public service. Topics may include: basic tort and contract law, administrative law, employment law, open meetings law, free speech and association rights, collective bargaining, and disability issues.

PUBS 6235. Communication and the Management Process in Urban Service 3 sem. hrs.
Communication challenges in the public service sector whether in institutional or community settings. Explores the communication process, including perception, attribution, and verbal and nonverbal communication. Additional considerations will be given to cross-cultural decision-making, and conflict resolution in both interpersonal and group settings.

PUBS 6240. Urban Public Sector Economics 3 sem. hrs.
Examination of municipal finance and budgetary concerns, economics of land development, and fiscal oversight in the public sector.

PUBS 6571. Economics and Budgeting of Policing 3 sem. hrs.
Examination of finance and budgeting concerns, economics and fiscal oversight in a law enforcement agency. Great emphasis on the role of a chief executive of a law enforcement agency as related to budget preparation, submission, operation and tracking. *Prereq: Acceptance to the graduate certificate in law enforcement leadership and management.*

PUBS 6581. Police Leadership and Ethics 3 sem. hrs.
Analyzes contemporary theories of law enforcement leadership with an emphasis on the application of those leadership concepts through the use of case studies and by the analysis of current leadership situations in a law enforcement agency. Strongly focuses on ethics, as the ethical conduct of police leaders greatly determines the ethical conduct of the agency as a whole.
Prereq: Acceptance to the graduate certificate in law enforcement leadership and management.

PUBS 6964. Practicum in Public Service 3 sem. hrs.
Offers the opportunity to gain experience in community organizations. Must be directed by a faculty member.

PUBS 6995. Independent Study in Public Service 1-3 sem. hrs.
Prereq: Cons. of dept. ch. and cons. of prog. dir.

PUBS 6998. Professional Project in Public Service 3 sem. hrs.
Required for the integrative learning experience. Must be taken twice, over two terms, for a total of 6 credits. Two options: 1) complete a professional project or 2) complete a research article of publishable quality. S/U grade assessment.

PUBS 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

PUBS 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

RELIGIOUS STUDIES (REST)

See **THEOLOGY (THEO)**

SOCIAL AND CULTURAL SCIENCES (SOCS)

Chair and Associate Professor: Coles
Professor: Buckholdt, Holstein, Kehoe *(Emeritus)*, Miller, Moberg *(Emeritus)*
Associate Professor: Farkas, Jones, Metz *(Emeritus)*, Peterson, Stroshine, Sullivan, Zevitz
Assistant Professor: Cainkar, Crampton, Hinojosa, Hlavka, Moon, Mulla, Semukhina, Wheelock
Adjunct Assistant Professor: Crane, Williams
Note: Faculty members and their ranks are for the 2009–2010 academic year.

The Department of Social and Cultural Sciences does not offer graduate degree programs. Faculty members do participate in some graduate degree programs offered under other administrative auspices. In addition, certain upper division undergraduate courses in the Department of Social and Cultural Sciences have been approved for graduate credit and may be taken, as appropriate, by graduate students in other graduate programs. To earn graduate credit for a 5000-level upper division course, students must have the approval of their major departments and must complete extra work in the course beyond that required for undergraduate credit.

COURSE DESCRIPTIONS

Anthropology (ANTH)

ANTH 5144. The Rise of Agriculture 3 sem. hrs.
Process and variation in the development of farming and herding societies. Archaeological record pertaining to domestication of plants and animals in North and South America, Near East, Africa, and East Asia. Offered alternate years.

ANTH 5245. Archaeology of Complex Societies 3 sem. hrs.
Patterns of processes involved in the development of complex social systems. Archaeological records of state formation and urbanization in Egypt, Mesopotamia, and Mesoamerica. Offered alternate years.

ANTH 5247. Bioarchaeology: Linking Bones and Behavior 3 sem. hrs.
Reconstructs patterns of human behavior from integrated biological data sets. Archaeological evidence is drawn from human skeletal, plant, and faunal remains. Addresses questions of nutrition, pathology, occupation, and mortuary ritual. Offered alternate years.

ANTH 5251. Human Osteology and Odontology 3 sem. hrs.
The anatomy of the skeleton and teeth. Methods of analysis of biological dynamics of past populations including reconstruction of population structure and patterns of disease. Offered alternate years.

ANTH 5252. Origins of the Human Species 3 sem. hrs.
The biological past of the species sapiens. The biological legacy of the non-human primate past and the fossils which exemplify the evolutionary trends of our species. Offered alternate years.

ANTH 5253. Forensic Anthropology 3 sem. hrs.
Survey of the applications of human biology in criminalistics, including forensic applications of skeletal analysis, dermatoglyphics, DNA and hair. Studies methods of handling and analyzing these evidentiary materials, as well as the probative value each has in the criminal justice system. Special emphasis on the methods of personal identification. Reviews case studies of mass disasters, human rights abuses and homicides to demonstrate the utility of techniques taught in the course.

ANTH 5255. Sex and Evolution 3 sem. hrs.
The evolutionary significance of sex. Mechanisms of reproduction and sexual reproduction as a source of variation. Reproductive anatomy, sexual strategies and adaptation as well as sexual selection in the order Primates.

ANTH 5316. Culture Change and Development 3 sem. hrs.
Societal changes analyzed from holistic anthropological perspective. Recognizing factors of long-term cultural change; modernization of the West and Third World countries; ecological and social problems related to development in the contemporary world.

ANTH 5931. Topics in Anthropology 3 sem. hrs.
Various topics are designated in the *Schedule of Classes*. May be taken a maximum of two times.

ANTH 5964. Archaeological Fieldwork 3 sem. hrs.
An introduction to methods used in the excavation and analysis of prehistoric sites. Surveying techniques, stratigraphy, analyses of soils and landforms, analytical fundamentals of prehistoric material remains. Offered summer term.

Criminology and Law Studies (CRLS)

CRLS 5100. Ultimate Penalties in the Criminal Justice System 3 sem. hrs.
A critical look at the rationales and history of corporal punishment, capital punishment, and life imprisonment without possibility of parole in order to understand the endurance of these types of sanctions in modern society. Focuses on the philosophical, legal, social, and political aspects of the punishments. Also presents research on ultimate punishments, such as frequency of use, characteristics of offenses and offenders. In addition, examines the experience of sentenced offenders and their families, and correctional staff in implementing the punishments.

CRLS 5110. Media Perspectives on Urban Crime 3 sem. hrs.
Historical overview of how urban crime has been portrayed in the media. Analysis of contemporary media presentations of urban crime, criminals, and the criminal justice system (including police, courts, and the correctional system). Social scientific theory and analysis regarding media portrayals of crime, criminals, and the criminal justice system.

CRLS 5120. Comparative Justice Systems 3 sem. hrs.
The nature and character of police, prosecutorial, court, and correctional activity and operations in world legal systems. An examination of common law, civil law, socialist, and Islamic systems of law and social control.

CRLS 5130. Women, Crime and Criminal Justice 3 sem. hrs.
Examination of the roles of women in the criminal justice system. Critical analysis of the relationship of women as offenders, as victims, and as agents of social control. Review of relevant theories and practices and both historical and contemporary issues.

CRLS 5150. White Collar Crime 3 sem. hrs.
Survey of current theoretical, research and public policy issues regarding white-collar crime. Definitions of white-collar crime as well as various typologies of white-collar crime activity. Assesses the nature, extent, and consequences of white-collar crime in the U.S. strategies for combating white-collar crime as well as prospects of alternative systems of control, such as civil litigation.

CRLS 5170. Organized Crime 3 sem. hrs.
Examination of the political, social, and economic conditions involved in the appearance and expansion of organized crime in the United States. Descriptions of structures as well as internal and external dynamics, including incentives and penalties employed by criminal groups. Explanation of investigative techniques and impact of police, courts, and correctional agencies.

CRLS 5250. Clinical Criminology 3 sem. hrs.
The theory, research and practice dimensions of clinical criminology, with a focus on sociological, psychiatric, biological, biosocial learning, cognitive, psychoanalytic theory. Examination of deviant and/or criminal interactions and their consequences. Topics may include: substance abusers, psychopathic and violent offenders, spouse and child abusers, sex offenders, juvenile offenders, female offenders. Orientation to clinical techniques and therapy as they apply to intervention, decision-making, incarceration and sentencing, and modifications of behavior.

CRLS 5340. Financial Crime Investigation 3 sem. hrs.
Introduces current perspectives and procedures used by the financial investigator in detecting and resolving financial crimes. Includes the specific study of: methods of tracing funds, financial record keeping, accounting, interviewing techniques, and law and evidence as they relate to financial investigations.

CRLS 5400. Criminal Law and Procedure 3 sem. hrs.
Studies criminal substantive law; constitutional limits and principles of criminal law and liability; defenses to criminal liability; definitions and classification; criminal procedure of crimes; constitutional limits and protections of criminal procedure. Offered annually.

CRLS 5500. Criminal Investigation 3 sem. hrs.
Fundamental principles and procedures of criminal investigation. Crime scene search and recording. Collection and preservation of physical evidence. Obtaining testimonial evidence.

CRLS 5600. Evidence 3 sem. hrs.
Basic principles of the law of evidence. Presentation of oral and demonstrative evidence in the trial process. The quantum of proof in criminal proceedings.

CRLS 5620. Victim Services and Policies 3 sem. hrs.
Explores the history of victim services, the effects of victimization on individuals, families, and communities, and policy development. Also focuses on services available to victims both within the criminal justice system and externally. Specialized topics may include: family violence, workplace violence, public tragedy, violent crime, and white collar crime.

CRLS 5640. Family Violence and Public Intervention 3 sem. hrs.
Analysis of maltreatment of children, youth, spouses, and seniors within the family. Examination of causes and intervention methods emphasizing the response of actors and government agencies. Offered annually.

CRLS 5660. Criminal Violence in America 3 sem. hrs.
Analysis of violent crime in American society and ways in which the criminal justice system responds to it. Examination of the causes of violent crime, its prevention, treatment and public policy ramifications. Historical and contemporary understanding of the significance of violence in American culture. Critical evaluation of methods utilized to deal with violent offenders.

CRLS 5700. Ethics in Criminal Justice 3 sem. hrs.
An introduction to prevailing ethical controversies confronting the process and agencies of contemporary criminal justice. Special attention given to concrete ethical issues and dilemmas which are encountered regularly by participants in the major components of the criminal justice system: police, courts, and corrections.

CRLS 5931. Topics in Criminology and Law 3 sem. hrs.
Lectures and discussions in a broad area which, because of its topicality, is not the subject of a regular course. The special topics will be designated in the *Schedule of Classes*. May be taken a maximum of two times.

Sociology (SOCI)

SOCI 5050. Urban Ethnography: The City as Laboratory 3 sem. hrs.
Explores urban processes and institutions "from the inside." Initially focuses on the study of various ethnographies. Next, requires "hands-on" research, involving: observing human interaction, preparing field notes, conducting focused interviews, analyzing the collected data, and preparing a data-based research paper.

SOCI 5100. Urban Life 3 sem. hrs.
Social psychological aspects of urban life and experience. Implications of urbanization for individuals and groups. Ecological, cultural, and institutional influences. Interpersonal and intergroup relations in urban settings. Topics may include conflict, alienation, diversity.

SOCI 5130. Sociology of Human Values 3 sem. hrs.
Definitions of values in economics, linguistics, communication and sociology. The value system of selected sociologists. Values and sociocultural pluralism.

SOCI 5250. African-American Social Thought 3 sem. hrs.
Examination of historical and contemporary writings of Black social theorists. The impact of historical, social, economic, and cultural factors on Blacks in the United States and alternative strategies for change.

SOCI 5270. Urban Sociology 3 sem. hrs.
Urban society with special consideration of the problems of dealing with the structures, institutions, agencies and decision-making units in a metropolitan area.

SOCI 5300. Sociology of Aging 3 sem. hrs.
The place of the aged in contemporary society. Disengagement and the social integration of older persons. Roles linking older persons to society and roles in hospitals, nursing homes and homes for the aged.

SOCI 5400. Social Inequality 3 sem. hrs.
Theories and systems of social class in modern society. Societal structures and processes resulting from stratification phenomena.

SOCI 5420. Sociology of Religion 3 sem. hrs.
The sociological study of religious groups, institutions and behavior, including relationships between religion and other areas of social life.

SOCI 5440. Sociology of Education 3 sem. hrs.
Sociological analysis of educational institutions with primary emphasis on contemporary U.S. urban education, student subcultures, school-community relations and innovations. Offered annually.

SOCI 5450. Sociology of Sex and Gender 3 sem. hrs.
Biological and cultural bases of sex and gender patterns. Impact of major social institutions and processes on maintenance of gender patterns, with questions of power and dominance central to discussion. Benefits and costs of stereotypic gender patterns. Mechanisms and alternative directions for change. Includes historical and cross-cultural research.

SOCI 5460. Sociology of Work and Occupations 3 sem. hrs.
The diverse ways in which human beings make their livings in both industrialized and nonindustrialized societies. Career patterns and work problems. Theories about work and workers. Proposals for improving the quality of modern work.

SOCI 5480. Complex Organizations 3 sem. hrs.
Theories and research on the sociology of organization. The social functions, structures and processes of formal and informal organizational systems in modern society and their relationships to social behavior. The nature and place of bureaucracies in complex societies.

SOCI 5600. The Social Reality of Crime and Justice 3 sem. hrs.
A critical examination of the ways in which crime is defined, how crime control policies are established, and how the criminal justice system responds to the problem of crime. Specific attention given to the social and political context in which crime is talked about and responded to. Examines alternative approaches to crime control, such as peacemaking criminology and restorative justice.

SOCI 5660. Law and Society 3 sem. hrs.
The social components of legal organizations and procedural systems. The role of law as an instrument of social control and social change.

SOCI 5680. Sociology of Mental Illness 3 sem. hrs.
Review of major sociological and social psychological models of madness. Analysis of definitions and responses to mental illness. Study of the social processing involved in the production, recognition and treatment of mental illness.

SOCI 5700. Political Sociology 3 sem. hrs.
The interrelationship of politics and society. Special consideration of leadership analysis, party systems, public opinion, electoral behavior and conflict situations.

SOCI 5720. Sociology of Community 3 sem. hrs.
Discussion of contemporary problems of rural, urban and suburban communities including ecological and communication patterns, problems of identity, organization and motivation.

SOCI 5740. Social Change 3 sem. hrs.
Selected topics dealing with models and theories of innovation, diffusion, resistance to change and associated conflict in and between social systems. Contents vary; subtitles indicate precise contents.

SOCI 5931. Topics in Sociology 3 sem. hrs.
Special areas and themes. May be taken a maximum of two times if topics differ. Specific topics will be designated in the *Schedule of Classes*.

Social Welfare and Justice (SOWJ)

SOWJ 5300. Advanced Practice in Social Welfare and Justice 3 sem. hrs.
Continuation of the study of generalist practice theory. Strengthens skills in interviewing, data collection, problem appraisal, and the development of contracts for planned change. Competence is developed in carrying out contract plans, evaluating results, renegotiating contracts where appropriate and terminating. Further examines working with families and groups.

SOWJ 5500. Ethics in Social Welfare and Justice 3 sem. hrs.
An in-depth consideration of ethical issues in social welfare, justice and values; their relationship to social work as a profession and social welfare policy. Exploration of value dilemmas and other frustrations which may confront the professional human services worker working in organizations, and how they may relate to the development of professional identity. The role of professional human services organizations.

SOWJ 5931. Topics in Social Welfare and Justice 3 sem. hrs.
Special areas and themes. Specific topics will be designated in the *Schedule of Classes*.

SPEECH-LANGUAGE PATHOLOGY (SPLA)

Chair and Associate Professor: Korabic
Director of M.S. Program and Associate Professor: Long
Professor: W. Trotter *(Emeritus)*
Associate Professor: Bhatnagar, Moller *(Emerita)*
Assistant Professor: Berry, Gorman, Moyle
Clinical Coordinator: Podewils
Clinical Instructor: Berman, Brueck, Erdman, Krueger, Puglisi-Creegan
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

Master of Science, students are admitted under Plan B (non-thesis option) but may request Plan A (thesis option); Certificate

SPECIALIZATIONS

Master's: None
Certificate: Bilingual English-Spanish

PROGRAM DESCRIPTIONS

MASTER'S DEGREE PROGRAM

The speech-language pathology program, leading to the master of science degree, is offered through the Department of Speech Pathology and Audiology and is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (CAA-ASHA). The program is directed at preparing students for the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP). For students interested in licensure as a public school speech-language clinician, the program meets the requirements of the Department of Public Instruction of the State of Wisconsin (DPI-Wis.) for licensure as a speech-language pathologist.

The graduate curriculum in speech-language pathology offers advanced course work in the prevention, identification, evaluation, and treatment of speech, language, and hearing disorders in both children and adults, meeting both the academic and clinical requirements of the American Speech-Language-Hearing Association and the licensure requirements of the State of Wisconsin.

The master of science program in speech-language pathology typically takes two years (four terms and one summer session) to complete; however, the time required to complete degree and certification/licensure requirements may be shorter or longer depending on the student's academic/clinical background, needs, and special interests.

BILINGUAL ENGLISH-SPANISH (BIES) CERTIFICATE PROGRAM

A bilingual English-Spanish certificate (BIES) is offered through the master's degree program. This certificate program prepares speech-language pathologists who are proficient in Spanish to evaluate and treat communication disorders in individuals who speak Spanish or are bilingual (Spanish-English). Candidates for the BIES must be accepted to the master of science program in speech-language pathology. Candidates also must complete an application to the BIES program and meet language proficiency requirements established by the American Council for the Teaching of Foreign Languages.

Graduate-level academic course work for the BIES may fulfill elective requirements for the master of science degree in speech-language pathology. Clinical practicum hours through the BIES program will apply toward a master of science degree, ASHA certification and DPI licensure requirements. All course work is based on guidelines suggested by the American Speech-Language-Hearing Association for speech-language pathologists providing bilingual assessment and intervention.

PREREQUISITES FOR ADMISSION

Applicants should have graduated with, or are about to graduate with, a bachelor's degree from an accredited institution with a major in communicative disorders, or its equivalent, and an undergraduate grade point average of B or above. Students who do not meet these standard requirements must be prepared to complete undergraduate background courses as advised by the program director.

APPLICATION DEADLINE

To be considered for admission, all application requirements must be completed and received in the Graduate School by January 15. Students admitted to the speech-language pathology program are not permitted to defer their admission.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation from individuals familiar with the applicant's academic and clinical work.
4. A personal statement of career interests and goals.
5. GRE scores (General Test only). Waived for applicants to the bachelor's-master's program.
6. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.
7. *(For BIES applicants only)* a statement of purpose which must address Spanish proficiency, Spanish course work completed, any study abroad, and reasons for pursuing the BIES along with how it will influence the applicant's future.

STUDENTS WITH COMMUNICATIVE DISORDERS

The Department of Speech Pathology and Audiology at Marquette University is dedicated to graduating students with optimum preparation for successful careers in the profession of communication disorders. Since voice, fluency, articulation,

language or hearing impairments may interfere with a clinician's ability to effectively treat persons with communication impairments, we encourage students in our program with such impairments to seek treatment.

ENGLISH PROFICIENCY

Our department supports the position of the American Speech-Language-Hearing Association in encouraging persons of diverse backgrounds to enter the field of communication disorders. All students in the Department of Speech Pathology and Audiology must provide evidence of adequate written and verbal communication skills in Standard American English necessary to meet academic and clinical requirements. Non-native speakers of English will work closely with their advisers throughout the course of their study toward establishing this proficiency prior to enrollment in clinical practicums. Students who speak with accents and/or dialects may seek assistance in improving these skills at the recommendation of department instructional staff.

BACHELOR'S-MASTER'S PROGRAM

The Department of Speech Pathology and Audiology offers early admission into its master of science degree program in speech-language pathology to Marquette University students majoring in speech pathology and audiology. Students can apply for admission to this program in the second semester of their undergraduate junior year. Students accepted into the undergraduate program are eligible to enroll in up to 12 credits of speech pathology and audiology (SPPA) course work that carry graduate credit during their senior year. Credits obtained for these courses can be used to fulfill both undergraduate and graduate degree requirements. Once students inform the Graduate School of their completion of their undergraduate degree requirements, their graduate admission as a regular degree status student is activated. Students interested in this program can obtain further information and an application from the Speech Pathology and Audiology Department office.

MASTER'S REQUIREMENTS

Students are admitted to the program in Plan B, but may transfer to Plan A with approval from the Graduate School and the SPLA program.

For both Plan A and Plan B, one half of the completed course work must be in 6000-level courses acceptable for graduate credit only.

THESIS PROGRAM (PLAN A)

A student must complete a minimum of 40 credit hours of course work, plus six credit hours of thesis work, pass a written comprehensive examination, and submit an approved thesis.

NON-THESIS PROGRAM (PLAN B)

A student must complete a minimum of 46 credit hours of course work and pass a written comprehensive examination.

REQUIRED COURSE WORK

A student seeking the master of science degree in speech-language pathology must complete the following courses, or their equivalents, at either the graduate or undergraduate level:

SPPA 4230/5230 Stuttering and Other Fluency Disorders
SPPA 4720/5720 Diagnostic Methods in Speech-Language Pathology

In addition, the following courses are required at the graduate level:

SPPA 6160 Neurological Bases of Speech and Language Disorders
SPPA 6210 Child Language Intervention Issues
SPPA 6320 Adult Language Disorders
SPPA 6330 Neuromuscular Disorders
SPPA 6410 Voice Disorders
SPPA 6730 Procedures in Medical and School Settings
SPPA 6750 Clinical Research Methodology
SPPA 6790 Clinical Grand Rounds in Speech-Language Pathology
SPPA 6965 Practicum in Speech-Language Pathology: Campus Clinic
SPPA 6966 Practicum in Diagnostic Methods in Speech Pathology
SPPA 6967 Practicum in Speech-Language Pathology: School Setting
SPPA 6968 Practicum in Speech-Language Pathology: Medical Setting

COMPREHENSIVE EXAMINATION

The Praxis Series Specialty Area Test in Speech-Language Pathology, administered by the Educational Testing Service (ETS), is the master's comprehensive examination used for students in the speech-language pathology program. The student must take the Praxis examination no earlier than 6 months prior to graduation and receive a passing score (600 out of 800). Results of the examination must be received in the Department of Speech Pathology and Audiology by the time that final grades are due in the student's final semester of study.

BILINGUAL ENGLISH-SPANISH (BIES) CERTIFICATE REQUIREMENTS

The BIES program requires completion of four (4) academic courses: SPAN 4120/5120 Spanish Phonetics and Applied Linguistics and SPPA 4610/5610 Multicultural Issues for Speech-Language Pathologists taken at the undergraduate or graduate level AND SPPA 6620 Speech and Language Assessment in Bilingual Populations and SPPA 6630 Speech and Language Intervention in Bilingual Populations taken at the graduate level. In addition, a minimum of 50 clinical practicum hours with individuals who speak Spanish or are bilingual (Spanish-English) must be obtained under the supervision of a bilingual speech-language pathologist through SPPA 6965, 6967 and 6968.

COURSE DESCRIPTIONS

Speech Pathology and Audiology (SPPA)

SPPA 5230. Stuttering and Other Fluency Disorders 3 sem. hrs.
Introduction to the symptomatology, phenomenology, etiology, assessment and management of stuttering and other fluency disorders in children and adults. Offered spring term.

SPPA 5520. Hearing Disorders 3 sem. hrs.
Extensive study of hearing disorders and the psychological and social implications of hearing impairment. Discusses habilitation/rehabilitation strategies. Offered fall term.

SPPA 5530. Audiological Rehabilitation 3 sem. hrs.
An in-depth look at the process of adult aural rehabilitation and how amplification, assistive listening devices, sensory aids, visual communication training, auditory training and counseling contribute to that process. Offered spring term.

SPPA 5610. Multicultural Issues for Speech-Language Pathologists 3 sem. hrs.
The study of culture and communication in linguistically diverse populations [i.e., Non-Standard American English speakers, Native Americans, (with emphasis on Wisconsin Native tribes) Asians, and Latinos]. Includes L1 and L2 acquisition profiles and information pertaining to service delivery with non-native English speakers. Emphasizes the U.S. Latino population. Explores knowledge and understanding of racism. Meets the multicultural requirements for the Wisconsin Department of Public Instruction licensing in speech-language pathology. Offered annually.

SPPA 5720. Diagnostic Methods in Speech-Language Pathology 3 sem. hrs.
Provides the students with an understanding of the components inherent in the diagnostic process. These include, but are not limited to: a) an overview of diagnostic models, b) sources of delays and disorders, c) purposes of assessment, d) interviewing techniques, e) testing and measurement caveats, f) framework for analysis of the data, g) interpretation of results to families or referral sources, and h) report writing.

SPPA 6160. Neurological Bases of Speech and Language Disorders 3 sem. hrs.
Focuses on fundamentals of neuroscience as it relates to human behavior. Areas discussed include: clinical neurology, neuroanatomy and physiology, neuroembryology, neuroradiology, neurosurgical principles, sensorimotor systems and their applications in the assessment and management of neurogenic communicative disorders. Offered fall term.

SPPA 6210. Child Language Intervention Issues 3 sem. hrs.
Includes basic information pertaining to current theories of language impairment in children. A detailed examination of the linguistic characteristics typical of children with primary and secondary language impairments is provided along with issues concerning the differential diagnosis of children with language disorders. Provides information pertaining to both theoretical and applied aspects of language intervention from infancy through adolescence. Issues pertinent to assessment and intervention with multicultural populations are embedded in the lecture material throughout the term. Offered fall term.

SPPA 6220. Child Speech Sound Intervention 3 sem. hrs.
Advanced study of issues relevant to the assessment and treatment of children with speech sound disorders. Topics include: phonetic transcription of dialectal speech, measures of phonological development, analysis of speech error patterns, and methods for the remediation of speech delay and residual articulation errors. *Prereq: SPPA 2220 or equiv.*

SPPA 6320. Adult Language Disorders 3 sem. hrs.
A comprehensive review of neurogenic disorders of adult language. Topics include: differential diagnosis of aphasia, linguistic analysis of different aphasic syndromes, clinical testing, and rehabilitation. Also discusses differential diagnosis of language dis-

turbances associated with dementia and right/left hemispheric pathologies. Offered fall term. *Prereq: SPPA 6160, which can be taken concurrently.*

SPPA 6330. Neuromuscular Disorders 3 sem. hrs.
A survey of the etiology, symptomatology and clinical management of major neuromuscular and organic articulation disorders. Topics discussed include dysarthria and apraxia. Offered spring term. *Prereq: SPPA 6160.*

SPPA 6340. Cognitive Disorders 3 sem. hrs.
Provides a theoretical and clinical framework for understanding the neuropsychological-cognitive-communicative and psychosocial issues associated with neurologic brain injuries and for providing treatment of impaired cognitive-communicative processes. Incorporates knowledge of cortical functions and human cognition for evaluating the communicative-cognitive disorders. Students learn about treatment implementation and communicative counseling by actively solving clinical problems. *Prereq: SPPA 6160 and SPPA 6320.*

SPPA 6410. Voice Disorders 3 sem. hrs.
An in-depth examination of normal and pathological voice. Topics include: forces producing phonation, measures of glottal function, and the effect of pitch, intensity and other variables on vocal function. Emphasis on the diagnosis and treatment of voice disorders using clinical instrumentation. Offered fall term.

SPPA 6420. Swallowing Disorders 3 sem. hrs.
Anatomy and physiology of the normal swallow in adults; anatomic and physiologic disorders affecting the process of swallowing (deglutition) with emphasis on radiographic and bedside diagnostic and treatment procedures. Includes a lab experience and analysis of videofluoroscopic studies of the swallowing process. Offered summer term.

SPPA 6430. Craniofacial Disorders 3 sem. hrs.
Intended to provide a background in craniofacial speech disorders. Begins with a review of embryological development of the head/face, craniofacial syndromes and their etiologies, and the anatomy and physiology of the velopharyngeal mechanism. Discusses the importance of "team care" and the role of the various disciplines on the craniofacial team. Presents both instrumental and non-instrumental assessment techniques. Intervention focuses primarily on adapting traditional and phonological approaches to the treatment of craniofacial speech disorders. Offered spring term.
Prereq: SPPA 2220 or equiv.

SPPA 6540. Child Audiological Habilitation 3 sem. hrs.
An in-depth study of the assessment, psychosocial problems, and remediation/education of children with prelingual hearing impairments. Offered summer term. *Prereq: SPPA 5520 or cons. of instr.*

SPPA 6620. Speech and Language Assessment in Bilingual Populations 3 sem. hrs.
Study of the principles and techniques of assessing bilingual populations with an emphasis on the Spanish-English bilingual speaker. Instruction in formal and informal methods and strategies for assessing speech and language skills in children and adults. *Prereq: SPPA 5720 or equiv.*

SPPA 6630. Speech and Language Intervention in Bilingual Populations 3 sem. hrs.
Study of intervention approaches and techniques in the remediation of communication disorders in bilingual populations, with an emphasis on the Spanish-English bilingual speaker. Includes speech and language intervention techniques which focus on facilitating language for learning, language for communication, and the remediation of speech and language impairments in adults and children. Offered summer term.

SPPA 6640. Augmentative and Alternative Communication (AAC) 3 sem. hrs.
Deals with certain problems met when attempting to habilitate or rehabilitate children and adults who have essentially normal hearing, for whom speech is unlikely to be adequate for at least some communicative purposes (either temporarily or permanently). Gestural and instrumental augmentative communication strategies. Provides necessary information to both select the most advantageous strategy for clients and teach them how to use it. Offered summer term.

SPPA 6650. Intervention Issues with the Birth-to-Three Child 3 sem. hrs.
Screening, assessment and family-based intervention issues specific to the communicative aspects of the birth-to-three child. Emphasizes identification and treatment issues specific to P.L. development, multicultural considerations, case management, and interdisciplinary/transdisciplinary assessment and intervention. Offered summer term.

SPPA 6730. Procedures in Medical and School Settings 3 sem. hrs.
Introduces terminology, laws and procedural requirements for speech-language pathology programs in both school and medical settings. Presents documentation and professional interactions in a variety of work settings. Utilizes a combination of lecture and simulated activities to prepare students for functioning in off-campus medical and school placements. Addresses Wisconsin school and medical speech-language pathology licensing and national certification requirements.

SPPA 6740. Issues in Medical Speech-Language Pathology 3 sem. hrs.
An examination of rehabilitative techniques for laryngectomized individuals including esophageal voice production, artificial laryngeal devices, surgical-prosthetic speech rehabilitation techniques, psychosocial intervention, surgical procedures for subtotal and total laryngectomy, and research in alaryngeal communication. Includes clinical practicum experience with laryngectomy clients. In addition, addresses special topics related to laryngeal voice disorders via in-depth discussion of current research. Offered spring term.

SPPA 6750. Clinical Research Methodology 3 sem. hrs.
Overview of research design and its application to the field of speech-language pathology. Factors affecting validity of research. Different types of experimental and quasi-experimental designs. Analysis and presentation of research data. Ethical, financial, and practical factors that affect the conduct of research. Offered spring term.

SPPA 6760. Professional Affairs in Speech Pathology 3 sem. hrs.
Administrative organization, problems and practices in various settings in which speech and hearing clinicians function: school systems, community clinics, hospitals, universities, training centers, and in private practice. Offered fall term.

SPPA 6790. Clinical Grand Rounds in Speech-Language Pathology 1 sem. hr.
Presentation of challenging cases in communication/swallowing disorders.
Prereq: Completion of at least 20 graduate credit hours in speech pathology and audiology.

SPPA 6961. Special Institute/Workshop/ Project 3 sem. hrs.

SPPA 6965. Practicum in Speech-Language Pathology: Campus Clinic 1 sem. hr.
Supervised student-administered therapy in the campus clinic. Offered every term. S/U grade assessment. *Prereq: Regular degree status.*

SPPA 6966. Practicum in Speech-Language Pathology: Diagnostic Methods 1-2 sem. hrs.
Participation in the campus Diagnostic Clinic in speech and language disorders. Additional credit (1 credit) available for students doing additional diagnostic work off-campus and on campus in the Speech and Hearing Clinic. S/U grade assessment. *Prereq: SPPA 5720.*

SPPA 6967. Practicum in Speech-Language Pathology: School Setting 3 sem. hrs.
Fee. Speech pathology practicum in a school setting. Offered every term. S/U grade assessment.
Prereq: SPPA 5720 and SPPA 6730. Use of private car possibly required for student teaching affiliations inaccessible to public transportation. Student is responsible for transportation costs.

SPPA 6968. Practicum in Speech-Language Pathology: Medical Setting 3 sem. hrs.
Supervised student-administered therapy in an off-campus facility. Offered every term. S/U grade assessment.

SPPA 6995. Independent Study 1-3 sem. hrs.
Offered every term.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch., cons. of SPPA M.S. dir., approved thesis outline and establishment of a thesis committee.

SPPA 9978. Field Placement Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9979. Field Placement Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

SPPA 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch. and cons. of SPPA M.S. dir.

THEOLOGY (THEO)/ RELIGIOUS STUDIES (REST)

Chairperson and Professor: Wood
Assistant Chairperson and Associate Professor: Lysaught
Professor: Carey *(William J. Kelly, S.J., Chair),* Coffey *(Emeritus),* Doran *(Doerr Chair)*, Fahey *(Emeritus),* Golitzin, Hagen *(Emeritus),* Kurz, Long, Maguire, Misner *(Emeritus),* Rossi, Schultenover
Associate Professor: M. Barnes, Dabney, Del Colle, Dempsey, Duffey, Hills, Hughson, M. Johnson, W. J. Kelly *(Emeritus)*, Laurance, Massingale, Masson, Mattox, Mueller, Orlov, Pace, Schaefer, Schmitt, Zemler-Cizewski
Assistant Professor: Lehner, Morales, Nussberger, Omar
Visiting Professor: Wriedt
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREES OFFERED

THEOLOGY

Master of Arts in Christian Doctrine (M.A.C.D.)

Master of Arts in Theology (M.A.), students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered

RELIGIOUS STUDIES

Doctor of Philosophy

SPECIALIZATIONS

M.A.C.D.: None
M.A.: Judaism and Christianity in Antiquity, Historical Theology, Systematic Theology
Ph.D.: Judaism and Christianity in Antiquity, Historical Theology, Systematic Theology, Theological Ethics, Theology and Society

PROGRAM DESCRIPTIONS

The Theology Department offers master's and doctoral programs aimed at giving students an integrated approach to theological studies, emphasizing, within theological specialties, the interaction of Judaism and Christianity in antiquity, historical, systematic, and ethical approaches to theology. The programs seek to develop scholars who can make significant contributions to theological research and writing and college teachers who can teach a broad range of courses. This broad theological background has enabled program graduates to enjoy enviable success in securing teaching positions in over 200 colleges and universities, in church work and ministry, and in a variety of other educationally related institutions.

The master of arts in Christian doctrine (M.A.C.D.) focuses on an ecumenical appropriation and communication of Christian doctrine for those teaching in Catholic high schools, for those interested in other religious education or formation programs, and for persons interested in theological enrichment or in serving various other needs in the religious communities.

The master of arts in theology (M.A.) is intended primarily, but not exclusively, for those who intend to pursue a doctoral degree in theology or religious studies. The degree provides professional competence in the field of theological studies.

The doctor of philosophy in religious studies (Ph.D.) is a terminal academic degree producing professional specialists in one of the areas of Judaism and Christianity in antiquity, historical theology, systematics, and theological ethics, while providing supporting competence in the others as well.

PREREQUISITES FOR ADMISSION

Master of arts in theology (M.A.) applicants should have an undergraduate major in theology (religion, religious studies) or other background (e.g., classics, philosophy) appropriate for graduate study in theology. A minor in philosophy is recommended for those planning to study systematic theology. Ideally, all applicants should have some familiarity with Scripture and basic Christian doctrine. The program offers ample opportunities for making up undergraduate deficiencies. Doctoral applicants should have a master's degree or its equivalent in theology.

APPLICATION DEADLINES

Master of arts (M.A.) application files must be complete by December 15, including all supporting documents, for fall admission and financial aid consideration. Applicants not competing for financial aid may apply up to May 15. Master of arts students may only begin their program in fall.

No official deadline exists for the master of arts in Christian doctrine (M.A.C.D.). Applications are reviewed on a rolling basis.

Doctoral (Ph.D.) application files must be complete by December 15, including all supporting documents, for fall admission and financial aid consideration. Applicants will be notified by March 31. Doctoral students may only begin their program (religious studies) in fall.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation. (*Note:* For doctoral applicants who are continuing their degree at Marquette, three new letters of recommendation are required.)
4. A short personal statement that includes: reasons for wanting to enter the program, vocational objectives, special areas of interest, and reasons for selecting Marquette's program.
5. GRE scores (General Test only).
6. *(For doctoral applicants only)* an academic writing sample of no longer than 20 pages.
7. A list of languages spoken or read, with a personal estimate of proficiency in each.
8. *(For applicants without a graduate degree)* a list of theology courses taken as an undergraduate, including names of teachers, if possible.
9. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

GENERAL INFORMATION

COMPREHENSIVE EXAMINATION

All students entering the doctoral program are required to take the master's comprehensive examination approximately two weeks before beginning their program. Students receiving a master's degree in theology from Marquette University take the comprehensive examination as part of their master's degree requirements.

Passing the examination demonstrates a broad, master's level competency — the equivalent of material covered in Marquette's graduate core courses — in each of the three major theological disciplines: Bible, historical theology, and systematics/ethics. The examination helps students and advisers to identify those areas which require additional preparation before beginning doctoral-level course work. This is in keeping with the character of the Marquette doctoral program in which specialization builds upon a sound knowledge of the history of the theological tradition.

The examination is in three parts, each of which has two sections.

1. Judaism and Christianity in Antiquity: Old Testament, New Testament
2. Historical: Origen to Late Medieval, Late Medieval to Early Modern
3. Systematics and Theological Ethics

The three parts, each two hours in duration, are taken at the same examination session. Each part of the comprehensive examination consists of six questions, from which the student must answer three including at least one from each section. All questions are based on the current master's bibliography and questions. Hence, the master's bibliography comprises the core reading for all master's and prospective doctoral students. The bibliography and questions are available through the departmental Web site at www.marquette.edu/theology/. Additional information may be found in the department's *Procedures and Policies* handbook.

Any student who does not demonstrate competency in one or more of the sections on the examination, or after a second examination during the first term, is required to take the related master's level course. These courses do not count toward the final 30 hours required for doctoral-level course work.

MASTER OF ARTS IN CHRISTIAN DOCTRINE (M.A.C.D.) REQUIREMENTS

The M.A.C.D. degree requires 30 credit hours of course work, half of which must be taken at the graduate level (courses numbered 6000 or above). Up to 15 credit hours of 5000-level courses are acceptable for graduate credit if additional readings and writing assignments are arranged with the respective professor and completed satisfactorily. After successfully completing all course work, students will be required to write a comprehensive paper that integrates what they have learned in their courses and applies what they have learned to their career goals. M.A.C.D. candidates have no foreign language requirements. The M.A.C.D. is intended to be a terminal degree.

CORE COURSES AND ELECTIVES

Of the 30 total credit hours of course work, 21 credit hours must be taken from the core courses (THEO 6110, 6120, 6210, 6220, 6320, 6321, and 6410), or, in certain circumstances and in consultation with a student's academic adviser, an equivalent from the 5000-level courses.

For the 9 credit hours of electives (three courses), the student must choose one course in each of the principal theological disciplines: biblical, historical, and systematic.

With the permission of a student's academic adviser, the elective courses can be chosen from the following course ranges.
One from any of the following biblical courses: THEO 5000 to THEO 5190;
One from any of the following historical courses: THEO 5200 to THEO 5290;
and
One from any of the following systematics courses: THEO 5300 to THEO 5540.

MASTER OF ARTS IN THEOLOGY (M.A.) REQUIREMENTS

A master's student must complete 30 credit hours of course work, fulfill the department's foreign language requirement, pass a comprehensive examination, and submit an approved research project.

After all other requirements have been met, the comprehensive examination is administered by the Master of Arts Examination Committee. The exam is offered in March, July, and November. A description of the exam is located in the General Information section.

The student may pursue either a Plan A or Plan B course of study. The student is assumed to be in Plan B unless a formal request to transfer to Plan A is approved by the department chairperson and the Graduate School.

The course work requirement for Plan A consists of 18 credit hours of core courses, six credit hours of electives, and six credit hours of work on the research project.

Course work for Plan B consists of 18 credit hours of core courses and 12 credit hours of electives, in addition to completing a non-credit research project.

FOREIGN LANGUAGE REQUIREMENTS

All students in the master of arts program in theology are required to pass a competency examination in German, French, or other modern foreign language recognized as essential to the student's research.

CORE COURSES AND ELECTIVES

For the master's program, a student must take 18 credit hours of required core courses: THEO 6110, 6120, 6210, 6220, 6310, and 6410.

In consultation with an adviser, and not later than the end of the first year of study, each student will choose a specialization (Judaism and Christianity in antiquity, historical, or systematic). A student in Plan A must complete three credit hours of elective course work in *each* of the areas not chosen for specialization and six credit hours of work on a research project in the area of specialization. A student in Plan B must complete six credit hours of elective course work in the area of specialization and three credit hours in *each* of the other two areas.

DOCTORAL REQUIREMENTS

All students entering the doctoral program are required to take the master's comprehensive examination. For more information, see the General Information section.

A doctoral student must complete a program of study defined on an approved *Doctoral Program Planning Form*. Within the program of study, the student must take a minimum of 60 credit hours of graduate theology course work, plus 12 credit hours of dissertation work, fulfill the department's foreign language requirement, pass qualifying examinations, and submit and successfully defend a dissertation.

FOREIGN LANGUAGE REQUIREMENTS

All doctoral candidates are required to pass a competency examination in German and either in French or in another modern foreign language recognized as essential to the student's research. Students with a master's degree from an institution other than Marquette are urged to pass their first foreign language examination before course work begins and must do so by the end of their first year in the program. Students must pass both the German and the French or other accepted modern language examinations by the end of their second year in the program. Examinations are administered, for a fee, by the Department of Foreign Languages and Literatures, which also offers courses in preparation for the examination.

Candidates who specialize in Old Testament/Hebrew Bible studies must also pass examinations in Hebrew at the advanced level and Greek at the intermediate level of competence.

Candidates who specialize in New Testament studies must also pass examinations in Greek at the advanced level and Hebrew at the intermediate level of competence.

Candidates in Historical Theology and in Systematics/Ethics within the Western theological traditions must also pass a competency examination in Latin; those studying within other theological traditions must pass a competency examination in Latin, or Greek, or another ancient language recognized as essential to the student's research.

Graduate theology students may use 3 or 6 of their program credits for designated language courses utilizing theological texts at each graduate level (master's and doctoral), with not more than 9 total credits for the course requirements at both levels combined, i.e., 9 of 60 credits of total course work. Language courses for graduate theology students will be taught either in the Department of Theology or in the Foreign Language and Literatures Department utilizing theological texts approved by the Department of Theology in the teaching and in the testing. The Department of Theology will determine the needed levels of competency for each language appropriate to a student's particular area of theological concentration.

CORE COURSES AND ELECTIVES

The doctoral program in religious studies offers five areas of specialization. The doctoral qualifying examination (DQE) will emphasize the student's chosen area of specialization.

A student specializing in Judaism and Christianity in antiquity, historical theology, systematic theology, or theological ethics must complete 36 credit hours of course work in the area of specialization and approximately 12 credit hours of course work in each of two other areas.

A student in the theology and society specialization must complete at least 30 credit hours of theology course work (primarily in one area of specialization: Judaism and Christianity in antiquity, historical or systematics/ethics) selected around the theology and society theme, a total of at least 18 credit hours in two other areas of theology, and 12 credit hours in one or more related human sciences (anthropology, economics, education, English, history, philosophy, political science, psychology, sociology). These students may be required to take additional course work, beyond the 60-credit-hour requirement, to certify their qualifications in both theology and the allied discipline. Qualifying examinations and dissertation topics for doctoral students in the theology and society specialization are expected to reflect the cross-disciplinary nature of the course work.

COURSE DESCRIPTIONS

For master's and doctoral students who have not demonstrated adequate competency on the comprehensive examination, the core courses in each area are prerequisites for all other courses in that area.

All courses have the prerequisite of consent of department chairperson.

THEO 5000. Digging the Bible: Archeology and Biblical Studies 3 sem. hrs.
An exploration of the uses and abuses of archeology relative to the field of biblical studies. Case studies in a historical approach to the intersection of archeology and biblical theology.

THEO 5010. The Bible in Its Interpretive Communities 3 sem. hrs.
The ways in which the Bible was produced, and the ways in which it has been and is currently being used in various communities.

THEO 5020. The Bible in the Jewish Community 3 sem. hrs.
The uses of the Bible in Jewish life and practice, in synagogue and in private use. Haggadah and Halakah.

THEO 5030. Women in the Bible 3 sem. hrs.
Status and roles of women in selected biblical texts. Social and historical background with emphasis on narrative technique and theological themes. Offered biennially.

THEO 5190. Studies in Biblical Theology 3 sem. hrs.
Significant topics in Old Testament, Intertestamental, or New Testament literature.

THEO 5200. Theology in the Early Church 3 sem. hrs.
Basic theological questions and developments during the era of the Church Fathers. Offered annually.

THEO 5210. History and Theology of the Christian East 3 sem. hrs.
The Christian East from its origins, through the conversion of Constantine, to the present-day Eastern Orthodox and Oriental Orthodox Churches. Particular attention to the distinctive theological emphases of the East, as well as to the developments leading to the break in communion between Catholic (and Protestant) West and Orthodox East. Offered annually.

THEO 5220. St. Augustine: The Man and the Theologian 3 sem. hrs.
A study of Augustine's life, writings and thought, with special attention to the Confessions, to his theology of the church and the sacraments, and to his teaching on grace and predestination, against the background of his early philosophical writings.

THEO 5230. Theology in the Middle Ages 3 sem. hrs.
Basic theological questions and developments during the Middle Ages, from the Carolingians to the 14th century.

THEO 5240. Theology in the Reformation Era 3 sem. hrs.
Basic theological questions and developments during the late Middle Ages and early Reformation. Also addresses current ecumenical issues.

THEO 5250. Martin Luther 3 sem. hrs.
The thought and world of Luther, with emphasis on Luther in his Catholic context; Luther and the Bible, Augustine, the Radicals, the Pope; Luther's theology of faith and freedom; contextual, theological and ethical.

THEO 5260. Theology in America 3 sem. hrs.
Basic theological questions and developments from Puritanism to the present.

THEO 5270. American Catholic Life and Thought 3 sem. hrs.
Analyzes the development of American Catholic life and thought from the colonial establishment to the present. Investigates in particular how clergymen, theologians, and laypersons came to terms with the difficulties and benefits of being Catholic in the United States.

THEO 5290. Studies in Historical Theology 3 sem. hrs.
Significant figures and themes in the history of religious thought, examined in their historical context and contemporary significance. Topics and periods vary.

THEO 5300. Contemporary Atheism and Theism 3 sem. hrs.
Origins and varieties of contemporary atheism. The existence of God and Christian theistic interpretations. Offered annually.

THEO 5310. Theology of the Holy Spirit 3 sem. hrs.
Study of the distinct mission and person of the Holy Spirit in the Trinitarian work of human salvation. Analysis of biblical, patristic, and conciliar sources; attention to modern theology and the role of experience. Offered annually.

THEO 5320. Jesus the Christ 3 sem. hrs.
The identity of Jesus Christ and the nature of Christian salvation as attested to in the New Testament and Christian tradition. Historical Jesus and diversity of Christologies in the New Testament. Humanity and divinity of Christ. The saving significance of Christ's life, death, and resurrection. Offered annually.

THEO 5330. Theology of the Church 3 sem. hrs.
The Church in light of the documents, events, and charism of Vatican II. Contemporary understandings of the Church and its mission in the modern world. Special attention to post-conciliar "communion ecclesiology" and the relation of the local to the universal Church. Offered annually.

THEO 5340. Sacraments and Christian Life 3 sem. hrs.
Theological overview of the major sacramental enactments of the church's life in Christ. The witness of Scripture and Tradition, including the liturgy itself. Ethical and ecumenical dimensions. Offered annually.

THEO 5350. The Eucharist 3 sem. hrs.
Biblical origins and historical evolution of the Eucharist in light of contemporary theology and ritual theory, with special focus on the Roman Rite Catholic post-Vatican II celebration.

THEO 5360. Christian Prayer and Mysticism 3 sem. hrs.
Introduction to some of the main currents in the Christian tradition of prayer and mysticism. Origins in Scripture and the early church. Main lines of development in both Eastern and Western traditions, with a focus on the Catholic tradition. Offered annually.

THEO 5370. Protestant Thought and Practice 3 sem. hrs.
Major perspectives within the broad spectrum of Protestantism. Examination of the thought of several Protestant theologians. A survey of the unity and diversity of several Protestant denominations and their respective forms of worship.

THEO 5390. Studies in Systematic Theology 3 sem. hrs.
Significant movements and/or major figures in contemporary systematic theology. Their historical antecedents and cultural context. Specific topics to be specified in the *Schedule of Classes*.

THEO 5400. Christian Faith and Justice 3 sem. hrs.
Classic and recent Christian understandings of justice as interpersonal and societal right-relations. Justice as constitutive aspect of the Gospel; love and justice; Christian responsibility in the face of injustice. Further issues, e.g. sexual and gender ethics, political and economic issues. Offered annually.

THEO 5405. Christian Theology in Global Contexts 3 sem. hrs.
The reception of the Christian gospel in diverse cultures throughout the world. The challenge of inculturation and the requirements of the unity of Christian faith. The meaning of mission and evangelization outside the West. The encounter with indigenous religions.

THEO 5410. Family, Church, and Society 3 sem. hrs.
The interaction of family, church, and society. Contemporary family patterns, their strengths and stresses; the teachings, reflection, and pastoral responses of the Church concerning marriage and family. Ecclesial and societal implications of family as "domestic church." Offered annually.

THEO 5420. Theology, Violence, and Nonviolence 3 sem. hrs.
Non-violence as a creative solution to human oppression and violence. The relationship between non-violence and the lifestyle of such figures as Jesus, Gandhi, King. The implications of non-violence for social, political and cultural life. Offered annually.

THEO 5430. Theology and the Natural Sciences 3 sem. hrs.
Theological analysis of the historical relationship between religion and the natural sciences; exploration of models for relating the two disciplines today; reflection on the theological implications of contemporary scientific discoveries and theories.

THEO 5440. Foundations of Ecological Ethics 3 sem. hrs.
Exploration of religious foundations for ecological ethics, with a focus on the Catholic tradition and social teachings; application to contemporary ecological problems.

THEO 5450. Medical Ethics 3 sem. hrs.
Health care practices under moral assessment from within the Christian tradition. Controversial topics facing medicine (issues of the beginning and end of life, assisted reproduction, etc.) as related to Christian moral principles. Offered annually.

THEO 5490. Studies in Moral Theology 3 sem. hrs.
Selected issues in contemporary moral life; selected themes from classical and contemporary writings in moral theology and Christian ethics. Topics vary, as specified in the *Schedule of Classes*.

THEO 5500. Christ and World Religions: Theology of Interreligious Dialogue 3 sem. hrs.
Global pluralism of religions considered from perspectives of Christian faith. Methods and case studies of theological dialogue with particular religious traditions, e.g. Judaism, Islam, Hinduism, Buddhism.

THEO 5510. Survey of World Religions 3 sem. hrs.
An overview of the major religious traditions of the world: Hinduism, Buddhism, religions of China and Japan, Judaism, Christianity, and Islam. Offered annually.

THEO 5520. Jewish Thought and Practice 3 sem. hrs.
Meaning of Jewish history. Philosophical and social understanding of the Jewish experience. Ruling ideas, myths, symbols, and rites. Offered every term. Partially funded by the Jewish Chautauqua Society.

THEO 5530. Islam: Faith and Practice 3 sem. hrs.
Major trends of Islamic religious thought, practice, and worship. Readings from the Qur'an and other Islamic writings. Historical approach. Current issues and developments. Islam in the West.

THEO 5540. Hinduism, Yoga, and Buddhism 3 sem. hrs.
Religious experience, cultic act, religious organization, theological formulation, as illustrated by two religions of India, Hinduism and Buddhism. Yoga as spiritual discipline. Historical approach. Readings from sacred writings. Offered annually.

THEO 6110. Old Testament Method 3 sem. hrs.
Introduction to the history, literature, and religion of ancient Israel. History and methods of interpretation. Offered annually. *Prereq: Cons. of dept. ch.*

THEO 6120. New Testament Method 3 sem. hrs.
Background, geography, text, language, versions, editions. Principal problems in individual books. Exegetical techniques. Hermeneutical principles. Offered annually. *Prereq: Cons. of dept. ch.*

THEO 6210. Origen to Late Medieval 3 sem. hrs.
A brief introduction to historiography and historical method with a more focused introduction to major theological issues and debates (e.g., scripture and tradition; trinity; Christology; grace and sacraments; faith and reason; church and state) and to some of the key contributions of major eastern and western

theologians (e.g., Origen, Augustine, Pseudo-Dionysius, John of Damascus, Anselm, Abelard, Gregory Palamas, Aquinas, Bonaventure, Scotus). Offered alternate fall terms. *Prereq: Cons. of dept. ch.; required for all master's candidates.*

THEO 6220. Late Medieval to Early Modern 3 sem. hrs.
A basic introduction to theological developments from 1350 to the end of the Enlightenment (1800). Examines major theological movements and the thought of major thinkers (e.g., Ockham, Biel, Erasmus, Luther, Calvin, Bellarmine, Bossuet, Pascal, Spener, Edwards, Lessing, Kant) within their social, historical, and philosophical contexts. Offered alternate fall terms. *Prereq: Cons. of dept. ch.; required for all master's candidates.*

THEO 6310. Introduction to Systematic Theology 3 sem. hrs.
Relation of systematic theology to faith, revelation (the Bible, Church creeds and doctrines), and the Church. The role of biblical exegesis, historical scholarship, philosophy, natural and human sciences in systematic theology. Derivation of various categories, subdivisions, and methods of systematic theology. The challenges and prospects of interconfessional and interreligious dialogue for systematic theology. Offered annually. *Prereq: Cons. of dept. ch.*

THEO 6320. Christian Doctrine 1 3 sem. hrs.
A historical and theological introduction to the formation and development of the Christian doctrines of the Trinity, Christology, and Pneumatology. Focuses on the interrelationships of these doctrines.
Prereq: Cons. of dept. ch.

THEO 6321. Christian Doctrine 2 3 sem. hrs.
A historical and theological introduction to the Christian doctrines of Church, sacraments, and eschatology. Focuses on the interrelationships of these doctrines with one another and with those in Christian Doctrine 1.
Prereq: THEO 6320 and cons. of dept. ch.

THEO 6410. Introduction to Theological Ethics 3 sem. hrs.
Systematic survey of the fundamental categories, concepts and norms used in moral theology to analyze human moral experience. The role of Scripture and tradition as foundational sources in moral theology. The church as the locus for Christian moral reflection. Pivotal issues in the historical development of moral theology. The relation of moral philosophy to moral theology. Offered annually.
Prereq: Cons. of dept. ch.; required for master's core curriculum.

THEO 6995. Independent Study in Theology 1-3 sem. hrs.
Prereq: Cons. of dept. ch.

THEO 6998. Professional Project in Theology 0 sem. hrs.
SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 6999. Master's Thesis 1-6 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

THEO 8010. Intensive Hebrew Grammar 3 sem. hrs.
Introduction to Biblical Hebrew. Emphasis will be placed on grammar, verb syntax, and vocabulary acquisition. *Prereq: Cons. of dept. ch.*

THEO 8011. Advanced Hebrew 3 sem. hrs.
Reading of selected narrative and poetic books. Advanced grammar. *Prereq: Cons. of dept. ch.*

THEO 8012. Aramaic Dialects 3 sem. hrs.
Provides the student who already has a background in Biblical Hebrew with a survey of Aramaic dialects, ranging from Ancient Aramaic to Syriac. Includes biblical Aramaic and Qumran Aramaic. Emphasis on providing the student with the tools to use these dialects in other biblical courses.
Prereq: Cons. of dept. ch.

THEO 8120. Sources of Pentateuchal Thought 3 sem. hrs.
Detailed study of the first five books of the Old Testament. Exegesis of selected passages.
Prereq: Cons. of dept. ch.

THEO 8121. Prophetic Books of Ancient Israel 3 sem. hrs.
Key themes in the prophetic movement. Relation of the prophets to the cult, society, and history of ancient Israel. *Prereq: Cons. of dept. ch.*

THEO 8122. Psalms and Religion of Ancient Israel 3 sem. hrs.
A study of the literary, theological, and historical dimensions of the book of Psalms. Relationship between the psalms and cultic life.
Prereq: Cons. of dept. ch.

THEO 8123. Former Prophets: Historical Books 3 sem. hrs.
Deuteronomy, Joshua, Judges, Samuel, and Kings. The structure, sources, narrative technique, and theology of the Deuteronomistic corpus. Hebrew text used. *Prereq: Cons. of dept. ch.*

THEO 8124. Wisdom Books of Ancient Israel 3 sem. hrs.
Study of the place of Wisdom Literature in the development of Hebrew thought. Exegesis of selected passages. *Prereq: Cons. of dept. ch.*

THEO 8125. Intertestamental Literature 3 sem. hrs.
Study of the books of the Old Testament Apocrypha and Pseudepigrapha. Other developments of the period. Exegesis of selected passages.
Prereq: Cons. of dept. ch.

THEO 8126. Judaism in the Hellenistic Era 3 sem. hrs.
Jewish history, institutions, movements, and writings of this period, including Qumran, as they pertain to biblical studies. Jewish interpretation of scripture; midrash; haggadah and halakah; targums; Hellenistic influences on Judaism in Palestine and the diaspora; other related topics. *Prereq: Cons. of dept. ch.*

THEO 8127. The Writings 3 sem. hrs.
An investigation into some of the other books of the Hebrew Bible beyond Torah and Prophets. May include literary, theological, and historical elements of "The Five Scrolls," Daniel, Ezra-Nehemiah, I and II Chronicles. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8150. Special Questions in Old Testament Studies 3 sem. hrs.
Specialized research on topics or problems within and/or related to the Old Testament writings.
Prereq: Cons. of dept. ch.

THEO 8210. Intensive Hellenistic Greek Grammar 3 sem. hrs.
An introduction to the Greek of the Hellenistic era, including the New Testament. Emphasis on grammar, syntax, vocabulary acquisition and historical context and theology. *Prereq: Cons. of dept. ch.*

THEO 8211. Advanced Hellenistic Greek 3 sem. hrs.
Advanced grammar; readings in texts from 300 B.C. to 300 A.D. Emphasis on the language of the New Testament as reflective of continuity and change in Greek vocabulary, morphology, syntax, style, and the historical context and theology of these texts.
Prereq: Cons. of dept. ch.

THEO 8310. Hellenistic Backgrounds to the New Testament 3 sem. hrs.
Introduction to various Graeco-Roman issues and movements which influenced the development of New Testament writings. Study of traditional religion, mystery cults, philosophical schools, astrology and magic, literary genres and tendencies, and other related topics. *Prereq: Cons. of dept. ch.*

THEO 8311. Apocalyptic Literature 3 sem. hrs.
Origin and development of prophetic and apocalyptic eschatology. The social and religious phenomenon of apocalypticism. The genre "apocalypse" in Jewish and early Christian tradition.
Prereq: Cons. of dept. ch.

THEO 8312. Formation of the Gospel Tradition 3 sem. hrs.
Literary interrelationship of the four Gospels. Theories of Gospel priority and dependence. Development of oral and written traditions. Distinctive character of the Gospel form. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8313. Matthew 3 sem. hrs.
Formation, structure, and style of the Gospel of Matthew. Redactional and literary analysis of the Gospel to reconstruct the theology and the situation which produced it. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8314. Mark 3 sem. hrs.
Formation, structure, and style of the Gospel of Mark. Redactional and literary analysis of the Gospel to reconstruct the theology and the situation which produced it. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8315. Luke – Acts 3 sem. hrs.
Formation, structure, and style of Luke-Acts. Redactional and literary analysis of these two volumes to reconstruct the theology and the situation which produced them. Questions of Christian origins. Exegesis of selected passages. Greek text used.
Prereq: Cons. of dept. ch.

THEO 8316. The Johannine Tradition 3 sem. hrs.
Formation, structure, and style of the Gospel of John. Source, redaction, and literary analysis to reconstruct the stages of formation and their corresponding theologies. Relation of the Johannine letters to the Gospel. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8317. Letter to the Romans 3 sem. hrs.
Background and purpose of this letter. Examination of important Pauline themes, issues, and methods of argumentation. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8318. The Corinthian Correspondence 3 sem. hrs.
Study of I and/or II Corinthians in the context of Paul's pastoral relationship to Corinth. Integrity, background and purpose of the letters. Examination of important themes, issues, and methods of argumentation. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8319. Shorter Pauline Letters 3 sem. hrs.
Study of one or more of the following letters: Galatians, Philippians, I and II Thessalonians, and Philemon. Background and purpose of these writings. Examination of important Pauline themes, issues, and methods of argumentation. Exegesis of selected passages. Greek text used.
Prereq: Cons. of dept. ch.

THEO 8320. Colossians and Ephesians 3 sem. hrs.
Authorship, milieu, and purpose of these letters. Their relationship to one another and to other Pauline traditions. Review of critical issues and examination of theological themes and methods of argumentation. Exegesis of selected passages. Greek text used. *Prereq: Cons. of dept. ch.*

THEO 8321. Later New Testament Writings 3 sem. hrs.
Study of one or more of the following New Testament texts: I and II Timothy; Titus; Hebrews; James; I and II Peter; I, II, and III John; Jude; and Revelation 1-3. Background, purpose, and theology of these writings. Exegesis of key passages. Relationship of these works to selected non-canonical writings. Greek text used.
Prereq: Cons. of dept. ch.

THEO 8350. Special Questions in New Testament Studies 3 sem. hrs.
Specialized research on topics or problems within and/or related to the New Testament writings. Greek text used. *Prereq: THEO 6120 and cons. of dept. ch.*

THEO 8410. Ecclesiastical Historiography 3 sem. hrs.
The interpretation of the history of the Church and of doctrine as seen by ecclesiastical historians from Eusebius to Harnack; their characteristic approaches and concerns. Recent trends in historiography and historical theology.
Prereq: Cons. of dept. ch.

THEO 8411. History of Christian Thought 1: The Age of the Fathers 3 sem. hrs.
A study of the development of Christian beliefs and doctrines in the patristic age. The following themes are treated: the authority of Scripture and tradition; Father, Word, Spirit, and the divine Triad; the person of Jesus the Christ; sin, redemption and grace; the Church and the sacraments. Offered in cycle with THEO 8412-8416. *Prereq: Cons. of dept. ch.*

THEO 8412. History of Christian Thought 2: Byzantine Tradition 3 sem. hrs.
Survey of Greek theology from Nicea (325 A.D.) to the fall of Constantinople (1453). Particular attention to the most important writers following the Council of Chalcedon, beginning with Dionysius Areopagita and concluding with Gregory Palamas and Nicholas Cabasilas. Focus on the abiding Greek preoccupation with salvation as deification and its contribution to the continuity of Eastern Christian thought. Offered in cycle with THEO 8411 and 8413-8416.
Prereq: Cons. of dept. ch.

THEO 8413. History of Christian Thought 3: The Middle Ages 3 sem. hrs.
A study of the development of Christian theology from Augustine to Thomas Aquinas. Includes the following themes: the character and method of theology after Augustine; monastic theology; the early Eucharistic controversies; reason, logic, and the origins of Scholasticism; 12th century humanism and theology; Scholasticism; and Thomism. Offered in cycle with THEO 8411, 8412, and 8414-8416.
Prereq: Cons. of dept. ch.

THEO 8414. History of Christian Thought 4: The Later Middle Ages and the Reformation 3 sem. hrs.
Theological pluralism of the 13th–15th centuries. Thomism and nominalism, mysticism and humanism, conciliarism, Augustinianism. Reform, questions of authority, faith, catholicity. Sixteenth century responses. Luther to Calvin, Muenster to Menno Simons, early Roman Catholic polemical theology to Trent. Offered in cycle with THEO 8411-8413, 8415 and 8416. *Prereq: Cons. of dept. ch.*

THEO 8415. History of Christian Thought 5: The Modern Era 3 sem. hrs.
A study of major developments in Christian life and thought in the 17th-19th centuries in Europe, with a focus on intellectual history. Jansenism and Cartesianism; the impact of Enlightenment thought. The Romantic revivals of theology in Schleiermacher and the Tübingen Schools. German Idealism and its debacle. Biblical criticism. Varieties of 19th century options in theology. Offered in cycle with THEO 8411-8414 and 8416. *Prereq: Cons. of dept. ch.*

THEO 8416. History of Christian Thought 6: Theology in America 3 sem. hrs.
An analysis of developments in American theology from Puritanism to the present. Examines representative theologians of Puritanism, revivalism, enlightenment, progressive orthodoxy, social gospel, modernism, Americanism, and neo-orthodoxy within the context of American political and social movements. Themes considered: the church, grace, religious liberty, church and state, voluntaryism, person of Jesus, tradition, adaptation. Offered in cycle with THEO 8411-8415. *Prereq: Cons. of dept. ch.*

THEO 8417. The Apostolic Fathers and the Apologists 3 sem. hrs.
A study of the Christian writings of the 2nd century, especially Clement of Rome, Ignatius of Antioch, the Epistle of Barnabas, the Didache, the Greek apologists, and Irenaeus, with particular attention to their relation to the Old and New Testaments, the doctrine of the Logos, Church order, and the emerging understanding of orthodoxy and heresy. *Prereq: Cons. of dept. ch.; may not be taken for credit by students who have taken the same course as THEO 8415.*

THEO 8418. Clement, Origen and the Alexandrian Tradition 3 sem. hrs.
Against the background of Clement's attempt to incorporate Greek modes of thought into Christianity, an extensive study of Origen as a biblical commentator and the first systematic theologian, with some consideration of the neoplatonic tradition in Christianity, Origen's influence on later theology, and the Origenist controversies. *Prereq: Cons. of dept. ch.; may not be taken for credit by students who have taken the same course as THEO 8417.*

THEO 8419. The Greek Fathers of the Fourth Century 3 sem. hrs.
Reading and study of some of the writings of Athanasius, Basil the Great, Gregory of Nazianzus, Gregory of Nyssa and others, with attention given to the Trinitarian controversies of the 4th century, the councils of Nicea and Constantinople, and the rise and fall of Arianism. *Prereq: Cons. of dept. ch.; may not be taken for credit by students who have taken the same course as THEO 8418.*

THEO 8420. History and Theology of the New Testament Canon 3 sem. hrs.
The Septuagint as the first Christian Bible; authority for religious truth in the Apostolic Fathers and the Apologists; evidence for the liturgical use of Christian writings; the apocryphal New Testament; the canon of four gospels; the collection of the Apostles' letters; lists of canonical books; the beginnings of exegesis; modern theological speculation on the canon. *Prereq: Cons. of dept. ch.*

THEO 8421. Augustine of Hippo 3 sem. hrs.
An intensive study of Augustine's life, writings and thought. Topics include: the influence of neoplatonism on Augustine, the stages of his conversion, the implications of the Donatist controversy for his views on the Church and the sacraments, and the controversy with Pelagius on grace and predestination. *Prereq: Cons. of dept. ch.*

THEO 8422. Monastic Theology 3 sem. hrs.
Proposes a reading of the classical "canon" of early monastic literature. Beginning with a few sessions devoted to sources, the course moves to the early Syrians, notably Aphrahat of Persia and Ephrem Syrus, and then to the better-known and enormously influential "Vita Antonii," the several "Vitae" of Pachomius, the "History of the Monks of Egypt," Basil the Great's "Longer and Shorter Rules," Gregory of Nyssa, Evagrius of Pontus, the "Macarian Homilies," such early 5th century works as Palladius of Hieropolis' "Lausiac History," John Casian's "Institutes" and "Conferences," Theodoret of Cyrrhus' "Historia religosa," and the "Sayings of the Desert Fathers." Concludes with an examination of Benedict of Nursia's "Life" (by Gregory the Great) and "Rule." *Prereq: Cons. of dept. ch.*

THEO 8423. Theology in the Twelfth Century 3 sem. hrs.
Survey of theology in monasteries and cathedral schools, from the Gregorian Reform to Alan of Lille, including; e.g., Anselm of Canterbury, Peter Abelard, Bernard of Clairvaux, the Victorines, Peter Lombard.
Prereq: Cons. of dept. ch.

THEO 8424. The Theology of Thomas Aquinas 3 sem. hrs.
The critical reading of the texts of Aquinas in developmental sequence with emphasis on the character of the *Summa theologiae*. *Prereq: Cons. of dept. ch.*

THEO 8425. The Theology of Bonaventure 3 sem. hrs.
Readings and study of both the academic and the mystical writings of Bonaventure, with special emphasis on the *Breviloquium*.
Prereq: Cons. of dept. ch.

THEO 8426. The Study of the Bible in the Middle Ages 3 sem. hrs.
Medieval exegesis from the Carolingian renaissance to the 13th century, with special attention to the relationship between scripture commentaries and systematic theologies; the multiple senses of Scripture in theory and practice; authors include; e.g., Rupert of Deutz, Bernard of Clairvaux, the Victorines, Aquinas and his teachers.
Prereq: Cons. of dept. ch.

THEO 8427. Late Medieval Augustinianism 3 sem. hrs.
Revival of Augustinian thought. Wyclif, Hus to Bradwardine. Via Gregorii. Commentaries on St. Augustine. Anti-Pelagianism and Donatism. Mediation of Augustinian thought to subsequent periods. *Prereq: Cons. of dept. ch.*

THEO 8428. Interpretation of the Bible in the Renaissance and Reformation 3 sem. hrs.
Hermeneutical developments from the Victorines. Sources and methods for interpreting historical exegesis. Humanist work on Scripture. The place of the Bible in theology. Luther as doctor of Scripture. Trent and Bible study. *Prereq: Cons. of dept. ch.*

THEO 8429. Erasmus 3 sem. hrs.
Biography and developments of his thought. Study of Scripture and the classics. Commentaries on Scripture. Philosophia Christi. Changing attitudes toward Erasmus. *Prereq: Cons. of dept. ch.*

THEO 8430. Luther 3 sem. hrs.
Developments of Luther's thought in relation to medieval theology. Influence of nominalism and mysticism on Luther. Origins of his hermeneutic and doctrine of justification. Importance of his theology of reformation, law/gospel, and man.
Prereq: Cons. of dept. ch.

THEO 8431. Calvin 3 sem. hrs.
Biography and development of his major writings. Systematic construction of the Institutes of the Christian Religion. Calvin on Scripture, sanctification and predestination, and early results in Calvinism.
Prereq: Cons. of dept. ch.

THEO 8432. Council of Trent 3 sem. hrs.
The positive contribution of Trent to the history of Christian thought. The "medieval" and "modern" character of the council. Trent's understanding of the reformers, and the question of "Counter-Reformation." Trent's position on Scripture and tradition, and its justification. *Prereq: Cons. of dept. ch.*

THEO 8433. Theological Thought of the Enlightenment and the Nineteenth Century 3 sem. hrs.
Important theological developments, including movements and thinkers, in both the Catholic and Protestant traditions, in both Europe and America from the beginning of the Modern Era. Possible movements to be covered in this order: Deism, Rational Supernaturalism, Pietism, Romanticism, Speculative Idealism, French Catholic Thought (Traditionalism, Fideism), Oxford Movement, Tübingen School, Protestant Liberalism, Biblical Criticism and Darwinism, Ultramontanism and Neo-Thomism, Roman Catholic Thought and Modernism, Existentialism, and Atheism. Possible figures covered: Herbert of Cherbury, Tillotson, Locke, Toland, Tindal, Voltaire, Wolff, Semler, Reimarus, Lessing, Rousseau, Butler, Hume, Kant, Jacobi, Hamann, Herder, Coleridge, Schleiermacher, Busnell, Hegel, F.C. Baur, Biedermann, John and Edward Caird, Chateaubriand, Maistre, Lamennais, Bautain, Keble, Newman, Williams, Pusey, Drey, Möhler, Strauss, Feuerbach, Marx, Williams, Goodwin, Jowett, Darwin, Moore, Hodge, Abbott, Ritschl, Herrmann, Harnack, Rauschenbusch, Hodge, Warfield, Leo XIII, Mercier, Garrigou-Lagrange, Olle-Laprune, Blondel, Laberthonniere, Loisy, Le Roy, Tyrrell, Kierkegaard, Nietzsche. Not all significant movements and thinkers are covered in one term. *Prereq: THEO 6210, THEO 6220, and THEO 6310, or their equiv.'s (i.e., the master's-level introductory courses), unless the student has passed out of this material on the M.A. Exam.*

THEO 8434. Schleiermacher 3 sem. hrs.
A close reading of the most important theological works of F.D.E. Schleiermacher (1768-1834), the "father of modern theology," with a view to understanding the basic concepts and historical development of Schleiermacher's thought within the context of post-Enlightenment European philosophical-theological ideas and movements.
Prereq: THEO 6210 and THEO 6220, or their equiv.'s (i.e., the master's-level introductory courses on the history of theology), unless the student has passed out of this material on the M.A. Exam.

THEO 8435. Images of the Church through the Ages 3 sem. hrs.
Covers the historical journey of the Christian church as it began and developed through its leading images/symbols/models. *Prereq: THEO 6210, THEO 6220, and THEO 6310, or equiv.'s (i.e., the master's-level introductory courses), unless the student has passed out of this material on the M.A. Exam.*

THEO 8436. The Roman Catholic Modernist Crisis 3 sem. hrs.
Modernist controversies as the explosion of tensions long building between liberalism and orthodoxy, immanentist and extrinsecist religious thought, and tradition and critical history before and after 1900. An interpretation of the episodes in Roman Catholic theology (concerning Loisy, Blondel, von Hugel, Tyrrell) that formed the backdrop to the generation of Vatican II. *Prereq: Cons. of dept. ch.*

THEO 8437. Theology of Jonathan Edwards 3 sem. hrs.
Examines Edwards' major theological works and analyzes his chief contributions to American theology. Particular focus on Edwards' understanding of God, original sin, the atonement, freedom, religious experience, true virtue, providence, and the millennium. *Prereq: Cons. of dept. ch.*

THEO 8438. Theology in the American Enlightenment 3 sem. hrs.
Examines how the Enlightenment influenced Christian thought in the United States between 1700 and 1830, paying special attention to the issues raised by critical reason relative to the understanding of revelation, Christ, the supernatural, church and state, and Christians; e.g., the Unitarian W.E. Channing, the Princetonian Presbyterian C. Hodge, and the Catholic J. England.
Prereq: Cons. of dept. ch.

THEO 8439. Theology and Romanticism in the United States 3 sem. hrs.
Examines representative American Protestant and Catholic theologies that were most directly influenced by Romanticism; e.g., the Transcendentalism of R.W. Emerson and T. Parker, the Progressive Orthodoxy of H. Bushnell, the Mercersbury Theology of W. Nevin and P. Schaff, the Ontologism and moderate traditionalism of O. Brownson and I. Hecker, the Confessionalism of C.P. Krauth. Concentration upon the roles these theologians assigned to revelation, divine immanence in history, church and society, religious intuition, ecclesiastical and confessional authority. *Prereq: Cons. of dept. ch.*

THEO 8440. American Catholic Theology 3 sem. hrs.
A historical examination of the theologies of American Catholics from John Carroll to John Courtney Murray. Analysis of major pastoral and systematic theologians (e.g., John England, Francis P. Kenrick, Orestes Brownson, Isaac Hecker, John Ireland, John A. Ryan, Gustave Weigel) within the context of American and European theological developments. Examination of American Catholic perceptions of Christology, grace, ecclesiology, church-state relations, social thought, the Bible, and modern sciences with a focus upon the relationship of religion and republicanism.
Prereq: Cons. of dept. ch.

THEO 8441. The Social Gospel in American Theologies 3 sem. hrs.
Examinations of the social thought of representative American Protestants and Catholics of the late 19th and early 20th centuries, concentrating upon the various perceptions of Christianity's relationship to the social and economic problems of the day. Analysis of the works of Washington Gladden, Richard Ely, Josiah Strong, Walter Rauschenbusch, Edward McGlynn, John A. Ryan, Paul H. Furfey, Dorothy Day, and Virgil Michel.
Prereq: Cons. of dept. ch.

THEO 8442. Dionysius the Areopagite: Father of Mysticism? 3 sem. hrs.
Intended to be primarily a close reading of (Pseudo-) Dionysius the Aeropagite (ca. 500), whose small corpus of works profoundly influenced subsequent Christian thought. Analyzes his background, his treatises and "epistles," noting his sources and parallels in preceding and contemporary Christian, pagan Neoplatonist, and Jewish mystical literature. Also traces out the Dionysian "trajectory" in selected later Eastern Christian writers.
Prereq: THEO 6210 and cons. of dept. ch.; or a passing grade on the relevant section of the M.A. Exam.

THEO 8443. Symeon the New Theologian-Sources and Heirs 3 sem. hrs.
Examines Symeon the New Theologian (949-1022), the most striking and attractive of the Byzantine spiritual writers, who too often is treated somewhat in isolation from the sources and currents which feed him. Begins with 5th century writers such as Diadochus of Photiki and Mark the Monk, runs through Dionysius, Maximus, and John of the Ladder in the 6th–7th centuries (possibly including the "Gaza School" and Palestinian monasticism), and continues through Symeon, to the Hesychasts of the 14th and 15th centuries, notably Gregory of Sinai and Gregory Palamas.
Prereq: THEO 6210 and cons. of dept. ch.; or a passing grade on the relevant section of the M.A. Exam.

THEO 8444. PreNicene Ascetical and Mystical Literature 3 sem. hrs.
A survey of Christian literature primarily from East of the Adriatic (at least as presently constituted), dealing with asceticism and the "visio Dei." Begins with Old Testament materials, looks at intertestamental literature including the Qumran Scrolls, and trajectories extending from the Second Temple to Rabbinic-era, Jewish mystical texts. Then moves to the New Testament, with special attention to Paul and Luke-Acts, and continues through the early martyrologies and New Testament apocrypha, in particular the apocryphal acts of the Apostles, and early Manichean materials. Concludes with the Alexandrians, Clement and Origen, and possibly Methodius of Olympus at the turn of the 4th century.
Prereq: THEO 6210 and cons. of dept. ch.; or a passing grade on the relevant section of the M.A. Exam.

THEO 8445. The Development of Roman Catholic Theology from the Enlightenment to the Present 3 sem. hrs.
Focuses on the historical development of Roman Catholic theology from the Enlightenment to the present. Treats movements such as French Romanticism, Gallicanism, Ultramontanism, Newmanism, Modernism, New Theology and Transcendental Thomism, Vatican II and post-Vatican II developments. Treats the thought of selected Roman Catholic theologians. In the 19th century: French theologians Chateaubriand, de Maistre, Lamennais, Bautain; the Tubingen theologians (e.g., Drey, Mohler); Newman and the Oxford Movement; the New Apologetics (e.g., Blondel, Laberthonniere); the "Modernists" (e.g., Loisy, Tyrrell). In the 20th century: New Theology and Transcendental Thomism (e.g., Rousselot, Marechal, de Lubac, Karl Rahner, Lonergan, Schillebeeckx); Liturgical Movement (e.g., Jungmann, Casel, Dix); Vatican II and Aggiornamento (e.g., Congar, Kung, Courtney Murray, Balthasar, Ratzinger); Political and Liberation Theologies (e.g., Metz, Gutierrez, Segundo, Leonard Boff); Feminist Theology (e.g., Schussler Fiorenza, Radford Ruether, Pilar Aquino). *Prereq: THEO 6210, THEO 6220, and THEO 6310, or equiv.'s (i.e., the master's-level introductory courses), unless the student has passed out of this material on the M.A. Exam.*

THEO 8446. History of Christian Theology in the Twentieth Century 3 sem. hrs.
Possible schools/movements and figures to be covered: Eschatological school (J. Weiss, Schweitzer), Religionsgeschichtliche Schule (Troeltsch), American Empiricism and Naturalism (William James, D.C. Macinosh, Dewey, Wieman), Dialectical Theology (Barth, Brunner, Gogarten, Bonhoeffer), Christian Existentialism (Marcel, Tillich, Bultmann), Christian Realism (H.R. Niebuhr, Reinhold Niebuhr), the Nouvelle Theologie and Transcendental Thomism (Rousselot, Marechal, de Lubac, K. Rahner, Lonergan, Schillebeeckx), Vatican II and renewed Roman Catholic Theology (Congar, John XXIII, Kung, John Courtney Murray, Balthasar, Ratzinger), Political Theology and Liberation Theologies (Metz, Moltmann, Gutierrez, Segundo, L. Boff, Sobrino). Not all of these movements and figures are covered in one term. *Prereq: THEO 6210, THEO 6220, and THEO 6310, or equiv.'s (i.e., the master's-level introductory courses), unless the student has passed out of this material on the M.A. Exam.*

THEO 8450. Special Questions in the History of Christian Thought 3 sem. hrs.
Specialized research in one area or problem in the history of Christian thought. Specific topic(s) announced. *Prereq: Cons. of dept. ch.*

THEO 8510. Christian Anthropology 3 sem. hrs.
Different concepts of anthropology today. The central interest in anthropology in different fields, including philosophy and theology, in the last 50 years. The relationship between anthropology, theology, Christology. Human existence according to the Old and New Testaments. The realities of history, world, and freedom as related to meaning in human existence. *Prereq: Cons. of dept. ch.*

THEO 8511. Atheism and Theism 3 sem. hrs.
Exploration of the basic theistic and atheistic options regarding the ultimate meaning and value of human life. Socio-cultural and religious roots of these options. Criteria of truth for determining validity. Examination of representative writings, classical and modern, which discuss these options. *Prereq: Cons. of dept. ch.*

THEO 8512. God in Contemporary Theology 3 sem. hrs.
Nineteenth and 20th century roots (philosophical, social, and religious) of present understandings of God. Classical and contemporary discussion of the nature and validity of theistic language. *Prereq: Cons. of dept. ch.*

THEO 8513. The Structure of Religious Experience 3 sem. hrs.
Analysis of the structure of religious experience and related phenomena as explored through a variety of perspectives, such as philosophy, sociology, psychology, and theology. The nature and function of religion in human life in relation to the individual and social development of the human person. *Prereq: Cons. of dept. ch.*

THEO 8514. Hermeneutic Theory and Theological Method 3 sem. hrs.
Nineteenth century hermeneutical discussion. Contemporary hermeneutical inquiries and their methodological implications for theology. Phenomenology and hermeneutical theory. Bultmannian and post-Bultmannian developments. Hermeneutics and the critique of ideologies. Points of contact between hermeneutics and linguistic analysis. *Prereq: Cons. of dept. ch.*

THEO 8515. Philosophy as Source and Resource for Theology 3 sem. hrs.
Critical examination of philosophical texts which have played an important role in framing theological questions and discussions; of representative theological texts for how philosophical issues and presuppositions bear on their interpretation; of representative accounts (historical and contemporary) of the relationship between theology and philosophy. *Prereq: Cons. of dept. ch.*

THEO 8516. The Trinity 3 sem. hrs.
Historical and systematic presentation of the doctrine of the Trinity. The development of this doctrine in early Christian history. The notions of substance, person, procession, relation, and communion as they occur in patristic tradition and in later Scholastic theology. Other approaches to this doctrine in the light of contemporary philosophy and theology. Role of this doctrine in contemporary Christian experience. *Prereq: Cons. of dept. ch.*

THEO 8517. Christology 3 sem. hrs.
Historical and systematic presentation of the doctrine of the Incarnation. Christ, the Mediator between God and humanity, as the fullness of all revelation. Christology in the New Testament. The development of the doctrine of the Incarnation in the Christian church with special attention given to the councils of Ephesus and Chalcedon, Scholastic theology, and contemporary approaches to the mystery of Jesus. *Prereq: Cons. of dept. ch.*

THEO 8518. Soteriology 3 sem. hrs.
Specific redemptive function of Jesus Christ and then of the Christian community, the sacraments and the world in which one lives. Grace and human development. Salvation as a personal and societal reality; redemption of the social order. Salvation of the nonbeliever, in particular the relationship between salvation and revelation. *Prereq: Cons. of dept. ch.*

THEO 8519. Ecclesiology 3 sem. hrs.
Biblical understanding of the Christian community. Development of the institutional church through history. Current theological models of the church. Current discussion of the mission, functions, and structures of the church in the world today. The relation of the Christian churches to one another. *Prereq: Cons. of dept. ch.*

THEO 8520. Theology of Christian Liturgy 3 sem. hrs.
A systematic study of the Church at prayer in Trinitarian and ecumenical perspectives. The Church's faith in God's saving action through its own ritual self-offering seen in light of human sciences, phenomenology and Christian doctrine. Liturgy examined as symbolic communication, as actualization of Christian community, and in its relationship to the rest of Christian life and theology. *Prereq: Cons. of dept. ch.*

THEO 8521. Christian Eschatology 3 sem. hrs.
Analysis of Biblical and historical forms of Christian eschatology. Comparison of Christian perspectives with cyclic approaches to history and apocalyptic approaches to the end of history. The centrality of eternal life to the Christian message of the Kingdom of God. Resurrection as the principal locus of Christian expectations. *Prereq: Cons. of dept. ch.*

THEO 8522. Major Figures in Modern Theology 3 sem. hrs.
Intensive examination of the writings of a thinker who has had a significant impact on theology within the last hundred years. Focuses on the primary texts of a particular theologian or school of thought. Also assesses their contribution to theology and the life of the Church and examines critical evaluations. *Prereq: Cons. of dept. ch.*

THEO 8523. Doctrinal Themes in Contemporary Protestant Systematic Theology 3 sem. hrs.
Analysis and evaluation of important contemporary Protestant systematic theologians in terms of a single theme or related set of themes to be chosen by the instructor. *Prereq: Cons. of dept. ch.*

THEO 8524. Doctrinal Themes in Contemporary Roman Catholic Systematic Theology 3 sem. hrs.
Analysis and evaluation of important contemporary Roman Catholic systematic theologians in terms of a single theme or related set of themes to be chosen by the instructor. *Prereq: Cons. of dept. ch.*

THEO 8525. Theological Method: Interdisciplinary Implications 3 sem. hrs.
Exploration of methodological interrelations between theology and other academic disciplines in terms of a single theme or related set of themes to be chosen by the instructor. *Prereq: Cons. of dept. ch.*

THEO 8526. Fundamental Themes in the Theology of Bernard Lonergan
3 sem. hrs. Study of major texts of Bernard Lonergan. Themes vary: grace, Trinity, Christology, method. Also considers developments by other authors. *Prereq: Cons. of dept. ch.*

THEO 8527. Fundamental Themes in the Theology of Karl Rahner 3 sem. hrs.
Intensive examination of major themes and texts in Karl Rahner's writings. Focuses on the primary texts, assesses their contribution to theology and the life of the Church and examines critical evaluations. *Prereq: Cons. of dept. ch.*

THEO 8528. Theology of Karl Barth 3 sem. hrs.
An examination of Karl Barth's major texts, primarily, but not exclusively, his Church Dogmatics. Themes may include his Christology, method, moral theology and/or political theology. An examination of his relation to those who came before him, those against whom he reacted, as well as those who developed his thought in the 20th and 21st century. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8529. Nouvelle Théologie 3 sem. hrs.
A study of the theological movement of the 20th century known as "la nouvelle théologie" or "ressourcement" that reacted to neo-scholasticism and sought to reunify theology through a reappropriation of the sources—the liturgy, Scriptures, and the Early Church Fathers. Representative figures include Henri de Lubac, Jean Daniélou, Henri Bouillard, Yves Congar, Louis Bouyer, Marie-Dominique Chenu, and Hans Urs von Balthasar. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8530. Theology of the Holy Spirit 3 sem. hrs.
An examination of the biblical, historical and systematic aspects of pneumatology. Attention given to the Holy Spirit and the doctrine of the Trinity with consideration of the ecumenical implications of the Filioque, the Spirit in creation and redemption, the mission of the Holy Spirit relative to that of the Son, and the importance of pneumatology for the entire spectrum of Christian doctrine. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8531. Theology of Grace 3 sem. hrs.
An examination of the doctrine of grace in its historical developments and in contemporary systematic theology. Attention given to the following: nature and grace, distinctions in the types and modalities of grace, grace and human freedom/predestination, justification and sanctification, grace in the church and the world. Also includes consideration of ecumenical convergences and/or divergences (Catholic and Protestant, Eastern and Western Churches). Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8532. Ecumenism 3 sem. hrs.
A study of ecumenism, the efforts of the Christian churches to restore unity, ecumenical principles, the nature, goal and reception of dialogues, major Catholic encyclicals and directives on ecumenism, and significant recent ecumenical agreements between churches. An assessment of the points of ecumenical convergence and remaining differences on select doctrinal topics involving the Catholic Church. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8533. Christians and Muslims in Dialogue 3 sem. hrs.
A survey of the efforts made to advance Muslim-Christian relations. An examination of joint declarations issued by formal dialogues as well as select individual contributions of Muslim and Christian scholars. Primary attention to those dialogues sponsored by the sub-unit on Dialogue with Peoples of Living Faiths of the World Council of Churches, and the Pontifical Council of Interreligious Dialogue. Includes dialogues co-sponsored and/or organized by Muslim organizations. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8534. Fundamental Theology 3 sem. hrs.
A historical and systematic study of the fundamentals of theology: faith, revelation, tradition, and Church. Attention given to: faith as the response to revelation, the connection between faith and reason, revelation as God's self-communication, the relationship between scripture and tradition, and the role of the magisterium in preserving and interpreting sacred scripture and tradition. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8535. Public Theology in Postmodern Context 3 sem. hrs.
The interpretation and application of the gospel to a given cultural context in the light of Scripture and Tradition. Not identical with the normative reflections of social ethics nor assuming the narratives of liberation and political theology, public theology focuses on public issues for the sake of the churches and on Christian meanings for the sake of the public square and the common good. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8536. Theology of Hans Urs von Balthasar 3 sem. hrs.
Study of the major texts of Hans Urs von Balthasar, with special attention given to his trilogy. Possible themes include: Balthasar's elucidation of beauty as essential to theological discourse, Balthasar's efforts to reunite theology and spirituality through the fundamental connection between holiness and the theological enterprise, and Balthasar's Christological and Trinitarian theological method. A consideration of Balthasar's contribution to theology today. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8537. Theology of Jürgen Moltmann 3 sem. hrs.
An examination of the theology of Jürgen Moltmann, both in its development and in its major themes. An emphasis on the close connection between theology and practice in Moltmann and the way his work represents a specific understanding of the task of theology. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8550. Special Questions in Systematic Theology 3 sem. hrs.
Specialized research in one area or problem in systematic theology. Specific topic(s) announced.
Prereq: Cons. of dept. ch.

THEO 8610. Moral Theology: The Catholic Tradition 3 sem. hrs.
General outlines of the development and exposition of Catholic moral theology through an examination of historical studies of Christian Ethics written in the 20th century and of selected original texts. Moral teaching in early Christianity; development of systems of moral teaching; the history of casuistry; moral theology as a separate theological discipline; the understanding of the love commandment as found in different periods. *Prereq: Cons. of dept. ch.*

THEO 8611. The Protestant Tradition in Christian Ethics 3 sem. hrs.
Study of selected writings of the Reformers on ethical subjects and of selected ethical writings from important Protestant schools of theology. Representatives of sectarian Protestant thought on ethical topics. Contemporary developments in Christian ethics found in the writings of outstanding Protestant thinkers in this century.
Prereq: Cons. of dept. ch.

THEO 8612. Basic Issues in Christian Social Ethics 3 sem. hrs.
Social teaching of the Christian churches. A systematic treatment of issues such as the relation between love and justice. The teachings of the Christian churches on matters such as war and peace; the rights and duties of states and citizens; the rights, duties, and obligations of members of a family; the rights, duties, and obligations of parents with respect to their children.
Prereq: Cons. of dept. ch.

THEO 8613. Method in Theological Ethics 3 sem. hrs.
Exploration of contemporary developments in methodological approaches to theological ethics. Particular attention to the theological nature of methodology as well as the interrelationship between other academic disciplines and the formation of method in theological ethics. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8614. Health Care Ethics 3 sem. hrs.
Exploration of theological perspectives on medicine. Particular attention to thinking on health care within the Catholic tradition, as well as developments across the Christian tradition. Emphasis on theological methodology as well as engagement with select ethical issues in medicine. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8615. Body, Gender and Sexuality 3 sem. hrs.
Analysis of how the human person's being a body directs our thinking in Christian theology. Human bodies as essential to what humans are, as both a possible limit on humans and an occasion of transcendence. The body as a source of thinking about persons and how they should act. The nature of sexual differentiation and of gender and implications for Christian anthropology and ethics. Human sexuality and its influence on individuals and communities. Offered occasionally. *Prereq: Cons. of dept. ch.*

THEO 8616. Theology and Economics 3 sem. hrs.
A theological evaluation of economic theories and practices, particularly as they bear on the rise and ascendancy of the global market. Includes a history of economic thought with particular attention to moral theory. The tradition of economic thought within Christian theology. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8617. Catholic Social Thought 3 sem. hrs.
A comprehensive examination of the engagement of Catholic faith with the public square. Detailed analysis of fundamental themes within the Catholic Social Teaching tradition through a study of the documents of the papal encyclical tradition, social thought originating from and upon the U.S. context, and the various interpretations of the Catholic Social Teaching tradition. Consideration of Catholic socio-ethical engagement with emerging concerns in public discourse. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8618. Liberation Ethics and the Option for the Poor 3 sem. hrs.
An exploration of the ethical dimensions of liberationist theological reflection, addressing the contributions and challenges to Christian moral discourse, analysis, and reflection, which emerge from the theologies of liberation and their stance of solidarity with the victims of injustice. Attention given to both the commonality and diversity present in this theological movement. Consideration of the implications of the option for the poor for ethical reflection and action. Offered occasionally.
Prereq: Cons. of dept. ch.

THEO 8650. Special Questions in Moral Theology 3 sem. hrs.
Specialized research in one area or problem in moral theology. Specific topic(s) announced.
Prereq: Cons. of dept. ch.

THEO 8710. Special Questions in Interdisciplinary Studies 3 sem. hrs.
Specialized research in one area or problem in interdisciplinary studies. Specific topic(s) announced.
Prereq: Cons. of dept. ch.

THEO 8711. Teaching Theology at the College Level 1 sem. hr.
Explores effective means of teaching religious knowledge in the liberal arts setting and addresses teaching models and learning styles, design of lesson plans, syllabi, conducting student discussions, and testing methods. Provides opportunities to practice classroom techniques and receive student evaluation. Offered every fall term. S/U grade assessment. *Prereq: Cons. of dept. ch. Students with M.A. may enroll after completing one year of graduate course work. Students without M.A. may enroll after two years of graduate course work.*

THEO 8999. Doctoral Dissertation 1-12 sem. hrs.
Offered every term. S/U grade assessment.
Prereq: Cons. of dept. ch.

THEO 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9974. Graduate Fellowship: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9975. Graduate Assistant Teaching: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9985. Master's Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9986. Master's Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9987. Doctoral Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9988. Doctoral Comprehensive Examination Preparation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9989. Doctoral Comprehensive Examination Preparation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9997. Doctoral Dissertation Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9998. Doctoral Dissertation Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

THEO 9999. Doctoral Dissertation Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of dept. ch.

TRANSFUSION MEDICINE (TRME)

Director and Adjunct Associate Professor: Johnson
Adjunct Professor: Aster
Adjunct Associate Professor: Friedman, Gottschall, Puca
Adjunct Assistant Professor: LeMense, Sauer
Note: Faculty members and their ranks are for the 2009–2010 academic year.

DEGREE OFFERED

Master of Science in Transfusion Medicine, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) may be requested

SPECIALIZATIONS

Business Administration, Education, Science

PROGRAM DESCRIPTION

The Transfusion Medicine program is an ongoing collaboration between Marquette University and BloodCenter of Wisconsin. The first 18 credits must be completed at BloodCenter within two and a half years of starting the program. Additional credits are completed exclusively at Marquette University. Students have the option to enroll at Marquette if it does not interfere with course work at BloodCenter.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed online application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation.
4. *(For international applicants only)* GRE scores.
5. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

Note: Applicants must currently be enrolled in the BloodCenter's independent course of study, the Specialist in Blood Banking program, in order to be eligible to apply for the master of science program in transfusion medicine at Marquette University.

MASTER'S REQUIREMENTS

For Plan B (non-thesis option – default), students must complete 39 or 40 total graduate-level credit hours depending on subspecialty: 18 credit hours in transfusion medicine (TRME) courses, 19 credit hours in the business administration subspecialty OR 18 credits in the education or science subspecialties, plus 3 capstone essay credit hours. When the 18 TRME credits are completed at BloodCenter, the student is required to take a national examination.

Students may request Plan A (thesis option) after admission and, if selected, should secure co-direction on their thesis from a member of their subspecialty faculty.

CORE COURSES

TRME students are required to take the following courses (18 credits), participate in the department colloquium (no credit), complete a capstone (3 credits), and fulfill the requirements for one of the three subspecialties of business administration, education, or science.

TRME 6101 Introduction to Transfusion Medicine (1 cr.)
TRME 6201 IImmunohematology 1 (2 cr.)
TRME 6202 Immunohematology 2 (2 cr.)
TRME 6220 Essentials of Blood Collection and Testing (3 cr.)

TRME 6301 Management and Education in Transfusion Medicine (3 cr.)
TRME 6401 Anemias and Related Topics (2 cr.)
TRME 6402 Hemostasis and Transplantation (2 cr.)
TRME 6501 Pathophysiology in Transfusion Medicine (2 cr.)
TRME 6998 Transfusion Medicine Project (1 cr.)
TRME 6952 Colloquium in Transfusion Medicine (0 cr.)
TRME 6997 Transfusion Medicine Capstone (3 cr.)

SUBSPECIALTY REQUIREMENTS

1. BUSINESS ADMINISTRATION

Students are required to take three core courses, four electives, and must meet all prerequisite requirements for the master of business administration classes. Students must also select an area of specialization from the following: organizational management, operations and supply chain management, accounting and finance, marketing, or management information systems. Those students who have academic backgrounds sufficient to waive any of the required courses will be allowed to complete additional elective course work.

Required Courses (7 credits)

The required courses ensure a fundamental understanding of the basics of accounting, human resources, and organizational issues in the work place. In addition, the environmental influences courses place a strong emphasis on Marquette's traditional focus on societal concerns and the social responsibilities of today's working professional.

ACCO 6000 Accounting Foundations (2 cr.),
ECON 6000 Economics Foundations (2 cr.),
and
HURE 6170 Ethical Issues, Regulatory Environment and Human Resource Management (3 cr.)
OR
MANA 6170 Global Environment of Business (3 cr.)

Elective Courses (12 credits)

At least four courses must be completed within a student's area of specialization from the classes listed below. Note required and elective lists within each area.

Organizational Management

Required Course (3 credits)
MANA 6100 Organizational Behavior (3 cr.)
Elective Course List (9 credits)
HURE 5003 Employment Law (3 cr.)
HURE 5020 Labor Relations and Collective Bargaining (3 cr.)
HURE 6170 Ethical Issues, Regulator Environment and Human Resource Management (3 cr.)
HURE 6510 Strategic Compensation (3 cr.)
HURE 6535 Diversity in Organizations (3 cr.)
HURE 6580 Training and Development (3 cr.)
HURE 6931 Topics in Human Resource Management (1-5 cr.)
MANA 6110 Leadership, Motivation and Organizational Change (3 cr.)
MANA 6125 Negotiations (3 cr.)
MANA 6140 International Management (3 cr.)
MANA 6931 Topics in Management (1-3 cr.)
MANA 6953 Seminar in Management (1-3 cr.)
MANA 6995 Independent Study in Management (1-3 cr.)

Operations and Supply Chain Management

Required Course (3 credits)
OSCM 6100 Operations and Supply Chain Management (3 cr.)
Elective Course List (9 credits)
OSCM 6110 Manufacturing Management (3 cr.)
OSCM 6115 Service Operations Management (3 cr.)
OSCM 6120 Quality and Process Management (3 cr.)
OSCM 6140 Globalization and Global Operations (3 cr.)
OSCM 6141 International Operations Management (3 cr.)
OSCM 6150 e-Business and Supply Chain (3 cr.)
OSCM 6180 Supply Chain and Technology Management (3 cr.)
OSCM 6931 Topics in Operations and Supply Chain Management (1-3 cr.)
OSCM 6953 Seminar in Operations and Supply Chain Management (1-3 cr.)
OSCM 6995 Independent Study in Operations and Supply Chain Management (1-3 cr.)

Accounting and Finance

Required Courses (6 credits)
ACCO 6100 Managerial Accounting (3 cr.)
FINA 6100 Financial Management (3 cr.)
Elective Course List (6 credits)
ACCO 6180 Financial Statement Analysis (3 cr.)
FINA 6111 Investments (3 cr.)
FINA 6115 Real Estate Finance Investments (3 cr.)
FINA 6130 Bank Management (3 cr.)
FINA 6140 International Financial Management (3 cr.)
FINA 6160 Financial Derivatives (3 cr.)
FINA 6165 Fixed Income Markets and Securities (3 cr.)
FINA 6170 Investment Management, Ethics and Society (3 cr.)
FINA 6931 Topics in Finance (1-3 cr.)
FINA 6953 Seminar in Finance (1-3 cr.)
FINA 6995 Independent Study in Finance (1-3 cr.)
REAL 6115 Real Estate Investments (3 cr.)

Marketing

Required Course (3 credits)
MARK 6100 Marketing Management (3 cr.)
Elective Course List (9 credits)
MARK 6110 Consumer Behavior (3 cr.)
MARK 6120 Integrated Marketing Communications (3 cr.)
MARK 6130 Customer Relationship Management (3 cr.)
MARK 6140 Global Marketing Strategy (3 cr.)
MARK 6150 e-Marketing Strategy (3 cr.)
MARK 6151 Direct Marketing & e-Commerce (3 cr.)
MARK 6160 Marketing Research (3 cr.)
MARK 6170 Marketing Ethics and Social Responsibility (3 cr.)
MARK 6180 Strategic Marketing (3 cr.)
MARK 6185 Brand Management (3 cr.)
MARK 6190 Marketing and Public Policy (3 cr.)
MARK 6931 Topics in Marketing (1-3 cr.)
MARK 6953 Seminar in Marketing (1-3 cr.)
MARK 6995 Independent Study in Marketing (1-3 cr.)

Management Information Systems

Required Course (3 credits)
INTE 6150 Information Technology Strategy (3 cr.)
Elective Course List (9 credits)
INTE 6153 Project Management (3 cr.)
INTE 6156 Privacy and Security (3 cr.)
INTE 6157 Global Information Technology Sourcing (3 cr.)
INTE 6158 Systems Analysis and Design (3 cr.)
INTE 6931 Topics in Information Technologies (1-3 cr.)
INTE 6953 Seminar in Information Technologies (1-3 cr.)
INTE 6995 Independent Study in Information Technologies (1-3 cr.)

2. EDUCATION

Students in this subspecialty are required to take three core courses and three electives. Those students who have academic backgrounds sufficient to waive any of the required courses will be allowed to complete additional elective course work.

Required Courses (9 credits)

COUN 6051 Introduction to Research Methods in Counseling
OR
EDPL 6000 Introduction to Educational Inquiry,
EDPL 6450 Theories of Learning Applied to Instruction,
and
EDPL 6953 Seminar in Analysis of Teaching

Elective Courses (9 credits)

COPS 8032 Counseling Psychology of Motivation
COPS 8310 Intermediate Research and Statistics
COPS 8320 Measurement and Evaluation
EDPL 6440 Foundations of Curriculum Planning
EDPL 6860 Supervision of Instruction
EDPL 6870 The Theory and Design of Curriculum
EDUC 6040 Introduction to Learning and Assessment

3. SCIENCE

Students in this subspecialty are required to take three core courses and three electives. Those students who have academic backgrounds sufficient to waive any of the required courses will be allowed to complete additional elective course work.

Required Courses (9 credits)

BIOL 5806 Immunobiology,
BIOL 8101 Structure and Function of Proteins, and
BIOL 8102 Biochemistry and Function of Nucleic Acids

Elective Courses (9 credits)

BIOL 6001 Radioisotope Safety
BIOL 8201 Developmental Genetics and Epigenetics
BIOL 8202 Eukaryotic Genetics and Chromosome Structure
BIOL 8301 Signaling, Structure and Motility of Eukaryotic Cells
BIOL 8302 Protein Trafficking and Cellular Homeostasis
BIOL 8603 Cell and Molecular Biology of Early Development
BIOL 8702 Systems Physiology
BIOL 8703 Advanced Physiology
BIOL 8801 Bacterial Physiology
BIOL 8802 Microbiology in the Environment
BIOL 8953 Seminar in Biochemistry and Genetics
BIOL 8956 Seminar in Cell and Developmental Biology
BIOL 8957 Seminar in Physiology
CHEM 6201 Physical Methods of Analysis
CHEM 6202 Spectrochemical Methods of Analysis
CHEM 6204 Analytical Separations
COUN 6051 Introduction to Research Methods in Counseling

COURSE DESCRIPTIONS

TRME 6101. Introduction to Transfusion Medicine 1 sem. hr.
An overview of transfusion medicine from basic science concepts to the regulations and quality systems required, along with research concepts and presentation skills. Principles of basic genetics, immunology and red blood cell biochemistry are investigated and applied to blood group serology. An in-depth look at the regulations and accreditations governing the field of transfusion medicine including FDA, CLIA and AABB. Includes an introduction to quality management systems and how they apply to blood collection, donor laboratory testing and patient laboratory testing. Provides an overview of principles of research and an introduction to preparing for oral and written presentation. Offered annually.
Prereq: Cons. of prog. dir.

TRME 6201. Immunohematology 1 2 sem. hrs.
An in-depth study of the human blood groups whose antigens are carbohydrate-based to include the ABO and P blood group systems and Lewis system. Discusses history, genetics and biochemistry of the carbohydrate-based antigens. Explores their relationship to transfusion therapy and disease epidemiology. Reviews principles of hemagglutination and complement system. Offered annually.
Prereq: Cons. of prog. dir.

TRME 6202. Immunohematology 2 2 sem. hrs.
An in-depth study of the human blood groups whose antigens are protein-based to include, but not limited to: Rh, LW, MNSs, Duffy, Kidd, Kell and Lutheran blood group systems. Discusses history, genetics and biochemistry of the protein-based antigens. Explores their relationship to transfusion therapy and disease epidemiology. Includes practical experience in problem solving patient or donor typing problems and identifying antibodies to blood group antigens. Offered annually. *Prereq: Cons. of prog. dir.*

TRME 6220. Essentials of Blood Collection and Testing 3 sem. hrs.
A comprehensive investigation into the theoretical and practical basis involving the selection and processing of blood donors. Presents a thorough understanding of the physiological aspects of blood storage and transport. Emphasizes infectious disease testing as well as the FDA, AABB and CLIA regulations concerning testing. Offered annually.
Prereq: Cons. of prog. dir.

TRME 6301. Management and Education in Transfusion Medicine 3 sem. hrs.
A systematic approach in acquiring the fundamentals and principles of planning and implementing an educational program in the clinical setting. Offers practice of presentation skills in a classroom setting and state meeting. Also prepares the transfusion medicine practitioner to manage operational and fiscal affairs in a donor center or transfusion service. Offered annually. *Prereq: Cons. of prog. dir.*

TRME 6401. Anemias and Related Topics 2 sem. hrs.
An advanced study in the pathological mechanisms underlying the production of human disease involving anemias and leukemias. Emphasizes autoimmune hemolytic anemias, drug-dependent immune hemolytic anemias and hemolytic disease of the fetus and newborn. Also discusses parentage testing requirements. Offered annually. *Prereq: Cons. of prog. dir.*

TRME 6402. Hemostasis and Transplantation 2 sem. hrs.
A study of the procedures performed, as well as a complete understanding of disease process as it relates to serological and molecular detection of bleeding and clotting diseases. An in-depth look at the immune system as it relates to transplantation. A formal study of the aspects of histocompatibility, platelet and neutrophil immunology and bleeding and clotting disorders. Also discusses histocompatibility antigens and nomenclature in relation to transfusion and transplantation. Offered annually.
Prereq: Cons. of prog. dir.

TRME 6501. Pathophysiology in Transfusion Medicine 2 sem. hrs.
An advanced study in the pathophysiology of blood transfusion. Reviews indications for blood transfusion including blood component therapy. Also studies adverse events in transfusion medicine. Emphasizes practical aspects of blood management within a transfusion service. Offered annually.
Prereq: Cons. of prog. dir.

TRME 6931. Topics in Transfusion Medicine 1-3 sem. hrs.
In-depth study of concepts, theories, and laboratory techniques in the broad area of transfusion medicine which are not covered in regular courses. Offered every term. *Prereq: Cons. of prog. dir.*

TRME 6952. Colloquium in Transfusion Medicine 0 sem. hrs.
Scholarly reports on selected topics in transfusion medicine/immunohematology. Attendance required of all full-time graduate students. Offered annually. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 6995. Independent Study in Transfusion Medicine 1-3 sem. hrs.
Prereq: Cons. of prog. dir.

TRME 6997. Transfusion Medicine Capstone 3 sem. hrs.
Project and concluding paper that integrates the subspecialty course work with transfusion medicine.
Prereq: Cons. of prog. dir.

TRME 6998. Transfusion Medicine Project 1 sem. hr.
Project and concluding paper on selected subject that integrates Specialist in Blood Banking course work. Offered annually. *Prereq: Cons. of prog. dir.*

TRME 6999. Master's Thesis 1-6 sem. hrs.
Master's thesis for M.S.T.M. candidates. Offered every term. S/U grade assessment.
Prereq: Cons. of prog. dir.

TRME 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9991. Professional Project Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9994. Master's Thesis Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9995. Master's Thesis Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

TRME 9996. Master's Thesis Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of prog. dir.

The Graduate School of Management

INTRODUCTION

LOCATION

The Graduate School of Management is located in David A. Straz, Jr., Hall; Executive Center, Suite 275; 606 N 13th Street; Milwaukee, WI 53233. Mail should be sent to Graduate School of Management, David A. Straz, Jr., Hall; Executive Center, Suite 275; Marquette University; P.O. Box 1881; Milwaukee, WI 53201-1881. The Graduate School of Management's telephone number is (414) 288-7145, the fax number is (414) 288-8078, the electronic mail address is mba@marquette.edu, and the Web site is www.marquette.edu/gsm.

The Academic Calendar for 2010–2011 is located on the inside front and back cover of this bulletin. Deadlines are also posted on the Graduate School of Management's Web site at www.marquette.edu/gsm.

PUBLICATIONS

GRADUATE BULLETIN

The *Graduate Bulletin* contains information regarding the academic calendar, admissions, degree requirements, fees, regulations, and course offerings. Prospective and current graduate students are responsible for all information contained in this bulletin that is pertinent to graduate study and their specific field. Academic policy and course changes will apply to all students as of the date they become effective, regardless of whether they were in effect at the time the student initially enrolled at Marquette. Graduate students may follow the program requirements of the bulletin that are in effect at the time they submit their application, or any other bulletin used during their enrollment as long as the student's program has not been discontinued in the bulletin year the student decides to follow. That is, students may not continue in programs that have been discontinued, unless they maintain continuous enrollment from the time of admission and follow the degree requirements in effect during one of the bulletin years in which the program was active. However, students must abide by only one bulletin's rules. If any exceptions to this policy are required due to length of time between submitting an application and beginning the program, the student will be notified in writing of the applicable bulletin to follow. In order to properly audit a student's academic record for graduation, the student must notify the Graduate School of Management in writing if any bulletin other than the one in effect at the time of application is to be used.

Graduate School of Management students must assume full responsibility for knowledge of the rules and regulations of the Graduate School of Management and the special requirements of their individual degree programs. It is the responsibility of each graduate student to verify and meet the deadlines listed in the Academic Calendar (e.g., for submitting financial aid forms, etc.)

CHANGES TO THE GRADUATE BULLETIN

Marquette University reserves the right to make changes of any nature in its programs, calendar, or academic schedule whenever in its sole judgement it is deemed necessary or desirable. Certain provisions in the bulletin may be in the process of amendment or change. Accordingly, the bulletin is not intended to be relied upon as a statement of the university's contractual undertakings. The decision of Marquette University as to the interpretation and method of implementation of its rules, regulations, program requirements, schedules, and calendars shall be conclusive and final.

The information in this bulletin and other university bulletins, publications, or announcements may change without notice. Current information is available from the Graduate School of Management.

SCHEDULE OF CLASSES AND SNAPSHOT

The *Schedule of Classes* is published on CheckMarq, the online registration system, found at https://checkmarq.mu.edu/ or www.marquette.edu/mucentral/snapshot. All available classes are listed for any term specified. Instructions for using CheckMarq may be found at www.marquette.edu/mucentral/registrar/reg-addclasses. The Graduate School of Management also posts their course offerings on their Web site at www.marquette.edu/gsm.

FINANCIAL AID INFORMATION GUIDE

The publication Award Information Guide provides an overview of the available financial aid, debt management, student rights and responsibilities, and federal loan programs. Copies are available at the Office of Student Financial Aid. Information about different types of financial aid available to graduate students may be found in this bulletin under Financial Aid.

ACCREDITATION

An educational institution is only as strong as the level of excellence which it demands of itself as well as of its faculty and students. As an institution, Marquette University is accredited by the Higher Learning Commission, a commission of the North Central Association of Colleges and Schools. Marquette University has set consistently high standards for itself which have resulted in accreditation and approval of its academic programs from these additional organizations and associations.

The Graduate School of Management is accredited by The Association to Advance Collegiate Schools of Business International (AACSB-international). This is the highest accreditation level afforded to business programs.

APPLICATION PROCEDURES

APPLICATION PROCESS AND REQUIREMENTS:

Applications to the Graduate School of Management are available on our Web site at www.marquette.edu/gsm. Online applications are required. Paper applications will be accepted only on a need-based, pre-approved basis. Apply online at www.marquette.edu/gsm. Click on Apply now.

If you have transcripts from multiple schools and multiple letters of recommendation, you are very strongly encouraged to collect all application materials (with the exception of required standardized test scores) and mail them together, along with a copy of your online application in one envelope. If you have a copy of the test scores, you are encouraged to submit them as well. However, these copies will be considered unofficial until we receive the official scores from the testing agency. Each letter of recommendation and transcript must be enclosed in its own sealed envelope and signed across the back seal by the issuing party. You may also use the online letter of recommendation function available within the online application. Applications will not be reviewed for admission until all materials have been received. Submit all application materials by mail to: Graduate School of Management; David A. Straz, Jr., Hall; Executive Center, Suite 275; P.O. Box 1881; Marquette University; Milwaukee, WI 53201-1881 or by courier to Marquette University Graduate School of Management, David A. Straz, Jr., Hall; Executive Center, Suite 275; 606 N 13th Street, Milwaukee, WI 53233.

Students may apply for **Regular Degree**, **Temporary Degree**, or **Non-degree** status. It is recommended that students apply for Regular Degree Status when possible.

Applicants for **degree status** must submit all materials directly to the Graduate School of Management:

- A completed online application form and $50 fee (US currency only).
  Note: Application fee is waived for Marquette University alumni.
- Official transcripts from all current and previous colleges except Marquette.
- A letter notifying the Graduate School of Management if the last name (family name) on the transcripts or test scores is different from the name on the Graduate School of Management application.
- Official test scores from the Graduate Management Admission Test (GMAT)
- Either the GMAT or GRE is accepted for the Human Resources and Economics graduate program.
- Essay questions on page 2 of the application form (not required for Economics).
- Resume or job profile.
- Three letters of recommendation for Economics, Engineering Management and Executive MBA graduate applicants.
- Applications for full-time students are due on February 15th for fall and October 1st for spring. Applications after these deadlines will be reviewed on a space available basis.

(Additional requirements for international applicants or applicants applying for Graduate School financial aid i.e. assistantship positions):

- Three letters of recommendation for Accounting, Business Administration and Human Resources graduate programs.
- Certified English translation of international transcripts, diploma, etc.
- Official TOEFL score or other acceptable proof of English Proficiency.

For applicants for Temporary (which is valid for one semester only), or Non-degree Status:

- A completed application form and $50 fee.
- Official transcripts from all current and previous colleges except Marquette.
- Essay questions on page 2 of the application form.
- Resume or job profile.

(International applicants on an F-1 visa are not eligible for this status.)

• OFFICIAL TRANSCRIPTS:

Official transcripts detailing previous academic study from all universities or colleges attended, with the school seal, normally must be sent directly from the issuing institution to the Graduate School of Management. Transcripts routed through applicants are not normally accepted as official. Applicants with course work in progress toward the fulfillment of a degree are required to submit an official final transcript verifying receipt of their degree after completing the course work. All applicants who have transcripts in a language other than English must provide official transcripts accompanied by certified English translations.

Applicants who previously attended Marquette University need not request Marquette transcripts but, if applicable, are required to furnish transcripts from other schools they attended.

• LETTERS OF RECOMMENDATION:

Applicants should check their programs section of this bulletin for information about the number of letters of recommendation needed, if any. Letters of recommendation should comment on the applicant's past academic record and potential for future success. Most programs do not require special forms or format. Letters of recommendation may be sent directly to the Graduate School of Management by the author or institution, delivered in sealed envelopes with the author's signature across the back flap, or via the online letter of recommendation function available within the online application.

Applicants applying for financial aid through the university (Assistantship and Scholarship awards) must submit three letters of recommendation and check the financial aid area on the application (see the Financial Aid section of this bulletin).

International students must submit three letters of recommendation even if they are not applying for financial aid. These letters should be sent directly to the Graduate School of Management by the author or institution, or be delivered in sealed envelopes with the author's signature across the flap, or via the online letter of recommendation function available within the online application.

Letters from former professors or administrators of their former institutions are preferred.

PERMISSION TO DISCUSS THE APPLICANT'S FILE WITH A THIRD PARTY (OPTIONAL):

Applicants who are unable to speak directly with an admissions counselor (due to distance, expense, etc.) may give the Graduate School of Management permission to communicate with a third party. Marquette University requires that this request be made in writing, be signed by the applicant, and specify the name(s) of the third party. The form is available on the GSM Web site at: www.marquette.edu/gsm.

• Additional application materials as requested by the program:

It is the applicant's responsibility to obtain information about these requirements from their Graduate Programs portion of this bulletin or from the director of graduate studies for the proposed program.

TEST DATA:

One or more of the following tests may be required as part of the admission process. Consult the Graduate Programs section of this bulletin or the program requirements at www.marquette.edu/gsm for information specific to the applicant's proposed program. Regardless of the test, all scores must be sent directly from the issuing source to the Graduate School of Management.

Preparation books for these tests can be found at the public library and various bookstores. Free downloads of preparation materials are also available at www.mba.com for the GMAT and at www.gre.org for the GRE.

The Graduate School of Management urges applicants to take tests well in advance of the date the scores are needed. It can take up to six weeks for scores to reach the Graduate School of Management office after the exam. Test scores should be relatively recent; scores more than five years old (two years for TOEFL) may not be accepted.

Graduate Management Admission Test (GMAT)

All Graduate School of Management programs accept the GMAT for admission to the master's programs. The GMAT is a program requirement for business administration, executive business administration, and accounting. For information about this test, contact the Graduate Management Admission Council®, 1600 Tysons Blvd., Ste. 1400, McLean, VA 22102 or visit www.mba.com or call (800) 717-GMAT (4628) for more information.

Test takers must enter the code 1448 in the Score Report Recipient section of the GMAT registration form. It is not sufficient to list Marquette as the undergraduate institution. Failure to enter the correct code will delay the admission decision.

Graduate Record Examination (GRE)

Economics and Human Resources accept GRE (General Test) scores. Applicants are urged to complete this test either in the senior year of undergraduate work or before filing an application for admission. For information about this test, contact the Educational Testing Service, P.O. Box 6000, Princeton, NJ 08541-6000. Visit the Web site www.gre.org or call (609) 771-7670 or (866) 473-4373 for more information.

Test takers must enter the code 5786 in the Score Report Recipient section of the GRE registration form. It is not sufficient to list Marquette as the undergraduate institution. Failure to enter the correct code will delay the admission decision.

Test of English as a Foreign Language (TOEFL)—International Students Only

International students whose language of instruction for their bachelor's degree education (or master's, if applicable) was not English must take the TOEFL. International students should have an adequate command of both written and spoken English, usually evidenced by a TOEFL score of at least 550 on the paper-based version, 213 on the computer-based version. The Internet-based, or iBT, version of TOEFL tests students in four areas: reading, writing, speaking and listening. In general, a minimum score of 20 is required for each of the four sections with an overall minimum score of 88. Applicants for some programs must test with higher minimums and should consult the Graduate Programs section of this bulletin for specific information.

Test takers must enter the code 1448 in the Score Report Recipient section of the TOEFL registration form. Test scores may not be more than two years old. For information about this test, contact TOEFL Services, Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541-6151. Visit www.toefl.org or call (609) 771-7100 for more information.

International English Language Testing System (IELTS)—*International Students Only*

International students whose language of instruction for a prior degree was not English may take the IELTS in place of the TOEFL. In general, scores should be no more than two years old. Although each application will be evaluated in its entirety, in general, an IELTS score of 6.0–6.5 or higher will be required for admission. Information about the IELTS can be found at www.ielts.org.

ESL Language Centers

The Graduate School of Management will accept successful completion of ELS Language Centers level 112 with a final grade of B or better from US-based Centers only.

INACTIVE FILES

Incomplete and inactive admission files are discarded after one year.

INTERNATIONAL STUDENT REQUIREMENTS

DEFINITION OF AN INTERNATIONAL STUDENT

An international student is defined as an applicant who is not a U.S. citizen or permanent resident.

APPLICATION INSTRUCTIONS

As described in the Application Instructions section in this bulletin, international applicants are required to submit an online application form, a non-refundable application fee, official transcripts with certified English translations, three letters of recommendation, test data (including the TOEFL or other proof of proficiency), and other materials as required by the program to which they are applying.

ENGLISH LANGUAGE ASSISTANCE

All non-native English speaking graduate assistants will be required to take a language placement examination upon their arrival on campus. Based on the results of the exam, students may be required to enroll in one or more English as a Second Language (ESL) courses in addition to their required course work. ESL courses in writing, reading, listening comprehension, and speaking/pronunciation are offered during the fall and spring terms. (This requirement is in addition to the TOEFL requirement.)

FINANCIAL VERIFICATION AND VISA REGULATIONS

Upon acceptance to the Graduate School of Management, F-1 students must adequately document their financial resources for the duration of the academic program before a visa will be issued. Financial verification, in the form of an appropriate sponsorship statement and an advance deposit (in U.S. currency) must be sent to Marquette before the certificate of eligibility for a visa will be issued. Students wishing to have their I-20 express mailed to them must put their request in writing and submit it along with the required advance deposits and financial verification paperwork. The added cost for express mail requests will be subtracted from the advance deposit. The express mail charge is non-refundable. The premium for the first term of health and repatriation insurance required of all F-1 and J-1 students will be deducted from the advance deposit. Students must be prepared to pay any remaining balance of the first term's tuition when they arrive on campus. The advance deposit will be waived if the student receives a scholarship or other academic award that covers the cost of the first term's tuition. If a student chooses not to attend Marquette University after the I-20 has been issued, all but $10 (U.S. currency) will be refunded. A written request for a refund must be sent back to the Graduate School of Management with the original I-20.

International students must abide by the regulations of their legal status in the United States regarding their defined educational objectives, academic load, and employment. Most international applicants are eligible only for regular degree status. Those seeking admission for non-degree status must obtain a statement of their legal eligibility from Marquette's Office of International Education.

MASTER'S DEGREE PROGRAM

ADMISSION REQUIREMENTS

Only applicants whose total record indicates that they can make independent, original and high quality contributions to knowledge will be admitted. Departments reserve the right to limit the number of students accepted within a given time period.

APPLICATION PROCEDURES

Applicants must follow the Graduate School of Management's application for admission procedures. It is the applicant's responsibility to obtain information about additional application

requirements from the Graduate Programs section found in this bulletin or from the director of graduate studies for the proposed program.

MASTER'S DEGREE REQUIREMENTS

All Graduate School of Management students are admitted to a non-thesis option. Accounting, Business Administration, Executive MBA and Human Resources are all course work based. In additional to required course work, Economics requires a comprehensive examination and master's professional project. The minimum credits required to receive a graduate degree within the Graduate School of Management is 30 credits. (See program information for specific requirements for each degree.)

COMPREHENSIVE EXAMINATIONS (ECONOMICS)

Candidates for a master's degree in Economics must successfully pass a comprehensive examination on their total graduate program of studies and final research professional project. If a student fails a major section of the examination, the entire examination is considered to be a failure. This will cause the department to review the student's record and, if warranted, a second and final examination will be given.

Economics administers its own comprehensive exams. Students are encouraged to contact their program for specific information including deadlines and procedures.

EARNING A SECOND MASTER'S DEGREE

Students already holding a Marquette master's degree may earn a second Marquette master's degree in another discipline following the application procedures stated in this bulletin.

During the first term of study for a second master's degree within the Graduate School of Management, students must plan with their adviser, a program of study to successfully complete the second master's degree. Between 9 and 15 credit hours may be transferred (courses must have been completed within the past 5 years with the grade of B or better) from a student's first master's degree at Marquette University depending on the total number of credits needed for the second master's degree. Department endorsement and Graduate School of Management approval must be obtained. All transfer credits must be relevant to the GSM degree. All program requirements for the second master's degree must be successfully completed for the second master's degree. (See Transfer of Credit for additional information.)

PROFESSIONAL PROJECT

The Economics graduate program requires a master's professional project. No formal credit is given for it and no outline is required. Students should confer with their advisers about topics and guidelines for producing an acceptable paper, including requirements for length and references. The final copy of the professional project and Professional Project Approval Form with appropriate signatures must be submitted to the Graduate School of Management office on or before the date listed in the Academic Calendar. Professional Projects must also be acceptable in style and composition. See the Director of Graduate Studies in Economics for details. A professional project that does not conform to the directives, including format specifications, will not be accepted by the Graduate School of Management. The department may retain the final approved copy of the professional projects for use by the public as reference or instructional materials.

RESEARCH INVOLVING HUMANS OR ANIMALS

A student whose research either on or with humans or animals must receive written approval before undertaking such research. The approval forms for human or animal research may be obtained through the Office of Research Compliance. This approval form and any additional paperwork must be submitted to the Graduate School of Management. Additional information may be found at www.marquette.edu/researchcompliance.

POLICIES OF THE GRADUATE SCHOOL OF MANAGEMENT

ACADEMIC COURSE LOAD

The maximum academic course load for a graduate student is thirteen semester hours of course work for fall or spring term. Seven hours are the maximum permitted for each of the summer sessions but no more than 13 credits for the entire summer term. Assistants may register for a maximum of ten semester hours each fall or spring term and seven hours for each of the summer sessions. Overloads must have the approval of the Graduate School of Management. Overload requests must be in writing indicating all courses anticipated for the semester and brief rationale for the overload along with your name and student MUID number.

ACADEMIC REVIEW

Every academic unit evaluates the academic performance of its graduate students at the close of each term, adhering to the standards of the Graduate School of Management and any additional standards promulgated by the unit.

Graduate students must maintain a grade point average of at least 3.000 in all course work, including prerequisites, foundations, core, elective core, elective courses, whether they apply toward the degree or not. Specific attention is given to those admitted on Probationary Status. Those who do not meet the requirements outlined on their admission letter may be recommended for disenrollment. This is a university requirement and minimum standard for graduate courses and graduate students. Students are responsible for awareness of these standards, which are listed in the program section of the Graduate Bulletin.

Students that have below average or unsatisfactory work will be sent official notification to their Marquette e-mail account from the Graduate School of Management. Marquette University e-mail is considered an official form of communication. Students that earn a grade below a B in any given enrollment period, but who maintain a 3.000 cumulative grade point average and do not meet warning or probation status, (see below), will be sent a letter of simple notification from the Graduate School of Management that their performance is below expectations. Students that earn multiple BCs or Cs in a given term or over their graduate career but have not reached the limits of dismissal, will receive a letter of warning or probation depending on the severity of the situation. Students that have unsatisfactory work (see definitions below) are subject to dismissal from the graduate program and the Graduate School of Management.

Satisfactory academic work is not, however, determined exclusively by course grades. All Graduate School of Management degree students, including those registered for Continuation courses must make substantial and visible progress toward their degrees. This includes successful completion of such program requirements as the master's professional project and comprehensive examination.

All students enrolled in Graduate School of Management courses are subject to the standards stated within the Graduate School of Management including, but not limited to degree, non-degree, exchange students and others taking our courses. All students must maintain professional behavior at all times.

Examples of unsatisfactory work include, but are not limited to: 1) any difficulty maintaining the required 3.000 grade point average, such as a weak first or second term, multiple incompletes, accumulating three Cs (nine hours) or a combination of four BCs and Cs (12 hours), or one grade of F or U; 2) a term without substantial and visible progress toward completion of program requirements, such as essay, comprehensive exam, course work; 3) violation of probation requirements; 4) unprofessional behavior in a class, or professional setting representing Marquette University.

If, in the judgment of the academic unit, a student does not meet the non-academic standards, either a warning letter will be issued by the department to the student, or a recommendation will be made to the dean of the Graduate School of Management that the student be dropped from the graduate program.

Academic Review communication will be directed to your Marquette e-mail.

ACADEMIC STANDING

Graduate School of Management students must maintain a cumulative grade point average of 3.000 or above in all course work, including prerequisites, foundations, core, elective core, and elective courses, whether they apply toward the degree or not. Specific attention is given to those admitted on Probationary Status. Those who do not meet the requirements outlined on their admission letter may be recommended for disenrollment. This is a university requirement and minimum standard for graduate courses and graduate students. Students are responsible for awareness of these standards, which are listed in the program sections of the Graduate Bulletin.

GOOD STANDING

A graduate student is in good standing whenever the student's cumulative grade point average is at least 3.000, and the student has not warranted a warning or probation status as noted below.

WARNING

Warning includes, but is not limited to: 5-6 credits of BC/C grade or 4-5 credits of C grade or a cumulative grade point average less than 3.000.

ACADEMIC PROBATION

Academic probation includes, but is not limited to: 7-11 credits of BC/C grades, 6-8 credits of C grades, 1-2 credits of F or U grade, a second term and/or overall grade point of less than 3.000. Academic probation is determined on a term-by-term basis and will not be applied to any subsequent term, as long as the student satisfies the conditions for Good Standing for each term in which the student is enrolled.

DISMISSAL

Students that have unsatisfactory work are subject to dismissal from their graduate program and the Graduate School of Management. Unsatisfactory work includes, but is not limited to 1) any difficulty maintaining the required 3.000 grade point average, such as a weak first or second term, multiple incompletes, accumulating three Cs (nine hours) or a combination of four BCs and Cs (12 hours) or 3 credits of F or U; 2) a term without substantial and visible progress toward completion of program requirements, such as professional project, comprehensive exam, course work; c) violation of probation requirements; 4) unprofessional behavior in a class, or professional setting representing Marquette University. Students may also be dismissed for breach of academic integrity, including, but not limited to: cheating, dishonest conduct, plagiarism, collusion or research misconduct.

Within 6 days after the date of notice of dismissal based upon academic grades, a student may appeal the decision to the Associate Dean of the Graduate School of Management. A student who does not appeal will be disenrolled 7 days after the date of the notice of dismissal.

Appeal process is: Student initiates the appeal within 6 days of the dismissal notice. The appeal must be in writing to the Director of the Program. (For MBA students, please send to the GSM Associate Dean). The director has 6 days to review the case and respond to the student in writing. If the dismissal is upheld by the Director of the Program, the student has 6 days to further appeal the dismissal in writing to the Associate Dean, for MBA students, the second appeal is sent to the Executive Associate Dean, who has 6 days to respond in writing. If needed, a 3rd appeal may be sent in writing to the Dean of the Graduate School of Management. The Dean will respond in writing within 6 days. The Dean of the Graduate School of Management's decision is final.

Dismissed students may apply for readmission through the normal admission process. A period of at least one semester may be required by the academic department before readmission will be considered. If so required, the department may specify conditions that must be met during this period. No student may be readmitted to a program that is no longer active at the time of readmission. The student must send a written request for readmission to the Associate Dean of the Graduate School of Management who will, in turn, forward the student's file to the academic program for overview and recommendation on readmission. The request for readmission must include a statement by the student addressing previous weaknesses, steps taken to correct the weaknesses, and an explanation of why the student feels he or she has the ability to succeed in graduate studies. If the student is subsequently granted readmission, the grade point average will continue from the previous calculation and the student must obtain a 3.000 grade point average after a new sequence of academic probation.

ACADEMIC STATUS

Every graduate student, except those with non-degree status, must be enrolled as a full-time, half-time or less than half-time student each fall and spring term to maintain his or her status. All degree graduate students must enroll in either adviser-approved course work or one of the continuation courses; or a combination of the above. Degree students who fail to enroll for every fall and spring term must contact the Graduate School of Management and may have to apply for readmission to their program. (See Readmission)

A full-time graduate student is defined as one who: a) registers for seven or more credit hours of cumulative* course work in one or more sessions of a fall term, spring term or summer term, or b) registers in the departmental continuation course.

A half-time graduate student is defined as one who: a) registers for four or more but fewer than seven credit hours of cumulative* course work in one or more sessions of a fall term, spring term or summer term, or b) registers in the departmental continuation course.

A less than half-time graduate student is defined as one who: a) registers for fewer than four credit hours of cumulative* course work in one or more sessions of a fall term, spring term or summer term, or b) registers in the departmental continuation course.

* "Cumulative" means adding all credits taken in all sessions within any one term.

Note: During fall and spring terms, if a student takes credits only during part of the term, the status is effective only for the period that the student is registered, not for the entire term. For the summer term, the status attained applies to the entire term regardless of the session(s) in which the credits are taken.

ADMISSION STATUS

Marquette University admits graduate students under four different categories: degree, non-degree, temporary and visiting scholar status.

DEGREE STATUS

When applicants are admitted to a program leading to a master's or doctoral degree, they are said to be in "degree status." This designation is made after the department and the Graduate School of Management have accepted an application. An applicant may be admitted into one of two categories.

Regular degree status — Designates a student who is admitted to the Graduate School of Management and is working towards a master's degree in a particular program. Students are eligible for tuition scholarships, graduate assistantships and fellowships.

Probationary degree status — This status is awarded to master's degree students only by the applicant's department or the Graduate of Management. Probationary status is assigned when an applicant's academic performance falls below Graduate School of Management standards but there is other evidence to suggest the potential for successful graduate level study. Students admitted on probation are not eligible to receive financial aid from the Graduate School of Management but may apply for financial assistance from the Office of Student Financial Aid. Probationary status is typically removed upon completion of nine semester hours of work with a 3.000 overall GPA or better, no grade lower than a BC and all credits taken at the graduate level. Students failing to have their probationary status removed after completing nine semester hours are not permitted to remain in the Graduate School of Management.

NON-DEGREE STATUS

Non-degree status is seldom utilized in the Graduate School of Management. This status designates any student taking graduate-level classes who is not seeking a master's degree. Two types of non-degree status utilized by the Graduate School of Management are: Temporary admission and Visiting Scholars admission. Students are not eligible to receive financial aid from the Graduate School of Management or from the Office of Student Financial Aid except for Catholic Schools Personnel Scholarships and the Milwaukee Area Teachers Scholarships.

All applicants are required to submit an application, the application fee, certified copies of transcripts and other information as requested by the department. Non-degree applicants seeking admission to degree status must meet the same admission standards as other applicants to a degree program.

Completion of any number of non-degree credits does not guarantee acceptance into a degree program, and, if a non-degree student is subsequently admitted to a degree program, there is no guarantee that credits earned while in non-degree status will count toward the degree. Most degree programs accept no more than six credits taken as a non-degree student. Grades below B will not transfer to degree programs.

Credits earned as a non-degree student may be considered as graduate credits and certified as such to school boards or other authorities. Non-degree students may register for Graduate School of Management courses if they have met the prerequisites and have department permission. Permission numbers are required for non-degree registrations. The Graduate School of Management typically limits non-degree status to one term.

Probationary status — This status is awarded by the applicant's department or the Graduate School of Management. Probationary status is assigned when an applicant's academic performance falls below Graduate School of Management standards but there is other evidence to suggest the potential for successful graduate level study. Probationary status is typically removed upon completion of nine semester hours of work with a 3.000 overall GPA or better, no grade lower than a BC and all credits taken at the graduate level. Students failing to have their probationary status removed after completing nine semester hours are not permitted to remain in the Graduate School of Management.

TEMPORARY ADMISSION STATUS

Applicants who have applied to a degree or a non-degree program, and meet the minimum admission requirements but have not submitted all the necessary documents may be admitted under temporary status. This admission is valid for only one term. Students must apply for and be admitted as a degree student before being allowed to register for additional courses. There is no guarantee that credits earned while in temporary status will count toward the degree. Grades below B will not transfer to the degree program. Exceptions are rarely made to this policy.

VISITING SCHOLAR STATUS

This status designates a student, seeking a master's degree at another institution, who takes one or more classes at Marquette University with the intention of transferring the earned credits. Evidence of the student's status and academic performance at the other institution will be required. Submission of official transcripts is required.

Visiting scholars may apply for federal financial aid through the student's home school or through Marquette. Students applying for aid through Marquette must request a Consortium Agreement from the Office of Student Financial Aid. When the completed form is returned to Marquette, the student will become eligible for federal financial aid and the Office of Student Financial Aid will process the student's FAFSA. Students applying for federal aid through their home institutions should consult their home institutions for their application policies and procedures.

ADVISING

The Graduate School of Management sends the name and telephone number of an academic adviser to each student in the letter of admission. A student is required to meet or talk with the adviser before their first registration for classes. The Graduate School of Management strongly recommends that students meet regularly with their adviser; an adviser plays an important role in the graduate student's course of study. Non-degree and temporary non-degree student must seek advising and permission numbers prior to registration. Students who register for course work without adviser approval assume full responsibility for their registration. Courses that do not satisfy the requirements of their plan of study will not be applied toward the degree.

No classes may be attended for which a student is not properly registered. Proper registration includes the payment of all tuition and fees.

APPEALS

In the Graduate School of Management, the final responsibility to resolve student appeals rests with the dean of the Graduate School of Management (or, when delegated, the executive associate dean). Possible matters of appeal include, but are not limited to, terminations from programs, disenrollments, graduation decisions, failure of economics master's comprehensive examination or professional project, and accusations of academic dishonesty. Before an appeal is made to the Graduate School of Management, every effort must have been made to resolve the matter informally, and appeal procedures at the program level must have been exhausted.

Appeals to the Graduate School of Management must be made in writing to the dean of the Graduate School of Management within 6 days of notification of the action being appealed. The appeal must be specific and substantiated. The dean of the Graduate School of Management reserves the right to appoint a committee to hear the appeal. During an appeal, the student may maintain graduate status. This status is maintained through either course work or continuous enrollment at the discretion of the Graduate School of Management or the student's graduate program. See specific process at www.marquette.edu/gsm.

GRADE APPEALS

Students should make every attempt to resolve grade appeals directly with the faculty member involved. Within the GSM, students unable to resolve the issue with the faculty member should make a formal, written appeal to the Department Chairperson of the department in which the course was taught. If unable to resolve the issue, the student has the right to appeal in writing to the executive associate dean. If still unresolved, the student may appeal to the dean of the Graduate School of Management in writing. The dean's decision is final. All grade appeals shall be heard for the Graduate School of Management by the school or college that teaches the course, following the rules of that school or college. Their decision is final, and no further appeal is available. In schools or colleges with a departmental structure, the appeal procedure usually begins with the department chairperson. See specific process at www.marquette.edu/gsm.

COMMUNICATION

As a new student, you automatically have a Marquette University e-mail account on eMarq. eMarq is accessible on and off campus on any computer with Internet access. The site address is emarq.mu.edu.

Graduate School of Management communication will be sent to your Marquette University e-mail account, including, but not limited to registration information, deadlines and academic review notifications. Marquette University e-mail is an official means of communication. Students are expected to utilize this tool for all Marquette University communication.

CONTINUATION ENROLLMENT COURSE PROCEDURES

Students enrolling in a continuation course must register to activate their desired status. All continuation classes, which are graded on the SNC/UNC basis, require the consent of the student's department which must be secured prior to registering. The Graduate School of Management offers continuation courses to secure less-than-half-time status for all Graduate School of Management programs, course number 9970.

Graduate Assistants may utilize course number 9976 Graduate Assistant Research Continuation if approved by their adviser and associate dean. Graduate Economics students should seek advising regarding continuation course options specific to the MSAE program, To apply for a Graduate School of Management continuation option, follow these procedures:

1. The student and his/her adviser must complete the Graduate School of Management's Continuation Course Enrollment Registration Form and request the section that is most appropriate to the student's needs. The form is available via our Web site at www.marquette.edu/gsm under Forms.
2. Submit completed and signed form to the Graduate School of Management for review.
3. If approved by the Graduate School of Management, the student will be given a permission number to be used during the registration process.
4. Students are billed by the Office of the Bursar for the continuation enrollment fee.

DEADLINES

All graduate students are responsible for ascertaining and meeting all deadlines listed in the Academic Calendar. This includes, but is not limited to, deadlines for registration, withdrawing from courses, financial aid applications, graduation applications, comprehensive exams, professional projects, etc.

DISMISSAL

Students that earn an F will be recommended for dismissal. Students placed on probation who fail to earn at least a 3.000 grade point average in the subsequent enrollment period, or who fail to achieve a 3.000 cumulative grade point average in a designated time frame, will be dismissed from the university. Upon receiving a dismissal notice based upon academic grades, a student may appeal the decision directly to his or her program director. Appeals of the program decision should be made in writing to the associate dean of the Graduate School of Management. If unresolved, the student may appeal in writing to the dean of the Graduate School of Management. The dean's decision is final. (See appeals process.)

Dismissed students may apply for readmission through the normal admission process. A period of one semester may be required by the academic department before readmission will be considered. If so required, the department may specify conditions that must be met during this period.

The student must send a written request for readmission to the associate dean of the Graduate School of Management who will, in turn, forward the student's file to the academic program for review and a recommendation on readmission. The request for readmission must include a statement by the student addressing previous weaknesses, steps taken to correct the weaknesses, and an explanation of why the student feels he or she has the ability to succeed in graduate studies.

The student's transcript will indicate dismissal if such should occur. If the student is subsequently granted readmission, the grade point average will continue from the previous calculation and the student must achieve and maintain a 3.000 grade point average within a designated time frame.

ENROLLMENT CHANGES

Changes in a graduate student's enrollment are under the jurisdiction of the Graduate School of Management. Most enrollment changes, i.e., adding and withdrawing from courses, can be done using the online registration system. Instructions for adding or withdrawing from courses are available at www.marquette.edu/registrar.

After the close of registration each term, the student must notify the Graduate School of Management directly and complete appropriate forms before any enrollment change will become effective. It is not sufficient for a student to notify the course instructor or someone in the department office. The Course Drop or Withdrawal Form is available via our Web site at www.marquette.edu/gsm under Forms.

ADDING COURSES

Students who wish to add one or more courses after the close of registration must contact the Graduate School of Management at (414) 288-7145 or mba@marquette.edu to 'request to add a course'. Courses are not routinely added. Normally, if a student has missed the first class or the class was otherwise not available to the student, including an existing wait list, the course will not be added to a student record.

WITHDRAWING FROM (DROPPING) COURSES

Students who, after the close of registration, decide to withdraw from one or more, but not all, courses in a particular term or summer session must complete the Graduate School of Management's Course Drop or Withdrawal form available on our Web site at www.marquette.edu/gsm (See also Withdrawing From All Courses, below.) It is extremely important that the student contact the Graduate School of Management as soon as the decision to withdraw is made. Tuition refunds (refer to Refunds and Adjustments) and W (Withdrawal) grades will be based on the date that the student submits the Course Drop or Withdrawal form to the Graduate School of Management, not on the date that the student last attended classes.

A student who wishes to withdraw from a course with a W (Withdrawal) grade must do so before the deadline date listed in the Academic Calendar. Due to excessive absences or other reasons, including failure to formally withdraw before the deadline, a student may be administratively withdrawn from a course and incur a grade of either ADW (Administrative Withdrawal), UW (Unexcused Withdrawal), WA (Withdrawn-Excessive Absences) or F (Failure).

Students are urged to contact the Graduate School of Management at (414) 288-7145 or mba@marquette.edu if there are questions regarding course withdrawal. When withdrawing from any portion of a course load, students must carefully consider the ability of their remaining enrollment to satisfy any enrollment requirements to which they might be subject due to applications for student loans, loan repayment deferments, visas, etc.

WITHDRAWING FROM ALL COURSES

Students enrolled for one or more classes who, after the close of registration, decide to discontinue study for the term must notify the Graduate School of Management via the Course Drop or Withdrawal form available on our Web site at www.marquette.edu/gsm, and request a complete withdrawal from all courses. The same rules, procedures, and cautions for partial withdrawals also apply to complete withdrawals. Withdrawing from all courses will not automatically withdraw a student from a graduate program, but it might affect the student's eligibility to register in subsequent terms.

GRADING SYSTEM

The following letter grades and their achievement equivalents are used by instructors in the Graduate School of Management to evaluate a student's performance in a course. Grade points corresponding to each letter grade determine a student's academic average and eligibility to graduate. Each grade, A through F, has a specific grade point value. The grade points earned in any course equal the grade point value of the grade multiplied by the number of semester hours credited. The grade point average (GPA) is found by dividing the total grade points earned by the total number of semester hours credited in those courses for which grade points have been assigned. Determination of the cumulative GPA will be based on all courses taken during the student's graduate career, including prerequisite and repeated courses, if any. Note: Credits that are accepted for a Marquette degree, if transferred from another university, will not be included when calculating the student's grade point average.

All graduate students must maintain a grade point average of at least 3.000 to graduate. (For the effect of ADW, BC, C, F, UW, WA and U grades, refer to Academic Review.) Graduate students may not be assigned a CD or a D grade in any course whatsoever, including undergraduate courses. Graduate courses are not repeated for a higher grade.

Grade	*Achievement*	*Grade Points*
A	Superior	4.000
AB		3.500
B	Good	3.000
BC		2.500
C	Minimally acceptable on a limited basis for graduate credit	2.000
CD	Not approved for graduate students	
D	Not approved for graduate students	
F	Failure	0

Grade points are not affected by the following grades:

Grade	**Circumstance**
ADW	Administrative Withdrawal; student was withdrawn from the course for administrative reasons, as determined by the university via a dean's decision, a formal hearing and/or appeal process.
AU*	Audit.
CR	Credit; equivalent of C work or better.
I	Incomplete; assigned on a pre-arranged basis, to allow completion of course assignments other than the final examination; the student's performance in the course must merit this exception otherwise, the instructor will assign either a grade of F, or a passing grade that reflects both the quality of the work completed and the significance of the work which has not been completed.
IC	Course Incomplete; assigned to all students enrolled in a course, clinical, independent study/research, capstone, etc. that will not be completed by the grading deadline for the term in which the course is scheduled; changed to a letter grade by the faculty at the time of completion (no initiation needed by the student).
IE	Incomplete Extension; assigned by the college office to those students who are granted an extension to the deadline for removal of an I, IX or X grade.
IX	Incomplete course work and final exam not taken; assigned to a student who has incomplete course work and is absent from the final examination; must meet the criteria for both the I grade and the X grade; a student not qualifying for the IX will be assigned the grade of F.
NC	No Credit; equivalent of less than C work.

SNC	Satisfactory completion in a course bearing no credit; mandatory grade for all zero credit bearing courses.
UNC	Unsatisfactory completion in a course bearing no credit; mandatory grade for all zero credit bearing courses.
S	Satisfactory completion in a credit bearing competency-based course; equivalent of C work or better.
SY	A permanent grade indicating satisfactory work completed in the first term of a series of year-long courses, where grades are assigned only in the final course in the series.
U	Unsatisfactory completion of a credit bearing, competency-based course; equivalent of less than C work.
UW	Unexcused withdrawal; withdrawal initiated by the faculty or college office when a student registered for a course, never attended and failed to officially withdraw.
UY	A permanent grade indicating unsatisfactory work completed in the first term of a series of year-long courses, where grades are assigned only in the final course in the series.
W**	Official withdrawal; withdrawal initiated by the student, with approval of the college office.
WA	Withdrawn-Excessive Absences; withdrawal initiated by the faculty or college office due to excessive absences in the course or student is found to be in violation of the "Undergraduate Attendance Policy" section of the Undergraduate Bulletin.
X	Completed coursework and final exam not taken; assigned to a student who is absent from the final examination and who might earn a passing grade in the course were he/she to take a delayed examination; both conditions must exist, or the student is assigned the grade of F; student receiving the grade of X must file a written explanation for the absence with his/her college office.

*Carries no graduate credit. Students must register for the course as auditors, attend class meetings regularly, and fulfill such other requirements as may be assigned in writing by the course instructor no later than the second meeting of the class after registering for audit.

**Signifies an official withdrawal with the approval of the dean of the Graduate School of Management.

Note that grades of CD and D are not approved for graduate students, including those in undergraduate courses.

ADW GRADE

Any student who is administratively withdrawn from the university will receive this grade in all courses and must be readmitted to the university before enrolling in a subsequent term. Administrative withdrawal is an action normally taken by the university for disciplinary, lack of professional competence or academic reasons other than low grades or lack of degree progress. This grade is assigned by the college office, or depending on the reason for the administratively withdrawal, the student affairs division, and will take precedence over the W, WA or UW grade, should the student withdraw or be withdrawn from a course after the faculty or other university personnel initiated the administrative action which ultimately results in this grade.

S/U GRADING

Under no circumstances may the undergraduate CR/NC or S/U option be exercised by a graduate student taking an undergraduate course for graduate credit. Further, graduate students required to take undergraduate courses as prerequisites or to remedy deficiencies may not take those courses for S/U grades, as this option is not available.

However, a few select graduate courses are offered for S/U grades only. S/U graded courses are different than S/U option. Courses of this type usually are limited to special seminar courses. Students should check the individual course descriptions in this bulletin and the grading basis when conducting a class search in CheckMarq to determine whether a course is offered on this basis.

For the effect of U grades, refer to Academic Review.

GRADE CHANGES

There are two types of grade adjustments: changing a temporary grade (X, I, IC, IE or IX) to a permanent grade, and correcting a permanent grade.

TEMPORARY GRADES — I, IC, IE, IX OR X

Graduate students who do not complete course requirements during the term in which the class is offered may be given one of the following temporary grades after consultation with their instructor: X, when the final examination is missed; I, when the course work has not been completed; or IX, a combination of missed final examination and incomplete course work.

The faculty member must submit a grade change form to change an I, IC, IX or X to a permanent grade, or the student must submit the *Request for Extension of I Grade Deadline* form, found at *www.marquette.edu/gsm*. Whichever path is chosen, the applicable form must be submitted to the Graduate School of Management before the grade change deadline listed in the Academic Calendar, which is approximately four weeks into the next fall or spring term. For I, IC, IX or X grades accrued during the summer session, they must be changed before the deadline date which is approximately four weeks into the next fall term.

A student unable to complete the outstanding course work by the deadline must request an Extension of Time to complete the course. This is done in writing prior to the deadline, and must be endorsed by the course instructor and submitted to the associate dean of the Graduate School of Management. The letter must include a brief explanation and agenda to complete the course.

It is the responsibility of the student to be aware of the deadline and to submit outstanding academic work to the instructor in time to allow the work to be graded and the grade to be changed. However, it is the responsibility of the faculty member to initiate the grade change procedure once all remaining academic work has been submitted. Grades of I, IC, IE, IX or X that are not resolved by the deadline will become permanent grades on the student's record. A permanent grade of I will be reflected as a grade of PI on the student's record.

CORRECTING A PERMANENT GRADE

Changing a permanent grade, because of miscalculation on the part of the instructor or a misunderstanding between the instructor and the student, may be initiated by either the student or the instructor. Changing a permanent grade should be done within six months of the end of the term.

GRADUATE CREDIT

A student can earn graduate credit for a course only if a) the course has been approved for graduate credit *and* b) he or she has been accepted, through an official letter of admission, into the Graduate School of Management. Students taking courses while in non-degree status may request the transfer of credits to their degree program (see Transfer of Credit).

Graduate credit may be earned for curriculum approved 5000 level courses and above. Students are encouraged to seek advising prior to registering for courses outside their curriculum to verify they meet program requirements.

No student may register for a 5000-6000 level course unless he or she has been admitted to the Graduate School of Management or has the approval of the student's home college and the department offering the course.

INDEPENDENT STUDY

Independent Study (6995) courses provide students the opportunity to study and investigate areas of interest not available through normal course offerings. A 6995 course is taken on the recommendation of the student's adviser and with the approval of the department chairperson and associate dean of the Graduate School of Management. The approval form and outline, which must be completed for each 6995 course, is available in the via the Graduate School of Management's Web site at www.marquette.edu/gsm. Normally, no more than six credits of 6995 course work can be included in a master's degree program.

INTER-UNIVERSITY VISITATION

Marquette University participates in two programs, detailed below, by which its students may take courses at another university or college in order to expand the breadth of their education.

MARQUETTE–UWM

Marquette University has agreements with the University of Wisconsin–Milwaukee. The course being taken at the host institution must not be available at Marquette. In no case will more than six credits taken at UWM be counted toward degree completion at Marquette. The students must apply for admission to the host institution as a special student; the application fee

is waived. A Marquette student must complete an Inter-University Exchange Course Approval and Manual Registration Form, found online at www.marquette.edu/gsm, then get their adviser's approval, and finally submit the completed form to the Graduate School of Management. This will register the student for the course BUAD 6932(UWM course), which is a variable title and variable credit course that reflects the title and number of credits of the course at the host institution. The student must also register for the courses at the host institution. Tuition is paid at the home institution for the BUAD 6932 course. The course at the host institution is tuition-free. Only degree-seeking graduate students in good standing are eligible to participate. Interested students should contact the Graduate School of Management office for additional information and enrollment forms.

MIDWEST CATHOLIC GRADUATE SCHOOLS CONSORTIUM

The consortium of Midwest Catholic Graduate Schools (MCGS), which includes Loyola University, Chicago, Ill.; Marquette University, Milwaukee, Wis.; University of Notre Dame, South Bend, Ind.; and St. Louis University, St. Louis, Mo.; has established the protocol whereby a degree-seeking student at one university may take course work at any of the other three universities to apply toward degree requirements at the home institution.

With prior approvals, the student enrolls at the home institution and makes financial arrangements there, but attends classes, on a short-term basis, as a visiting student at the host university. Final grades are forwarded from the host to the home university for listing on the student's permanent record. The following restrictions apply: 1) Participation is restricted to those fields of study which are under the academic jurisdiction of the graduate deans at both the home and the host institutions; 2) Non-degree or temporary students may not participate; 3) The degree-seeking student must have completed at least the equivalent of one full term at the home university before visiting one of the other institutions; 4) A student may gain approval for more than one visitation at more than one host institution, but no more than six credit semester hours of courses from host institutions can become part of a degree program at the home institution.

To participate, a student must complete, for each course to be taken at a host institution, an Inter-University Visitation Enrollment Form and an Inter-University Exchange Course Approval and Manual Registration Form, both of which require signatures of approval. Because of the paperwork involved and the number of approvals that must be obtained, the student must begin the inter-university visitation application process no later than June 1 for a fall term visitation, October 1 for the spring term, or March 1 for summer sessions. Interested students should contact the Graduate School of Management office for additional information and enrollment forms.

JESUIT MULTILATERAL AGREEMENT (JESUIT MBA)

The Society of Jesus (Jesuits) was founded in 1540 by Saint Ignatius of Loyola. It is the largest religious order of the Roman Catholic Church. For centuries, Jesuits have influenced mathematics, business, astronomy, architecture, law, medicine, and most academic pursuits. A primary mission of the Jesuits is education.

In 1996 a group of MBA directors and administrators from Jesuit and Jesuit-friendly universities decided to work together to promote the many benefits of Jesuit business education. This consortium of 28 Jesuit and a subset of Jesuit-friendly schools include some of the most revered names in business education. The collective of resources of these schools provides you with a unique competitive advantage.

Across the United States, twenty one AACSB accredited Jesuit and three Catholic, non-Jesuit universities formed a multilateral agreement. Students in the Graduate School of Management may, if necessary, transfer credits from a member of the multilateral agreement. The student applies for admission at the Jesuit MBA school as a 'Jesuit Multilateral' applicant and submits all required application materials for the receiving school. The Graduate School of Management completes the Multilateral Agreement Form along with a letter of 'good standing' and forwards this to the receiving school upon written notification from the student. The student benefits with a continued Jesuit education, ability to continue with the Marquette University MBA and is not restricted to six transfer credits. Students must earn a B or better grade to transfer courses. Students earn the MBA degree from the school that granted more than 50% of the credits. Students are encouraged to complete the Approved Non-MU Study Continuation form reflecting their appropriate registration status. The Continuation registration will keep the student active as a Marquette University student. Continuous registration is required every fall and spring semester from a student's first registration through graduation. The continuation form is available the GSM Web site at www.marquette.edu/gsm. Additional Jesuit MBA information can be found at www.jesuitmba.org.

LEAVE OF ABSENCE

Graduate School of Management degree students who must temporarily discontinue their graduate studies for one or more terms may qualify for an official leave of absence. Students are urged to be extremely cautious in requesting a leave of absence. During the leave period, students do not have enrollment status for purposes such as health insurance, loan deferment, or access to academic facilities on campus, such as library and computer services.

Only written requests that include specific information about why the leave is being requested and the expected date of return will be considered. There is no guarantee that a request will be granted. All leaves must be approved by the department director of graduate studies or chair, and the associate dean of the Graduate School of Management. The Leave of Absence request form is available via the GSM Web site at www.marquette.edu/gsm.

Students granted a leave of absence will have their time-to-completion of degree extended by the amount of time granted in the leave of absence.

READMISSION

Students who have withdrawn from the university, failed to enroll for one or more academic-year terms, were administratively withdrawn from their program, or who were suspended for any reason must be formally readmitted to the Graduate School of Management before resuming their studies. To be readmitted, students must receive departmental endorsement and complete a new Application for Graduate School of Management Admission via our Web site at www.marquette.edu/gsm. Furthermore, no application for readmission will be considered for any former student with an outstanding balance of $3,000 or more owed to the university. The associate dean of the Graduate School of Management and the Director of the Master's program jointly decide if a student will be readmitted.

In being readmitted, students face the possibility that previously completed work might not be accepted with the readmission decision, even if taken within the same program. The major department and/or Graduate School of Management may also set readmission conditions on the student's resumption of work toward a degree such as registering for additional course work, retaking examinations, completing the degree within in a specified time period, or other appropriate terms.

Requests for readmission from students who have been suspended will be based on many considerations including the applicant's ability, evidence of growth and maturity, credits earned at another institution, and time elapsed since leaving Marquette. No student may be readmitted to a program that is no longer active at the time of readmission.

SPECIALIZATIONS

The MBA program offers specializations in the following areas: Economics, Finance, Human Resources, International Business, Management Information Systems, Marketing and Operations and Supply Chain Management. Specializations consist of 12 credits in a designated area of study as indicated on the GSM web site at www.marquette.edu/gsm. All courses applied toward a specialization must be taken at Marquette University. The grades for courses applied toward a specialization must be "B" or better. GSM courses not listed on our web site under the specific area of study, do not apply toward a specialization, but may be taken as electives toward a general MBA program. Students are not required to specialize. Graduates of the M.B.A. program may complete a specialization within 5 years of graduation.

The Master of Science in Applied Economics also offers specializations in Business Economics, Financial Economics, International Economics, Marketing Research, Real Estate Economics and General Economics. Refer to the Economics section of the bulletin for details regarding each area of study.

SUMMER STUDIES

During the summer term, Summer Studies offers graduate and selected undergraduate courses that may be taken for graduate credit. These courses are applicable to degrees in all colleges and schools of the university in the following modular formats: two consecutive six-week sessions and four additional sessions longer than the traditional six-week format. Several of the six summer sessions offer short courses varying in length.

MBA courses are offered on and off the Marquette campus during several sessions within the summer term. Domestic and foreign travel programs are offered each summer and provide graduate students with an exciting off-campus study experience. Summer Studies provides an

opportunity for graduate students to complete needed course work or accelerate their graduate programs of study.

For information, contact the Graduate School of Management at phone: (414) 288-7145, e-mail: mba@marquette.edu.

TIME LIMITATIONS

Students must complete all requirements for a master's degree within six years of their first term of registration in the program. Students who are unable to complete their degree within the six-year limit may petition the Graduate School of Management for an extension; *Request for Extension of Time* forms are available online at www.marquette.edu/gsm. To ensure timely consideration, the *Extension of Time* form should be filed early in the term in which the time limit expires. If the extension is approved, the student is notified of the expectations for progress and completion of the degree. If the extension is denied, the student is terminated from the graduate program.

Failure to complete the program or to obtain an approved extension of time may result in an administrative withdrawal from the program. These students must follow the guidelines for readmission (see Readmission).

TRANSFER OF CREDIT

Limits are placed on the number of credit hours that may be transferred from other institutions in order to protect the integrity of the Marquette degree programs. Only credits directly applicable to a student's Marquette degree program will be considered for transfer, and there is no guarantee that these will be approved. Accounting, Business Administration and Economics require all transfer credits to be from AACSB accredited schools. Students are encouraged to have courses pre-approved for transfer prior to registering for courses outside the Marquette University Graduate School of Management. Credits that are accepted for a Marquette degree, if transferred in from another university, will not be included when calculating the student's GPA. However, credits taken at Marquette in another program, if accepted for transfer into a degree program, will be included in the student's GPA. Only courses in which a grade of B or above has been earned may be transferred for credit into a master's program. Students are strongly urged to consult their advisers before requesting or taking any course for which they will want to transfer credits.

Normally, six credit hours of approved graduate work from an outside AACSB accredited master's program will be transferred with the consent the associate dean of the Graduate School of Management. Exceptions to this limit are rare and must be submitted in writing to the Director of your master's program and the associate dean of the Graduate School of Management. A student can anticipate a maximum transfer of credit only in unusual or compelling circumstances. (See the Jesuit Transfer Agreement for exception.) Credits approved for transfer must have been earned within the previous five years at an AACSB accredited school, and will affect the time limits for completing a Marquette program.

Only credits for courses directly comparable in content to the requirements of the current degree program will be considered for transfer, and no credits will be considered until the student has completed the Graduate School of Management's Master's Degree Transfer of Credit Request form, found online at www.marquette.edu/gsm. The student must also have met the following conditions: 1) completed six credits (nine credits if admitted on probation) as a degree-status student in his or her Marquette master's program; 2) taken the courses requested for transfer at the graduate level and for graduate credit; 3) earned a grade of B or above in each of the courses; 4) course must have been completed within five years; and 5) official transcripts are on file in the Graduate School of Management from the institutions involved, if other than Marquette.

Credits approved from a school using a quarter-system will transfer as two-thirds credit each when converted to Marquette's term system. Semester credit equivalents for transfers from schools using a trimester system will vary by school and must be evaluated individually. Students who are less than one credit short of graduation requirements after such transfers will need no additional course work. A student short one full credit or more for graduation must take additional course work.

Graduate level credits earned at Marquette, as a degree student in a different graduate program or as a non-degree student, may transfer following the same request and approval procedures outlined above. Students are responsible for initiating this process. Credits transferred between Marquette programs or statuses are included as part of the credit transfer limit with the exception of the second master's degree.

Transfer credits taken the same semester as projected graduation may be problematic. Official transcripts sent directly from the attending school to the Graduate School of Management is required by the deadline posted in the bulletin. This deadline may be earlier that the completion of the semester for which classes are being taken. It may be necessary for the student to reapply for a future graduation and diploma.

Transfer credits do not apply toward GSM specializations.

To transfer credits from courses taken within Marquette University (i.e. earning a 2nd master's degree from Marquette University or transfer of credits from non-degree temporary to degree status, the following limits are in place: a maximum of 9 credits may transfer for a master's degree of 36 or fewer credits, a maximum of 12 credits for a master's degree of 37-48 credits, a maximum of 15 credits for a master's degree of 49 or more credits. (See Earning a Second Master's Degree for additional information.)

Members of the Jesuit Multilateral Agreement (see Jesuit Multilateral Agreement) may transfer more than 6 credits of pre-approved course work.

UNDERGRADUATE/LAW STUDENTS IN GRADUATE COURSES

Consent is required by the GSM for all non-GSM students taking GSM courses. All undergraduate and Law students must seek consent to take graduate level business courses. Graduate students outside the GSM must also seek consent by contacting the GSM office to register for graduate business courses.

UNDERGRADUATE STUDENT CONSENT TO TAKE A GSM COURSE

An undergraduate senior may, with the permission of his or her home college and the department offering the course, register for a 5000 or higher-level graduate course if the student has a B (3.000) or higher overall grade point average. To register for a graduate course, the undergraduate student must complete the Permission to Enroll in a Graduate School of Management Course form, available online at www.marquette.edu/gsm. Once all signatures of approval have been obtained and the student has received the permission number from the Graduate School of Management, the student must then register for the course online through CheckMarq. Graduate level courses begin at 5000. Cross listed courses starting in the 4000 series are undergraduate courses and under no circumstances apply toward graduate credit. The course cannot be taken under the CR/NC or S/U option. Consent must be obtained and the registration posted to the student records prior to the start of the course. A change will not be applied to a student records after the close of late registration, whether moving to or from graduate level class.

A maximum of 16 credits can be taken the semester in which a graduate class is taken. An undergraduate student may take a maximum of 6 graduate level classes in any given semester. for undergraduate business students, a maximum of 6 credits may double count - apply both toward undergraduate and graduate requirements. The maximum graduate credits transferrable from undergraduate to a GSM degree, pending approval and overall program requirements is: Accounting (MSA) - 9 credits, Economics (MSAE) - 9 credits, Human Resources (MSHR) - 9 credits), Business Administration (MBA) - 9-12 credits. A "B" or better grade must be earned to transfer the course into a graduate program. Successful completion of graduate courses does not guarantee admission to graduate studies. A student has five years too be admitted and start graduate studies. Transfer credits will not apply if courses are 5 or more years old. See Transfer of Credit for additional information

LAW STUDENT CONSENT TO TAKE A GSM COURSE

Law students not pursuing the joint MBA/JD degree are eligible to take a maximum of 9 credits in the GSM pending approval from both the Law School and Graduate School of Management. Law students complete the Consent to Take Graduate School of Management course form posted to the GSM web site at www.marquette.edu/gsm, obtain all required consent (i.e. Law School and instructor) and forward the form to the GSM office. If approved, the GSM will forward the student permission numbers to assist in the registration. Many GSM courses have prerequisites. It may be necessary for a law student to provide a copy of undergraduate transcripts for the GSM to review for prerequisites.

Law students may pursue the joint MBA/JD degree. Further information is posted in the MBA section of the bulletin.

WAIVERS

CORE AND ELECTIVE CORE COURSE WAIVERS

Graduate School of Management MBA students are eligible to be waived from a core or elective core course if all of the following are met: a) they request the waiver in writing, b) have an undergraduate or graduate major, from an accredited school, in the academic area requesting to be waived from within the last 5 years, **and** c) professional experience in the area.

To fulfull the waiver, the student **must** take an elective or elective core in the area of the waiver (i.e., a student waived from the core course MARK 6100 Marketing Management, must take an elective or elective core in the area of Marketing, such as Marketing Ethics.) A student that takes the elective or elective core course within the required number of electives of the program does not need to replace the three credits of the core course and reduces the total number of credits required to complete the MBA program. If a student has taken all of their electives in another academic areas and still needs to fulfill the required elective in the core course area, the student will be required to take an additional elective to fulfill the waiver.

FOUNDATION COURSE WAIVERS

Waiver Exams are available for the five foundation courses: ACCO 6000 Accounting Foundations, ECON 6000 Economics Foundations, INTE 6000 Information Technology Foundations, MANA 6000 Mathematics Foundations, MANA 6001 Statistics Foundations. Recommended review guides are available on our Web site at www.marquette.edu/gsm.

Waiver Exams must be taken with the first year of study as a GSM student. The cost of each waiver exam is $100. The waiver exam may be taken once per subject. Information regarding the waiver exam may be obtained through the Graduate School of Management office at (414) 288-7145 or via e-mail at mba@marquette.edu.

Successful completion of the waiver exam exempts the foundation course. Neither the waiver exam results nor the exemption appear on student transcripts.

PROGRAMS AND COURSES OF THE GRADUATE SCHOOL OF MANAGEMENT

GRADUATE SCHOOL OF MANAGEMENT

DEAN'S OFFICE
Keyes Dean: Salchenberger
Executive Associate Dean: McGibany
Associate Dean for Graduate School of Management: Simmons
Assistant Dean for Undergraduate Programs: Terrian
Admissions Coordinator: Leutermann
Director of Student Services: Nelson

DEPARTMENT CHAIRS
Accounting: Akers
Economics: Clark
Finance: Peck
Management: Maranto
Marketing: Akhter

DIRECTORS/APPOINTMENTS
Applied Investment Management: Krause
Assistant Chairperson of Management: Srivastava
Business Career Center: Ortego
Center for Global and Economic Studies: Daniels, Toumanoff
Coleman Chairholder in Entrepreneurship: Stewart
EMBA Program: Simmons
External Relations: Bernhard
Donald Flynn Chair: Giacomino
Golden Angels Network: Keane
Charles T. Horngren: Akers
International Business Studies: Hosseini
Kohler Center for Entrepreneurship: Keane
Robert B. Bell, Sr. Chair in Real Estate: Eppli
Reverend Chaplain: Bieganowski, S.J.
Center for Supply Chain Management: Fisher

FACULTY
Professor: Akers, Akhter, Andrews, Bausch, Brownlee *(Emeritus)*, Brush, Chowdhury, Clark, Cotton, Daniels, Danner *(Emeritus)*, Doney *(Emeritus)*, Durvasula, Eppli, Giacomino, Keaveny, Laczniak, Lysonski, Nourzad, Probst *(Emeritus)*, Salchenberger, Smiley *(Emeritus)*
Associate Professor: Adya, Bauer, Breeden, Cotteleer, Crane, Garrett, Hosseini, Hunter, Inderrieden, Kaiser, Kutner, Maranto, McGibany, Naples, O'Neill, Peck, Pennington-Cross, Rehbein, Robinson, Seifert, Srivastava, Stewart, Syam, Toumanoff, Trebby, Yahr
Assistant Professor: Arena, Braga-Alves, DeWally, Fisher, Griffin, Kim, Lee, Ling, Mascha, Miller, Ow, Prucyk, Simmons, Suh, Wang, Yakusheva
Visiting Assistant Professor: Kohls
Adjunct Assistant Professor: Collins, Dole, Krause
Instructor: Terrian
Adjunct Instructor: Ennis, Gruber, Kren, Muraski, Nenning, Rau, Schwiesow, Voelker
Note: Faculty members and their ranks are for the 2009 - 2010 academic year.

DEGREES OFFERED

Master of Business Administration (M.B.A.), including the Executive M.B.A. program
Master of Science in Accounting (M.S.A.)
Master of Science in Applied Economics (M.S.A.E.)
Master of Science in Engineering Management (M.S.E.M.)
Master of Science in Healthcare Technologies Management (M.S.)
Master of Science in Human Resources (M.S.H.R.)
Certificate in Entrepreneurship (C.E.R.T.)

SATISFACTORY PERFORMANCE

All students enrolled in Graduate School of Management courses are subject to the standards stated within the Graduate School of Management including, but not limited to degree, non-degree, exchange students and others taking GSM courses. All students must maintain professional behavior at all times. All students are expected to maintain satisfactory performance in their progress toward their degree. Accordingly, the graduate program director reviews all student grades at the end of each academic session. This review includes all work that was attempted as well as completed. Students are expected to maintain a grade point average of 3.000 or above in all classes and overall for satisfactory performance in and graduation from the M.S.A., the M.B.A., the M.S.A.E., the M.S.H.R., the M.S.E.M., or the M.S. in HCTM program. Students that have below average or unsatisfactory work will be sent official notification from the Graduate School of Management. In addition to academic performance, students are expected to display the highest levels of personal and professional integrity as they interact with the university, faculty, staff, and one another. Serious breaches of integrity may subject the student to disciplinary action, including expulsion from the university. (See Academic Review for detailed information.)

ACCOUNTING (ACCO)

DEGREE OFFERED

Master of Science in Accounting, Plan B Non-Thesis option only.

PROGRAM DESCRIPTION

The master of science in accounting (M.S.A.) program is designed to provide students with the broad range of skills that successful accounting professionals need in today's complex and changing business environment. Courses emphasize technical knowledge in the functional areas of accounting, stress communication skills, and promote awareness of the accountant's ethical and social responsibilities. The M.S.A. program meets the American Institute of Certified Public Accountants (AICPA) requirement for individual membership in that organization, and eligibility to take the CPA examination. The M.S.A. program is accredited by the Association for the Advancement of Collegiate Schools of Business (AACSB-International) and reflects the high standards and expectations of that accreditation.

PREREQUISITES FOR ADMISSION

Admission to the M.S.A. program requires: a) a four-year bachelor's degree from an accredited college or university with a major in accounting or equivalent undergraduate course work; b) an acceptable record of academic achievement at the bachelor's level and in any previous graduate course work; c) acceptable scores on required admission tests; and d) an overall composite profile of admission data (including an evaluation of previous work experience) that predicts success in the program.

APPLICATION REQUIREMENTS

Students may apply for Regular Degree, Temporary Degree or Non-degree status. It is recommended that students apply for Regular Degree Status when possible. The application is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*.

1. A completed application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Official test scores from the Graduate Management Admission Test (GMAT).
5. Resume or job profile.
6. *(For international applicants or applicants applying for Graduate School financial aid, i.e. assistantship positions)* three letters of recommendation.
7. *(For international applicants only)* an official TOEFL score or other acceptable proof of English proficiency.

Note: Temporary non-degree applicants (admission valid for one term only) must submit all of the above, except the GMAT scores.

Students are encouraged to complete all application materials and apply for degree status. Temporary status is valid for one semester only. Temporary non-degree status students are not eligible to continue taking M.S.A. classes beyond one semester without degree admissions. Typically, non-degree admission is not recommended in the M.S.A. program.

All application material should be sent to: Graduate School of Management; David A. Straz, Jr., Hall Executive Center, Suite 275; Marquette University; P.O. Box 1881, Milwaukee, WI 53201-1881

BACHELOR'S-MASTER'S PROGRAM

This five-year program allows students to earn both their master of science in accounting (M.S.A.) and an undergraduate degree from the College of Business Administration. Undergraduate students begin their graduate work in their senior year by taking two graduate level courses.

These graduate courses double-count toward the undergraduate and graduate degrees. Should a student be denied admission to the M.S.A. program, the courses will be counted toward the undergraduate degree only. A minimum grade of "B" is required

for courses taken as a undergraduate student for graduate credit to apply toward graduate program requirements. Upon completion of the first term as a master's candidate, the student must petition their Graduate School of Management program director to transfer the courses taken as an undergraduate to the master's degree.

To be considered for admission to the five-year program, applicants must formally apply to the Graduate School of Management during their senior year at Marquette University, complete all of the application requirements as listed above, and indicate on their application that they are applying for the five-year program. For information, contact the Accounting Department at (414) 288-7340, or send an e-mail to james.trebby@ marquette.edu.

Master's REQUIREMENTS The M.S.A. program requires a minimum of 30 credit hours: 18 hours of accounting courses (nine hours required and 9-12 hours of electives) and 9-12 hours of non-accounting courses.

The course work involves six functional areas of accounting: financial, managerial, taxation, systems, auditing, and governmental/not-for-profit.

M.S.A. PROGRAM DETAILS

REQUIRED COURSE WORK

Accounting

ACCO 6511 Taxation of Corporations and Partnerships
ACCO 6520 Corporate and Not-for-profit Reporting and
ACCO 6570 Auditing: Ethical, Legal, Professional, and Reporting Responsibilities
or
ACCO 6535 Fraud Examination

ELECTIVE COURSE WORK

Accounting (9-12 credit hours required)

ACCO 5040/
ACCO 6040 International Accounting
ACCO 5045/
ACCO 6045 International Taxation
ACCO 5050/
ACCO 6050 Accounting Information Systems
ACCO 5080/
ACCO 6080 Analysis of Corporate Financial Statements
ACCO 5119/
ACCO 6119 Tax Research
ACCO 6512 State and Local Taxation
ACCO 6525 Governmental Accounting
ACCO 6530 Advanced Cost Management
ACCO 6535 Fraud Examination
ACCO 6590 Accounting Theory
ACCO 6931 Topics in Accounting
ACCO 6953 Seminar in Accounting

Business (9-12 credit hours required)

Select from other graduate-level business/ GSM courses or, with the permission of the program director, other graduate-level non-business courses excluding ACCO 6000, ECON 6000, MANA 6000, MANA 6001, and ACCO 6100, ACCO 6180, BULA 6110 and MANA 6170.

COURSE DESCRIPTIONS

ACCO 5040. International Accounting 3 sem. hrs.
An overview of managerial and financial accounting issues faced by multinational corporations or firms involved in international business. Issues include the diversity of worldwide accounting principles and the prospects for uniform international accounting standards, foreign currency transactions and translation, inflation, various technical accounting methods and the implications of their application, financial disclosures, analysis of financial statements, auditing, investment analysis, risk management, management information systems, performance evaluation, methods of financing, transfer pricing, and taxation. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 5045. International Taxation 3 sem. hrs. U.S. Taxation of international transactions and foreign taxpayers. A study of the U.S. and foreign taxation of international commercial transactions involving U.S. and foreign taxpayers, including the taxation of income of U.S. taxpayers operating abroad through branches and subsidiaries; the U.S. foreign tax credit provisions; cross-border asset transfers and related intercompany pricing issues; the U.S. taxation of non-resident individuals, partnerships, associations and foreign corporations; and bilateral and multilateral-income tax treaties. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 5050. Accounting Information Systems 3 sem. hrs.
Substantial hands-on involvement in computing capabilities which enable accountants to be more productive and to provide better service to clients and management. Applications in cost behavior, cost analysis, cost estimating, cost allocations, budgeting, profit planning, capital budgeting, and the expert systems. Examination of various approaches to the computerization of transaction processing cycle, using suitable software package, with special emphasis on the problems of internal control. EDP auditing and the accountant's role in the systems development cycle. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 5080. Analysis of Corporate Financial Statements 3 sem. hrs.
Provides experience in reading, interpreting, and analyzing corporate financial statements. Specific attention is given to the evaluation methods necessary to assess a firm's short-term liquidity, long-term solvency flows, capital structure, return on investment, operating performance, and asset utilization. Effects of alternative accounting methods and footnote disclosures. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 5119. Tax Research 3 sem. hrs.
The objective of this course is to assist in the development of essential tax research skills and their application in the prevailing federal tax environment. The student will learn how to find tax authority, evaluate the efficacy of that authority, and apply the results of research to a specific situation. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6040. International Accounting 3 sem. hrs.
Overview of managerial and financial accounting issues faced by multinational corporations or firms involved in international business. Issues include diversity of worldwide accounting principles and prospects for uniform international accounting standards, foreign currency transactions and translation inflation, technical accounting methods and the implications of their application, financial disclosures, analysis of financial statements, auditing, investment analysis, risk management, management information systems, performance evaluation, methods of financing, transfer pricing, and taxation. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6045. International Taxation 3 sem. hrs. U.S. Taxation of international transactions and foreign taxpayers. A study of the U.S. and foreign taxation of international commercial transactions involving U.S. and foreign taxpayers, including the taxation of income of U.S. taxpayers operating abroad through branches and subsidiaries; the U.S. foreign tax credit provisions; cross-border asset transfers and related intercompany pricing issues; the U.S. taxation of non-resident individuals, partnerships, associations and foreign corporations; and bilateral and multilateral income tax treaties. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6050. Accounting Information Systems 3 sem. hrs.
Substantial hands-on involvement in computing capabilities which enable accountants to be more productive and to provide better service to clients and management. Applications in cost behavior, cost analysis, cost estimating, cost allocations, budgeting, profit planning, capital budgeting, and expert systems. Examination of various approaches to the computerization of the transaction processing cycle, using a suitable software package, with special emphasis on the problems of internal control. EDP auditing and the accountant's role in the systems development cycle. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6080. Analysis of Corporate Financial Statements 3 sem. hrs.
Provides experience in reading, interpreting, and analyzing corporate financial statements. Specific attention is given to the evaluation methods necessary to assess a firm's short-term liquidity, long-term solvency flows, capital structure, return on investment, operating performance, and asset utilization. Effects of alternative accounting methods and footnote disclosures. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6119. Tax Research 3 sem. hrs.
Development of essential tax research skills and their application in the prevailing federal tax environment. The student will learn how to find tax authority, evaluate the efficacy of that authority, and apply the results of research to a specific situation. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6180. Financial Statement Analysis 3 sem. hrs.
Focuses on how accounting information is used for making managerial decisions. Includes an overview of financial statement analysis, student preparation of written analytical reports and the use of analytical and cash flow techniques. Group projects, oral presentations and the use of technology are all included. *Prereq: Admitted to graduate BUAD, ECON, ENMA, HCTM, HURE or NURS; ACCO 6100 or cons. of M.B.A. prog. dir.*

ACCO 6511. Taxation of Corporations and Partnerships 3 sem. hrs.
Partnership and corporation income tax laws studied for proper treatment of various types of income, deductions, the consequences of ownership interests and the application of various tax rates to taxable situations. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6512. State and Local Taxation 3 sem. hrs.
Taxable incidents and multiple taxation under the Commerce Clause of the United States Constitution; current tax developments under the Import-Export clause of the United States Constitution; allocation and apportionment formulas; and multi-state tax compact. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6520. Corporate and Not-for-Profit Reporting Issues 3 sem. hrs.
Study of business combinations (mergers, consolidations, and acquisitions of net assets of common stock). Construction of consolidated financial statements, including analysis of inter-company transactions. Introduction of international accounting issues. Accounting for colleges and universities and health care, voluntary health and welfare, and other not-for-profit organizations. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6525. Governmental Accounting 3 sem. hrs.
Study of accounting principles for state and local governmental units as promulgated by the Governmental Accounting Standards Board and the related financial reporting and disclosure requirements. Examination of objectives of financial reporting of these entities and the theoretical structure underlying these principles. Introduction to federal government accounting and audits of governmental units. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6530. Advanced Cost Management 3 sem. hrs.
Develops an understanding of accounting as a financial information system. Cost accounting is designed to structure financial information so as to assist management in decision making. As a result, course has a decision orientation which is important for students who seek careers in either profit-motivated or not-for-profit organizations. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6535. Fraud Examination 3 sem. hrs.
An analysis of how and why fraud is committed, how fraudulent conduct can be deterred and how allegations of fraud should be investigated and resolved. *Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.*

ACCO 6570. Auditing: Ethical, Legal, Professional and Reporting Responsibilities 3 sem. hrs.
Focuses on major issues in auditing not addressed in an undergraduate auditing and assurance course. Specific attention is given to the Finance, Inventory, Property, Plant and Equipment and Payroll cycles of the audit engagement, corporate governance, Sarbanes-Oxley Act as well as in-depth coverage of audit reporting, review and compilation reports. A major component of the course is the conduct and presentation of the results of an operational audit. *Prereq: Admitted to the graduate ACCO program, ACCO 4170 or equiv.; or cons. of M.S.A. prog. dir.*

ACCO 6590. Accounting Theory 3 sem. hrs.
Analysis of the theoretical structure underlying financial accounting. Emphasis directed toward its development from both normative and descriptive approaches. Relates accounting theory to the basic financial statements and to selected topical areas. Examination of current issues under study by Financial Accounting Standards Board.
Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.

ACCO 6931. Topics in Accounting 1-3 sem. hrs.
Elective course. Topics will vary.
Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir. Prerequisites may vary on a course by course basis.

ACCO 6953. Seminar in Accounting 2-3 sem. hrs.
Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir. Prerequisites may vary on a course by course basis.

ACCO 6995. Independent Study in Accounting 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO program; or cons. of M.S.A. prog. dir.

ACCO 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ACCO 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

BUSINESS ADMINISTRATION (BUAD)

DEGREE OFFERED

Master of Business Administration, Plan B Non-Thesis option only: Certificate in Entrepreneurship.

PROGRAM DESCRIPTIONS

MASTER OF BUSINESS ADMINISTRATION

The objective of the M.B.A. program at Marquette University is to provide students with a broad professional education in preparation for responsible managerial positions in business, public service, or education. The program is built upon the foundations of quantitative analysis, behavioral sciences, economics, and management theory.

Emphases of the program include an understanding of business problems and the development of managerial skills. The M.B.A. program is accredited by the Association for the Advancement of Collegiate Schools of Business (AACSB–International) and reflects the high standards and expectations of that accreditation.

CERTIFICATE IN ENTREPRENEURSHIP

The same skill set that is needed to create a business - innovation, entrepreneurism, and business acumen developed within a context of social responsibility - is needed to succeed and lead in any business or nonprofit organization. Students in all disciplines who start or work in entrepreneurial business during their careers will be more able to carry forward the University's mission if their academic experience has included exposure to entrepreneurial practices.

Students who complete the program will: a) demonstrate entrepreneurial thinking as it applies to their chosen discipline by successfully completing a practicum in which they apply principles of innovation to a project or develop an idea for a new business outside of the practicum, b) understand what it takes to start a new venture, including the basics of finance, marketing and management for a new and growing business, c) learn how to identify their personal strengths as an entrepreneur and how to build an effective leadership team for a new business and d) establish connections with the entrepreneur community within their profession.

Certificates will be granted as "Certificate in Entrepreneurship".

Students are required to have a 4-year, undergraduate degree from an accredited and approved institution that fits our current standards of admission to a graduate business degree program. The candidate is not required to take the GMAT or GRE to earn the graduate certificate.

Applicants for the Certificate program will apply online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now.*

1. A completed application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Resume or job profile.
5. Interview with program director.

(Students will be asked to provide a business plan or idea prior to the interview.)

All application materials should be sent to: Graduate School of Management; David A. Straz, Jr., Hall Executive Center, Suite 275; Marquette University; P.O. Box 1881; Milwaukee, WI 53201-1881.

Students would need to take the GMAT or GRE, if appropriate, (see individual program requirements) if they apply for a graduate business degree within 5 years of certificate completion. A maximum of six credits from the certificate program, completed within the last five years, in which the student earned a B or better grade, could transfer to a degree program as appropriate, subject to University policy and credit limits.

Transfer credits are not accepted for the Certificate program.

Students have 3 years to complete the Certificate program.

M.B.A. PREREQUISITES FOR ADMISSION

Admission to the M.B.A. program requires: a) a four-year bachelor's degree from an accredited college or university; b) an acceptable record of academic achievement at the bachelor's level and in any previous graduate course work; c) acceptable scores on required admission tests; and d) an overall composite profile of admission data (including an evaluation of previous work experience) that predicts success in the program.

SPECIALIZATIONS

A specialization is not required in the M.B.A. program, and earning a specialization does not alter, in any way, the degree awarded. For those interested, however, specializations are available in several areas of study: Economics, Finance, Human Resources, International Business, Management Information Systems, Marketing, and Operations and Supply Chain Management. The specialization is noted on the student's official university transcript. To earn a specialization, a student, in addition to meeting all requirements for foundation and core course work, must take their electives from among the prescribed courses approved for the chosen specialization. A comprehensive list of approved specializations and the requisite course work is available from the M.B.A. program director or via our Web site at *www.marquette.edu/gsm*. The student must earn a grade of B or above in each of the prescribed electives, and all electives applied toward a specialization must be taken at Marquette University.

Graduates of the M.B.A. program may complete a specialization within five years of graduation. To obtain additional information regarding this opportunity, contact the M.B.A. office at (414) 288-7145 or e-mail MBA@marquette.edu.

M.B.A. APPLICATION REQUIREMENTS

Students may apply for Regular Degree, Temporary Degree or Non-degree status. It is recommended that students apply for Regular Degree Status when possible. The application is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*.

1. A completed application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Official test scores from the Graduate Management Admission Test (GMAT).
5. Resume or job profile.
6. *(For international applicants or applicants applying for Graduate School financial aid, i.e. assistantship positions)* three letters of recommendation.
7. *(For international applicants* only) an official TOEFL score or other acceptable proof of English proficiency.

Note: Temporary non-degree applicants (admission valid for one term only) must submit all of the above, except the GMAT scores.

Students are encouraged to complete all application materials and apply for degree status. Temporary status is valid for one semester only. Temporary non-degree status students are not eligible to continue taking M.B.A. classes beyond one semester without degree admission. Typically, non-degree admission is not recommended in the M.B.A. program.

All application materials should be sent to: Graduate School of Management; David A. Straz, Jr., Hall Executive Center, Suite 275; Marquette University; P.O. Box 1881; Milwaukee, WI 53201-1881.

OFF-CAMPUS PROGRAMS

The M.B.A. program currently offers the M.B.A. program at two off-site locations: Kohler, Wisconsin and Waukesha, Wisconsin. Although the programs have some collaboration with local companies, students from all companies are welcome to apply. Admission to these programs is for fall only. As a 'lock-step – cohort group' there are ideally no new entries into the program once the group has matriculated. Students will take all classes together from matriculation to graduation. Classes meet one night a week each fall, spring and summer term. Currently, the Kohler program is completed in 33 months, and the Waukesha program is completed in 28 months. If a student is unable to continue with the group, he/she can transition to the on-campus program at the Marquette University campus. For additional information on either program, contact the M.B.A. office at (414) 288-7145, e-mail MBA@marquette.edu, or visit our Web site at *www.marquette.edu/gsm*.

JOINT PROGRAMS OF STUDY

M.B.A.-J.D. DEGREE

The Graduate School of Management, in conjunction with the Law School, offers a program of joint study leading to an M.B.A. degree and a juris doctor degree. Students seeking admission to the joint program must apply to both the Graduate School of Management and the Law School and must meet the admission requirements for each. Students start this joint program as a law student. Upon completion of the law program, students will be officially admitted to the M.B.A. program for completion of the remainder of the joint program.

Joint program students complete 81 credit hours in the Law School and 28 graduate business credit hours beyond required foundation courses in the M.B.A. program. Up to 21 hours of an M.B.A.-J.D. student's course work will count jointly toward both degrees (12 hours of Law School credits may be applied to M.B.A. requirements and as many as 9 hours of M.B.A. credits may be applied to J.D. elective requirements). All transfer courses from the Marquette University Law School must have a C or above grade. Joint program students must maintain a 3.00 grade point average to graduate with the M.B.A. degree. LAWG 7157 Current Issues in Intellectual Property and Technology Law (Computer Law topic) or LAWG 7236 Internet Law is encouraged for all students pursuing joint M.B.A.-J.D. degrees. LAWG 7157 and LAWG 7236 may satisfy both an elective in the law program and will satisfy the IT/e-Business Elective Core requirement. Students are strongly encouraged to seek advising from both programs.

A specialization in sport business is available to students admitted to the joint M.B.A.-J.D. programs Twelve credits of specific law courses will apply toward the M.B.A. degree. Students must take Amateur Sports Law, Professional Sports Law, and either two sports law workshops or one additional sports law workshop and the one credit Topics in Advanced Legal Research - Sports Law, along with Internet Law or Computer Law, which will also satisfy the M.B.A. IT/e-Business Elective Core requirement.

In general, joint program students will pay tuition at the full-time (flat tuition) Law School rate while a full-time law student, regardless of whether or not they are taking additional graduate courses. Upon receiving the juris doctor degree, joint program students will pay Graduate School of Management tuition at the per credit rate for graduate courses. Part-time law students will pay the per credit Law School rate for all courses.

HEALTHCARE TECHNOLOGIES MANAGEMENT (HCTM)

The Healthcare Technologies Management Program is a collaborative effort between Marquette University and the Medical College of Wisconsin that combines education in business and biomedical engineering. The objective of this master's program is to educate professionals capable of managing the design, development, commercialization, and regulatory compliance of diagnostic and therapeutic medical devices, and the implementation, utilization, and assessment of hospital-based healthcare technologies.

Healthcare institutions, medical device companies, and healthcare consulting firms have a growing need for skilled professionals with technical and managerial skills, and an understanding of healthcare delivery and regulatory environments. Graduates of the program will have the education and skills needed to pursue career opportunities in clinical, industrial, and consulting environments. The program meets the needs of recent undergraduates seeking an advanced degree as well as employed engineers interested in opportunities to prepare for career advancement.

Elective courses, independent study projects, and internship opportunities enable students to customize their training to meet individual needs, interests, and career goals. With the assistance of a faculty and industry/clinical adviser, students are required to design and complete an applied biomedical engineering project. This independent study/internship experience will help develop skills that will be useful in the clinical or industrial environment.

The course offerings and schedules are designed to allow working students to pursue this M.S. degree on a part-time basis. Full-time students can complete the program in three terms (12 months). Course topics include technology assessment, ethics of technology utilization, standards and regulations, product development, and the environment of healthcare delivery. Topics of study include health care technology assessment, development, and evaluation, ethics of technology utilization, and outcomes and medical effectiveness research.

Students who do not have an adequate undergraduate background in business may also be required to complete one or more graduate business foundation courses (ACCO 6000 Accounting Foundations, ECON 6000 Economics Foundations, INTE 6000 Information Technology Foundations, MANA 6000 Mathematics Foundations, MANA 6001 Statistics Foundations) in preparation for the core business courses.

Additional details concerning the master of science degree in healthcare technologies management are listed under the Graduate School section of this bulletin. Also see the Graduate School of Management Transfer of Credit policy regarding maximum business course transfer limits and requirements.

M.B.A.-M.S.N. DEGREE

The Graduate School of Management, in conjunction with the College of Nursing, offers a program of joint study leading to an M.B.A. degree and an M.S.N. degree with a specialization in Health Care Systems Leadership. Students seeking admission to the joint program apply to both programs and must meet the admission requirements for both the M.B.A. and M.S.N. programs. However, official test scores from the Graduate Management Admission Test (GMAT) may substitute for the GRE admission requirement in the College of Nursing. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take

courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

The application for the Graduate School of Management is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*. The Graduate School also has an online application to the Nursing program.

Joint program students complete a total of 60 credits, including 6 credits of M.B.A. foundation courses (ACCO 6000, ECON 6000, MANA 6000), 12 credits of nursing core courses (NURS 6000, NURS 6007, NURS 6009, NURS 6010), 24 credits of M.B.A. core courses (ACCO 6100, ECON 6100, FINA 6100, MANA 6100, MANA 6240, MARK 6100, OSCM 6100, a quantitative methods course [see M.B.A. elective core options], and 18 credits of health care systems leadership courses (HEAL 6820, HEAL 6841, HEAL 6846, HEAL 6848, NURS 6852, NURS 6853). A comprehensive examination in the nursing content area is required. MANA 6240, Strategic Management in a Global Economy, serves as the final integrating experience for the business content area. MANA 6240 may be taken only after completing all other core course requirements.

M.B.A.-M.A. DEGREE

The Graduate School of Management, in conjunction with the Department of Political Science, offers a program of joint study leading to a master of business administration (M.B.A.) degree and a master of arts (M.A.) degree with a focus on political science or international affairs. The program is designed for students whose interests overlap business and politics or business and international affairs. Joint degree students are able to complete both degree programs in less time than if both degrees were pursued separately.

Students seeking admission into the joint degree program must submit to the Graduate School and Graduate School of Management separate applications for admission to both programs, including two sets of required documentation, and must meet the admission requirements of each program. The Graduate School of Management requires the GMAT test scores. Both programs in political science and international affairs will accept GMAT scores in lieu of GRE scores. Acceptance into one program does not guarantee acceptance into the other. If a student is accepted into one program and not the other, the student can still choose to accept the admission offer from the first program but would not be considered a joint degree student. Because students are officially admitted into only one Marquette University graduate program at a time, applicants must indicate which program they intend to pursue and complete first, although once accepted for admission to both programs, students may take courses from both departments. Upon completion of the first program, the student will be officially admitted to the second program for completion of the remainder of the joint program.

The application for the Graduate School of Management is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*. The Graduate School also has an online application to the Political Science and International Affairs programs.

Joint degree students count 9 credits of course work in each program toward the required course work credits of the other program. Thus, 9 of the 40 credits required for the master of business administration degree beyond foundations, if required, will come from POSC courses, and 9 of the 30 credits required for the master of arts degree in political science or in international affairs will come from GSM courses.

The number of required credit hours for the master of business administration degree might be as high as 50 credit hours if the student is not exempted from foundation courses on the basis of undergraduate studies.

Students must identify the courses being applied toward both degrees prior to completion of the programs by contacting their advisers in both programs.

CERTIFICATE REQUIREMENTS

All certificate students are required to take 15-16 hours of coursework at Marquette University. Certificate students would take 3 core entrepreneurship courses offered by the business school and choose up to two courses in a professional area such as business or engineering. All students are required to complete:

Finance Fundamentals for Managers or equivalent
and
ENTP 6110 * New Venture Formation
ENTP 6115 Growth Strategies for Entrepreneurial Companies
ENTP 6180 Entrepreneurial Finance

*ENTP 6110 must be completed the first semester of studies.

All certificate students are required to successfully complete two electives classes from the courses listed below.

BUSINESS:

ENTP 6120 Strategic Consulting
FINA 6115 Real Estate Finance and Investment
HURE 6125 Negotiations
HURE 6530 Staffing Organizations
ENTP 6931 Topics in Entrepreneurship
ENTP 6953 Seminar in Entrepreneurship

ENGINEERING:

ENMA 6020 Engineering Innovation and Entrepreneurship
ENMA 6060 Innovation and Technology
ENMA 6090 New Product-Process Portfolio Management
HCTM 6300 Biomedical Technology Standards and Regulations
HCTM 6500 Product Development of Medical Devices

A Business Plan is required. It is expected that most students will participate in the Business Plan competition. Those who choose not to participate in the competition will be required to complete an exit interview with the Director of the Certificate program to present their business plan.

MASTER'S REQUIREMENTS

The M.B.A. program requires a minimum of 40 credits of course work and a maximum of 50 credits of course work (this number may be reduced to 34 or 37 hours if exemptions to core courses are granted based upon the applicant's undergraduate record and major field of study).

The course work covers four distinct areas:
1. Foundation Courses (10 credits)
2. Core Courses (18 credits)
3. Elective Core Courses (12 credits)
4. Elective Courses — Normally chosen from the various graduate electives (10 credits).

The program does not require a thesis, essay, or comprehensive examination. Instead, MANA 6240, Strategic Management in a Global Economy, serves as the final integrating experience in the program. MANA 6240 may be taken only after completing 21 credits of core and elective core course requirements.

M.B.A. PROGRAM DETAILS

FOUNDATION COURSES

The foundation of the M.B.A. program consists of the five graduate courses (10 credits) listed below. A student can be exempted from foundation course requirements if he or she has recently completed equivalent course work, with satisfactory grades, as part of a degree program accredited by the AACSB–International or other regionally accredited program specifically recognized by the Graduate School of Management. Undergraduate courses would qualify routinely for exemptions if taken as part of the core or elective requirements of a degree program that was completed within the 10 years preceding application to the Marquette M.B.A. program.

ACCO 6000 Accounting Foundations
ECON 6000 Economics Foundations
INTE 6000 Information Technology Foundations
MANA 6000 Mathematics Foundations
MANA 6001 Statistics Foundations

CORE COURSE WORK

The core of the M.B.A. program consists of the 6 graduate courses (18 credits) listed below. Students are expected to observe prerequisite sequencing requirements within the core area. We also suggest taking the core courses in the stated sequence, when possible.* In addition, students should have completed all foundation course requirements before enrolling in core courses.

ACCO 6100 Managerial Accounting
ECON 6100 Managerial Economics
FINA 6100 Financial Management
MANA 6100 Organizational Behavior
MARK 6100 Marketing Management
OSCM 6100 Operations and Supply Chain Management

*Recommended sequence of quantitative courses: ECON 6100, ACCO 6100, FINA 6100.

ELECTIVE CORE COURSE WORK

There are three elective core areas in the M.B.A. program. Within each elective core area, students will choose one three-credit course from those listed to fulfill the elective core requirement. The elective core areas are: Quantitative Methods; Information Technology and e-Business; and Social, Ethical and Political Environment of Business.

Courses that satisfy the elective core components are:

Quantitative Methods
(3 credits required)

Choose one course from the following list:
ECON 6160 Applied Econometrics
FINA 6160 Financial Derivatives
FINA 6165 Fixed Income Markets and Securities
MARK 6160 Marketing Research
OSCM 6160 Quantitative Decision Modeling and Analysis

Information Technology/e-Business
(3 credits required)

Choose one course from the following list:
ACCO 6050 Accounting Information Systems
HURE 6050 Human Resources Information Systems

INTE 6150	Information Technology Strategy
INTE 6153	Project Management
INTE 6156	Privacy and Security
INTE 6157	Global IT Sourcing
INTE 6158	System Analysis and Design
INTE 6931	Topics in Information Technology
INTE 6953	Seminar in Information Technology
MARK 6150	e-Marketing Strategy
MARK 6151	Direct Marketing Strategy
OSCM 6150	e-Business and Supply Chain Management
LAWG 7157	Current Issues in Intellectual Property and Technology Law (Computer Law topic)
LAWG 7236	Internet Law
MSCS 6340	Component Architecture
MSCS 6350	Distributed Computing
MSCS 6360	Enterprise Architecture
MSCS 6370	Information Representation

Social, Ethical, Political Environment (3 credits required)

Choose one course from the following list:

ACCO 6570	Auditing: Ethical, Legal, Professional, and Reporting Responsibilities
FINA 5370	Advanced Investment Management, Ethics and Society
FINA 6170	Investment Management, Ethics and Society
HURE 6170	Ethical Issues, Regulatory Environment and Human Resource Management
MANA 6170	Global Environment of Business
MARK 6170	Marketing Ethics and Social Responsibility

CAPSTONE COURSE WORK

There is a required 3 credit capstone course in the M.B.A. program, MANA 6240. All students are required to successfully complete MANA 6240 Strategic Management in a Global Economy. Students are required to successfully complete 21 credits between the required core and elective core program requirements prior to enrolling in MANA 6240.

For additional information contact the M.B.A. office at (414) 288-7145, e-mail us at MBA@marquette.edu, or visit our Web site at *www.marquette.edu/gsm*.

ELECTIVE COURSE WORK

In selecting the 10 credit hours of required elective course work, the M.B.A. student has a variety of choices. Electives may be concentrated in one area of business, e.g., marketing, or they may be distributed over several areas. Courses chosen from Marquette's graduate programs in accounting, economics, and human resources are routinely approved for elective credit in the M.B.A. program. With prior approval from the M.B.A. program director, an M.B.A. student may choose, as electives, graduate courses from non-business fields in which he or she has the appropriate undergraduate background to enter graduate level courses.

One credit of the electives is required to be a Skills course. All Skills courses are numbered BUAD 6101-6125. Up to four credits of the electives may be in the Skills area. Skills electives are in various areas such as team building, communication skills, etc.

COURSE DESCRIPTIONS

The following courses require students to be enrolled in the graduate ACCO, BUAD, ECON, HURE, HCTM, ENMA or NURS programs.

Business Administration (BUAD)

BUAD 6101. Skills: Conducting Performance Appraisals 1 sem. hr.

Focuses on the communication skills important for conducting effective and fair performance appraisals. Includes an overview of the performance appraisal process, principles of organizational justice—as it relates to performance appraisals—and the communication skills needed. While a variety of approaches (e.g., 360, BARS, etc) will be introduced—primarily through reading—the focus will be on process. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM or HURE program; or cons. of M.B.A. prog. dir.*

BUAD 6102. Skills: Balanced Scorecard 1 sem. hr.

Using the Balanced Scorecard for Bottom Line Results. The Balanced Scorecard has been recognized by Harvard Business Review as one of the most influential business ideas in the last 75 years. In today's competitive business environment executing strategy into action is critical for success. This "hands on" course will focus on three major areas of the Balanced Scorecard: 1) Theory and concepts, 2) Case studies of successful companies and 3) Building your own Balanced Scorecard. State of the art software will be used to build a Balanced Scorecard for the student's organization illustrating operationalizing strategy into actionable results. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6104. Skills: Business Writing 1 sem. hr.

Business writing. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6105. Skills: Coaching for Performance Improvement 1 sem. hr.

Coaching for performance improvement and establishing objectives that are clear, meaningful and relevant to the employee are key management skills required for the workplace. Provides students with critical skills for coaching employees to unlock potential and maximize performance in the workplace. The emphasis would be on performance improvement as well as redirecting performance that is not achieving results. It would provide coaching skills needed to develop the potential of employees, peers, and others within the organization by forging collaborative relationships, recognizing and adapting to individual and situational differences and creating a positive work environment that generates commitment and enthusiasm.
Prereq: Admitted to graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program; or cons. of M.B.A. prog. dir.

BUAD 6106. Skills: Cross-Cultural Meetings - Business Interactions 1 sem. hr.

As the business community gets even smaller due to globalization, it becomes more imperative for the business professional to deal with complex cultural differences. A minimum of 25 countries will be examined. In addition to conducting business, we will discuss "safe" topics for discussion; how to meet and greet people; how to dress; how to entertain; when to schedule meetings; and other miscellaneous tips including body language, gestures, currency exchange, and grease payments.

We will also discuss Parliamentary Procedure as one way to possibly bridge the gap when dealing with multiple constituents. *Prereq: Admitted to graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6107. Skills: Facilitating Meetings 1 sem. hr.

Develop and practice skills for facilitating meetings. The first part addresses meeting management including planning an agenda; responsibilities of the facilitator; facilitation skills; analyzing group behavior; techniques for effective discussion; constructive feedback; and working through common problems. In the second part each participant will have the opportunity to facilitate a meeting to practice facilitation and discussion skills and deal with common group problems. The third and final part introduces students to tools and techniques for meeting facilitation. These may include: affinity diagram, variations to traditional brainstorming, fishbone diagram, flowcharts, force field analysis, interrelationship digraph, nominal group technique, multi-voting and prioritization matrices for group decision making.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

BUAD 6108. Skills: GIS Business ArcView Software 1 sem. hr.

Emphasis on principles and usage of Geographic Information Systems (GIS). Discuss capabilities and applications, review spatial data, and become familiar with GIS software via hands-on exercises.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

BUAD 6110. Skills: Organizational Assessment 1 sem. hr.

Provides students with tools and methods for assessing the current state of their organizations. Different perspectives and approaches will be considered for diagnosing an organization. Several different models will be introduced that guide students on where and what to look for. Emphasis will be placed on the need to consider the formal and informal systems as well as the alignment of sub-systems. Methods of data collection that will be discussed include examination of historical records, observations and interviews. The pros and cons of survey questionnaires as a tool for organizational assessment will be considered along with a review of some commercially available surveys.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

BUAD 6111. Skills: Powerful Presentations 1 sem. hr.

Students learn how to develop and deliver high-powered and targeted presentations through a well-planned and organized process and through the use of the tools available in PowerPoint. Provides a basic framework for developing and delivering effective business presentations. As a part of this framework, students will learn tips for preparing the presentation, overcoming personal obstacles to public speaking, rehearsing and delivering the presentation and interacting with the audience. Workshop time will be devoted to learning how to create effective presentations using Microsoft PowerPoint including the use of templates, the presentation master and slide master; development of figures, charts and diagrams; inserting information into their presentations; sharing their presentations with oth-

ers for review and delivering their presentations online or in person. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6112. Skills: SAS 1 sem. hr.
Provide students with a foundation for the use of the statistical software package, SAS, to be used for data analysis, data manipulation, modeling and other advanced statistical techniques. Students will be taught these techniques through a combination of group instruction, practice using examples and individual instruction. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6113. Skills: SPSS 1 sem. hr.
Familiarizes students with the features of SPSS statistical package and how to use SPSS in data analysis. However, this course is not intended to teach the various statistical techniques. There will be a basic level discussion of topics such as an overview of SPSS, creating SPSS datasets, modifying data values (recode, compute, sort, split data files, concatenate data files, create multiple response sets), statistical procedures, creating and modifying legacy charts as well as interactive charts, reading non-SPSS data files and converting them into SPSS data files. A number of data analysis assignments/problems will be given which require application of SPSS. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6114. Skills: Team Building 1 sem. hr.
Focuses on learning and developing specific team building skills. Students will be given material to help them understand team dynamics, problem solving in teams, group communication and develop high performing teams. Exercises and group activities will emphasize the differences between individual and group goals and provide students with the opportunity to practice team-based skills.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

BUAD 6115. Skills: Networking-Job Skills to Survive a Tough Economy 1 sem. hr.
Learn the various uses of networking (evaluate career alternatives, search for a position, establish technical support groups, etc.) and work from skills and career objectives self-assessment exercises to develop an overall networking strategic plan. Evaluate current networking resources, identify networking gaps and practice improving networking skills. Emphasizes role-playing development of techniques and will involve analyzing barriers to an effective networking campaign. The interim between sessions will be used to further develop a plan and to practice skills in the work world. The second session will include evaluating plans and skills and implementing revisions to the original plans. A final plan based upon classroom feedback will be required. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

BUAD 6931. Topics in Business Administration 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to graduate BUAD, ECON, ENMA, HCTM, HURE or NURS; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.

BUAD 6933. Exchange/University of Wisconsin–Milwaukee 1-3 sem. hrs.
In conjunction with the exchange program established between Marquette University and the University of Wisconsin-Milwaukee, students may enroll in a pre-approved graduate level course at the school while enrolled in a master's program in the Graduate School of Management. The visiting school's course title and credits are identified by this exchange course. A maximum of two of these exchange courses for a maximum of 6 credits may be included in the required minimum course work for the student's program of study at Marquette University. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end if the course. *Prereq: Cons. of M.B.A. prog. dir.*

BUAD 6934. Exchange/University of Notre Dame 1-3 sem. hrs.
In conjunction with the exchange program established between Marquette University and the University of Notre Dame, students may enroll in a pre-approved graduate level course at that school while enrolled in a master's program in the Graduate School of Management. The visiting school's course title and credits are identified by this exchange course. A maximum of two of these exchange courses for a maximum of 6 credits may be included in the required minimum course work for the student's program of study at Marquette University. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end if the course.
Prereq: Cons. of M.B.A. prog. dir.

BUAD 6935. Exchange/Loyola University Chicago 1-3 sem. hrs.
In conjunction with the exchange program established between Marquette University and Loyola University of Chicago students may enroll in a pre-approved graduate level course at that school while enrolled in a master's program in the Graduate School of Management. The visiting school's course title and credits are identified by this exchange course. A maximum of two of these exchange courses for a maximum of 6 credits may be included in the required minimum course work for the student's program of study at Marquette University. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end if the course.
Prereq: Cons. of M.B.A. prog. dir.

BUAD 6936. Exchange/Saint Louis University 1-3 sem. hrs.
In conjunction with the exchange program established between Marquette University and Saint Louis University, students may enroll in a pre-approved graduate level course at that school while enrolled in a master's program in the Graduate School of Management. The visiting school's course title and credits are identified by this exchange course. A maximum of two of these courses for a maximum of 6 credits may be included in the required minimum course work for the student's program of study at Marquette University. This course extends beyond the Marquette term; students receive an IC grade initially. The IC will be changed to an A-F grade at the end if the course.
Prereq: Cons. of M.B.A. prog. dir.

BUAD 6953. Seminar in Business 1-3 sem. hrs.
Topics may vary. *Prereq: Admitted to graduate BUAD, ECON, ENMA, HCTM, HURE or NURS program; ACCO 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

BUAD 6995. Independent Study in Business 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; and cons. of M.B.A. prog. dir.

BUAD 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

BUAD 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

Accounting (ACCO)

ACCO 6000. Accounting Foundations 2 sem. hrs.
Emphasis on external reporting to stockholders, government and other outside parties. Includes measurement of income and expenses and the valuation of assets and equities, under various forms of business organizations. Structuring data to aid management decisions. Offered every term.
Prereq: Admitted to the graduate BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

ACCO 6100. Managerial Accounting 3 sem. hrs.
Emphasizes the role of the accounting system as a quantitative information system. Available data are restructured in the form of internal reports to management for use in planning and controlling routine operations as well as in making non-routine decisions and formulating major plans and policies. The analysis of data makes use of regression analysis, matrix algebra, and linear programming. Offered every term. *Prereq: Admitted to the graduate BUAD, ECON, ENMA, HCTM, HURE or NURS program; and ACCO 6000, MANA 6000 and 6001 or equiv.; or cons. of M.B.A. prog. dir.*

Business Law (BULA)

BULA 6110. Legal Issues in Business and Technology 3 sem. hrs.
Provides an owner/manager's perspective of the significant influence of the law and of legal principles on managerial decision making. Major topics will include government regulation of business activities, contract law, liability law and forms of business organizations. Emphasis is on the application of these principles to managerial decision making in the current business environment.
Prereq: Admitted to the graduate BUAD, ECON, ENMA, HCTM, HURE or NURS program; ACCO 6100; or cons. of M.B.A. prog. dir.

Economics (ECON)

ECON 6000. Economics Foundations 2 sem. hrs.
Principles, analytic concepts, and techniques of the economic way of thinking, applied to consumer choice, resource use, and the firm's pricing, hiring, and production decisions. The operation of markets and the economic role of government. Determinants of aggregate production, employment, and the price level. Offered every term. *Prereq: Admitted to the graduate BUAD, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

ECON 6100. Managerial Economics 3 sem. hrs.
Incorporates the tools and logic of microeconomics together with quantitative and statistical methods. The principal focus is on understanding and predicting economic behavior of consumers, firms, and industries through product-line and industry modeling and model estimation. The use of current statistical software and computer technology is promoted throughout the course. May include a segment in applied microeconomics that addresses economic policy issues. Offered every term.
Prereq: Admitted to the graduate ACCO, BUAD, ENMA, HCTM, HURE or NURS program; ECON 6000, MANA 6000 and 6001; or cons. of M.B.A. prog. dir.

Entrepreneurship (ENTP)

ENTP 6110. New Venture Formation 3 sem. hrs.
Focuses on starting and developing new ventures. A case-based course, topics include: recognizing opportunity; selecting and dealing with partners; alternatives for financing startups; new venture sales issues; harvesting value for the entrepreneur; relationship with investors; and some legal/organizational topics important to entrepreneurs. Emphasis is placed on business model to analysis as the foundation for the new venture process. Students will be exposed to a range of visiting entrepreneurs and investors from the region and across the U.S.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir.

ENTP 6115. Growth Strategies for Entrepreneurial Companies 3 sem. hrs.
Focuses on growing and developing entrepreneurial ventures. Topic include: financing growth and managing investors; management capability as businesses grow (and change); cultural issues associated with entrepreneurial growth implementations; adaptation of strategy to change, both short and long term, and harvesting strategies for business owners. Students will interview entrepreneurs, develop operational plans, interview potential resource providers and write self-assessments as part of the course. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; ACCO 6000, MANA 6000 and 6001; or cons. of M.B.A. prog. dir.*

ENTP 6120. Strategic Consulting 3 sem. hrs.
Students provide pro bono consulting services to local entrepreneurs, small business owners, and not-for-profit organizations, chosen when possible to be consistent with the Marquette mission. Students work in relatively autonomous teams, albeit supervised by the instructor, for a selected client on a strategic topic of concern to the top management of the client. In doing so, they gain skills and experiential understanding in project management, applied business research, the consulting process and particular "real world" general management issues.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

ENTP 6180. Entrepreneurial Finance 3 sem. hrs.
Focuses on the financial aspects of entrepreneurship, from the first decision as to whether or not to undertake an activity, to projecting financial needs, reviewing the trade-offs between alternative financing choices, to harvesting. Topics will include, but are not limited to: bootstrapping, the role of angel investors, private placements, venture capital, banking options, commercial financing, public offers (IPOs, PIPES), factoring franchising and joint ventures. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and FINA 6100; or cons. of M.B.A. prog. dir.*

ENTP 6931. Topics in Entrepreneurship 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

ENTP 6953. Seminar in Entrepreneurship 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

ENTP 6995. Independent Study in Entrepreneurship 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

Finance (FINA)

FINA 5081. Investment Banking 3 sem. hrs.
Review of the common types of transactions that investment bankers work on and the different methods used to value those transactions. Some of these include IPOs, seasoned equity offerings, exchange offers, mergers, hostile tender offers, leverage buyouts, and going private transactions.
Prereq: Admitted to graduate ACCO, BUAD or ECON program; FINA 6100; or cons. of M.B.A. dir.

FINA 5370. Advanced Investment Management, Ethics and Society 3 sem. hrs.
In the final course in the AIM program, students learn how to manage investments in a manner that is both ethical and socially responsible. Students acquire a thorough understanding of the Chartered Financial Analyst® professional standards of conduct in the application of ethics to the moral dimensions of money management. Students also are exposed to the strategies and performance of investment funds that are socially responsible. In doing so, students consider such issues as discrimination and affirmative action in the workplace, economic justice, and environmental impact, among others, in the evaluation of companies for inclusion in a socially responsible fund. *Prereq: FINA 4330, FINA 4060, and FINA 4931 (Fixed Income Securities), which may be taken concurrently. Only open to students accepted into the AIM program.*

FINA 6081. Investment Banking 3 sem. hrs.
Review of the common types of transactions that investment bankers work on and the different methods used to value those transactions. Some of the transactions covered include IPOs, seasoned equity offerings, exchange offers, mergers, hostile tender offers, leverage buyouts, and going private transactions, etc. Course will also expose students to different methods used to value those transactions via applied projects, model building, cases, etc. The class will contain some on-line teaching elements to supplement the in-class time.
Prereq: Admitted to graduate ACCO, BUAD or ECON program; FINA 6100; or cons. of M.B.A. dir.

FINA 6100. Financial Management 3 sem. hrs.
Application of financial theory and advanced techniques to the managerial decisions of the business firm. Topical coverage includes the areas of risk, valuation, capital structure, mergers and acquisitions, investment decisions and international finance. Offered every term. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; ACCO 6000, MANA 6000, MANA 6001 or equiv.; or cons. of the M.B.A. prog. dir.*

FINA 6111. Investments 3 sem. hrs.
The role and functioning of securities markets. Specific topics include the equity, fixed income, options and futures markets. Presents portfolio and capital market theory, the efficient markets hypothesis, institutional organization, and security valuation techniques. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir.*

FINA 6115. Real Estate Finance and Investments 3 sem. hrs.
Provides the student with an in-depth knowledge of real estate finance, real estate investment, and the operation of the real estate capital markets. The objective of the course is to understand the many sources and uses of capital in the commercial real estate industry. The course begins with the mechanics of mortgage finance, followed by a detailed presentation of mortgage underwriting, lender ratios, and discounted cash flow analysis.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and FINA 6100; or cons. of M.B.A. prog. dir.

FINA 6130. Bank Management 3 sem. hrs.
Management of a commercial bank, including lending, loan pricing, liability management, liquidity, and asset/liability management. Issues relating to the current bank regulatory environment, including bank failures and capital adequacy, are discussed.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir.

FINA 6140. International Financial Management 3 sem. hrs.
Examines the unique financial problems in managing a multinational firm. Financial principles are applied to a variety of multinational business issues including: hedging currency and interest rate risk, multinational capital budgeting, direct foreign investment, and managing a global business firm. Integrates financial theory with a case study approach.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and FINA 6100; or cons. of M.B.A. prog. dir.

FINA 6160. Financial Derivatives 3 sem. hrs. Study of the mechanics, pricing, arbitrage, and risk of derivative securities markets, including options, futures, swaps, and collaterized securities and the markets in which they are traded. Applications are developed of the use of these markets as a hedging vehicle for portfolio managers, corporate treasurers, bankers, and others.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir.

FINA 6165. Fixed Income Markets and Securities 3 sem. hrs.
Focuses on the use of fixed income securities to fulfill investment requirements or accommodate corporate financing strategies. Coverage includes fixed income markets and the securities traded in those markets, techniques used to value fixed income securities, and derivative strategies using fixed income securities. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir.*

FINA 6170. Investment Management, Ethics and Society 3 sem. hrs.
Examines the ethical and socially responsible dilemmas that managers encounter in the investment management industry. Some of the topics include the professional standards for ethical behavior, corporate governance, accounting manipulation and socially responsible investing.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and FINA 6100 and 6111; or cons. of M.B.A. prog. dir.

FINA 6931. Topics in Finance 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and FINA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

FINA 6953. Seminar in Finance 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; FINA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course*

FINA 6995. Independent Study in Finance 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and FINA 6100; and cons. of M.B.A. prog. dir.

International Business (INBU)

INBU 5951. Marquette Led Travel and Study Abroad in International Business 3 sem. hrs.
Course taught in an international setting by Marquette professors and where students earn Marquette credit. *Prereq: Cons. of dept. ch.; cons. of International Business Director.*

INBU 6931. Topics in International Business 1-3 sem. hrs.
Topics may vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

INBU 6951. International Study in Business 0-3 sem. hrs.
Structured travel and study programs in international business. 0 credit will be SNC/UNC grade assessment; 1-3 credits will be graded. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; student in good academic standing; and cons. of M.B.A. prog. dir.*

INBU 6953. Seminar in International Business 1-3 sem. hrs.
Elective course. Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, or HURE program; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

INBU 6995. Independent Study in International Business 1-3 sem. hrs.
Elective course. Topics will vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; and cons. of M.B.A. prog. dir.

Information Technology (INTE)

INTE 6000. Information Technology Foundations 2 sem. hrs.
Basic vocabulary principles include systems theory, data, information, hardware, software, database management systems, telecommunications, security, information resource management, the systems development life cycle, and the hierarchy of information systems as applied to business. Students become familiar with technical jargon and the relationship of technology components to each other, and how they are used in business. This course is a prerequisite for most IT electives. Students experience lectures, speakers, participate in discussion, quizzes and presentations. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM or HURE program; or cons. of M.B.A. prog. dir. Ability to use personal computer and its tools.*

INTE 6150. Information Technology Strategy 3 sem. hrs.
Covers how information flows throughout an organization and how it impacts managerial decision-making. Emphasizes user involvement/leadership in information systems project management to prepare non-IT managers to be responsible for budgets of IT initiatives. Student managers can realize how to exploit and leverage information for decision making that re-engineers businesses. Methodologies include case studies and team projects.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir.

INTE 6153. Project Management 3 sem. hrs.
Provides a holistic view of project management. Focuses on impact of effective project management on myriad aspects of the organization and will include the following topics: alignment of projects with organizational strategy; project elements, organization, and structure; estimating project times and costs; developing a project plan; risk management; resource and project scheduling and management; being an effective project manager, managing project teams; managing inter-organizational relationships; progress and performance measurement and evaluation; managing international projects and project teams; vendor management; management of cross-functional project teams. Supplemental activities include: hands-on project management, speakers from Project Management Institute and industry and project management software-e.g. MS Project, SIM software. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir.*

INTE 6156. Privacy and Security 3 sem. hrs.
Covers technical safeguards that can prevent disruption of service, data tampering and theft. Topics include risk assessment, management policies, authentication, encryption, digital signatures, authorization procedures, government standards, international law and vendor offerings. From a business perspective, the issue of what constitutes authorization for both collection and release of "personal" data will be reviewed. To the extent that corporations have an "ethical" obligation not to sell or divulge customer data, safeguards and legal limitations to prevent this will also be reviewed. Case studies, projects and research reports are used for evaluation. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir.*

INTE 6157. Global Information Technology Sourcing 3 sem. hrs.
Discussion on the evolution of IT and business process outsourcing with a focus on offshore software development. It will cover the rationale, different models, country providers, criteria for success, skill sets and impact of offshore IT outsourcing on an organization's strategy. Methods are readings, speakers, case studies and research papers.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir.

INTE 6158. Systems Analysis and Design 3 sem. hrs.
Students learn to analyze, model and design business system and process requirements using common tools and methodologies. Students apply concepts from class to a real-life systems development project of their choice.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir.

INTE 6931. Topics in Information Technologies 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

INTE 6953. Seminar in Information Technologies 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and INTE 6000; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

INTE 6995. Independent Study in Information Technologies 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; and cons. of M.B.A. prog. dir.

Management (MANA)

MANA 6000. Mathematics Foundations
2 sem. hrs.
Traditional mathematics of algebra and calculus with an introduction to linear programming. Exponential and logarithmic functions are discussed with an introduction to the mathematics of finance. Revenue and profit maximization and cost minimization applications using calculus and linear programming. *Prereq: Admitted to the graduate BUAD, ECON, ENMA, HCTM or HURE program; or cons. of M.B.A. prog. dir.*

MANA 6001. Statistics Foundations
2 sem. hrs.
Classical statistics with application in business and economics, including statistical inference, simple and multiple correlation/regression and analysis of variance. Offered every term.
Prereq: Admitted to the graduate BUAD, ECON, ENMA, HCTM or HURE program; or cons. of M.B.A. prog. dir.

MANA 6100. Organizational Behavior
3 sem. hrs.
Analysis of the intersection of the administrative process and the organization in attaining goals in various environments. Determinants of group and organizational performance, with consideration given to the intergroup processes, complex organizational processes, and the behavioral consequences of organizational structure. Offered every term.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.

MANA 6110. Leadership, Motivation and Organizational Change 3 sem. hrs.
Designed to: 1) examine and evaluate existing leadership theories, 2) survey topical issues and new developments in the leadership area, and 3) develop students' leadership skills and abilities. Motivation and leadership concepts will be used to analyze, diagnose, and make decisions about various organizational situations. Primary focus on case analysis. Lectures and discussions also will be used to provide perspective on assigned reading.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MANA 6100; or cons. of M.B.A. prog. dir.

MANA 6125. Negotiations 3 sem. hrs.
Provides a comprehensive investigation of the process and dynamics surrounding a diverse variety of negotiations and conflict resolution efforts. Both academic models of negotiations and actual events, historical and contemporary, will be examined in detail. Strategies and tactics for achieving objectives, limiting losses and maintaining positive relations will be emphasized in light of radically changing social and business climates. Methods for becoming an effective negotiator will be presented through both analytical frameworks and experiential opportunities. Cost benefit assessment of negotiations will be developed in the actual costing of an agreement and the impact of failing to achieve an agreement and having to resort to alternative options. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, or NURS program and MANA 6100; or cons. of M.B.A. prog. dir.*

MANA 6140. International Management
3 sem. hrs.
Directed toward practicing managers who wish to build cross-cultural competence and develop a deeper understanding of contemporary issues in international management (e.g., management of cross-border mergers, acquisitions and alliances; transfer of best practices across organizational and national boundaries). Grounded in theory, yet focuses on the implications of these issues for managers and their organizations. Class activities will comprise lectures, case analyses, videos, a cultural simulation exercise, and interactive activities and discussions. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MANA 6100; or cons. of M.B.A. prog. dir.*

MANA 6170. Global Environment of Business 3 sem. hrs.
"Environmental influences" refers to a company interfacing with a variety of groups; that is, stakeholders, some internal to the company, such as stockholders and employees, and some external to the company, such as consumers, competitors, and government agencies. In a broader context, social environmentalism refers to the impact of a corporation's social, legal, regulatory, political, ethical and international environment upon a corporation's objectives. The specific objectives are to provide a general understanding of the major relationships between business firms and their stakeholders, to develop key concepts and principles that can be used by managers as they cope with the firm's various stakeholders, and to provide some practice in using these analytic tools by applying them to selected current problems and issues confronting business. Offered every term.
Prereq: or cons. of M.B.A. prog. dir.

MANA 6240. Strategic Management in a Global Economy 3 sem. hrs.
Study of comprehensive business cases involving problematic situations of top management significance and requiring the application of mature and resourceful diagnostic, problem-formulating, and problem-solving competence. *Prereq: Admitted to the graduate BUAD, ECON program and successful completion of 21 credits of core and/or elective core credits; or cons. of M.B.A. prog. dir.*

MANA 6931. Topics in Management
1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; MANA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

MANA 6953. Seminar in Management
1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MANA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

MANA 6995. Independent Study in Management 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MANA 6100; and cons. of M.B.A. prog. dir.

Marketing (MARK)

MARK 6100. Marketing Management
3 sem. hrs.
An integrated approach to marketing from a managerial point of view. Making use of economic, quantitative, and behavior concepts in analyzing and developing a framework for the decision-making and implementation of the firm's marketing program. Offered every term. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; or cons. of M.B.A. prog. dir.*

MARK 6110. Consumer Behavior 3 sem. hrs.
Examines the consumer's process of planning, purchasing and using economic goods and services. The course is interdisciplinary in nature and applies concepts from psychology, sociology, economics and anthropology. Additional topics include services and industrial buying behavior. Case analyses are used. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6120. Integrated Marketing Communications 3 sem. hrs.
The Integrated Marketing Communications (IMC) course is a study of the promotional mix (i.e., advertising, personal selling, sales promotion, publicity, sponsorship, marketing, and point-of purchase communication) and other elements of marketing mix (i.e., product/brand, price, distribution) as they speak with one voice in communication between the firm and its customers. Specifically, integrated marketing communications, brand management, environmental marketing, the regulatory process, and ethical issues in advertising are first examined. Then, contributions to integrated marketing communications from the communications and semiotics fields, the behavioral sciences, and attitude and persuasion research are investigated. Next, brand, labeling, and packaging strategies are explored. Then, a careful analysis of advertising direct marketing (including interactive marketing), trade and consumer sales promotion, public relations and rumor control, and the personal selling process then follow as they apply to the promotional mix. Specific treatment of the social, legal, ethical and international dimensions of integrated marketing communications is provided throughout the course. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6130. Customer Relationship Management 3 sem. hrs.
Analyzes how companies can obtain a sustainable competitive advantage by managing their relationships with their customers more effectively. Teaches the main marketing variables that impact customers' satisfaction judgments. Emphasis on understanding the powerful relationship between customer loyalty and company profits. Discusses and evaluates the most effective methods for responding to dissatisfied customers' complaints.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.

MARK 6140. Global Marketing Strategy 3 sem. hrs.
Objectives: 1. To develop an understanding of international marketing concepts and show how these concepts can be applied to different international marketing environments and situations. 2. To examine the major environmental factors influencing the development of international marketing strategies. 3. To critically evaluate the developments in global economic, technological, political, and social environments. 4. To examine the different international marketing mix configurations in terms of their strategic orientations and market relevancy. 5. To evaluate the ethical dimensions of international marketing involvement. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6150. e-Marketing Strategy 3 sem. hrs.
Covers issues related to integrated, multi-channel strategy, internet marketing strategy, Web site traffic, customer loyalty, and future of internet marketing and e-commerce. The course includes a combination of lectures, video presentations, guest speakers, assigned readings, case studies, and research assignments. *Prereq: Admitted to graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6151. Direct Marketing and e-Commerce 3 sem. hrs.
Examines the principles, strategies, and tactics of direct marketing (database marketing), how direct marketing differs from general marketing, and how direct response advertising differs from general advertising. Addresses marketing aspects of e-commerce and successful e-commerce (online direct marketing, e.g. Amazon.com). Covers CRM, how customer segmentation can increase customer mail, e-mail efficiency and file profitability, customer profitability and customer lifetime value, break-even analysis, tracking and forecasting in direct marketing (offline and online), testing and research in direct marketing, and legal ethical issues related to direct marketing, especially privacy. Determine how to develop marketing action plans (course project). *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6160. Marketing Research 3 sem. hrs.
Addresses how the information used to make managerial decisions is generated by gathering data, analyzing data, interpreting results, and preparing research reports. Therefore, this course is appropriate for both users of research results and those who aspire to be marketing researchers. The format for this course will consist primarily of lectures, some video presentations, and a research project. SPSS, and to some extent, SAS will be used for performing data analysis. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program, and MANA 6000, MANA 6001, MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6170. Marketing Ethics and Social Responsibility 3 sem. hrs.
Focuses on various social issues affecting the firm but central to managing marketing programs and competitive strategy. The purpose of this unit will be elaborate upon some of the broader, social and public policy issues introduced in other marketing and business courses. Among the topics and issues discussed will be: the social responsibility of marketing, consumer rights, legal constraints upon competitive strategy, the future of marketing practice, and other macro concerns that affect marketing based systems. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program, and MARK 6100; or cons. of M.B.A. prog. dir.*

MARK 6180. Strategic Marketing 3 sem. hrs.
Provides students with the opportunity to discuss emerging issues in marketing as they influence marketing strategy. Contemporary writings in marketing strategy will be the focus of the seminar. Discussion will revolve around analyses of the various authors' observations and examination of the practical value to a working manager. Special emphasis on the relation of the external environment and its impact on marketing decisions.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.

MARK 6185. Brand Management 3 sem. hrs.
Helps students understand and apply the critical strategies that successfully build and grow global brands. This will be accomplished by examining brands from both a managerial and consumer perspective. Specific topics will include: establishing and measuring brand equity, marketing new and established brands, brand architecture and extension decisions, global branding issues, and brand portfolio management. The focus ranges from small startup brands, consumer brands, government brands, and B2B brands.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.

MARK 6190. Marketing and Public Policy 3 sem. hrs.
Reviews the changing regulatory, legal, social and ethical environment affecting marketing managers. Specific course topics include: marketing and advertising regulation and self-regulation, advertising deception and unfairness, marketing's impact on society, regulation of mergers and joint ventures, warnings and disclosures, and legal issues involved in product, pricing and distribution decisions. Special emphasis will be placed on consumer protection issues faced by federal agencies.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir.

MARK 6931. Topics in Marketing 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

MARK 6953. Seminar in Marketing 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MARK 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.*

MARK 6995. Independent Study in Marketing 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and MARK 6100; and cons. of M.B.A. prog. dir.

Operations and Supply Chain Management (OSCM)

OSCM 6100. Operations and Supply Chain Management 3 sem. hrs.
Survey course in operations management. It examines the operations function in manufacturing and service firms from a managerial perspective. It covers both classical and contemporary concepts and techniques of planning, designing, and managing operations and processes. To enhance learning concepts, it explores real problems and opportunities faced by (operations) managers through case analysis and research of hands-on experience issues. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program, MANA 6000 and 6001; or cons. of M.B.A. prog. dir.*

OSCM 6110. Manufacturing Management 3 sem. hrs.
Provides an overall understanding of the essential concepts, methods, and practices utilized in manufacturing management. Includes such topics as: manufacturing strategy, quality management, inventory management, production planning and scheduling, MRP, capacity planning, and Just-in-Time systems. Taught from a managerial perspective and includes a discussion of some of the leading edge techniques in this area like synchronous manufacturing, cellular manufacturing, supply chain management, and virtual manufacturing.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6115. Service Operations Management 3 sem. hrs.
Examines key concepts and techniques associated with designing, managing, and delivering services in various types of organizations. The main issues include service challenge, design, productivity, quality, demand and capacity management, workforce planning and scheduling, queue management, strategy, and integration. Leans heavily on the discussions of cases as well as hands-on experience assignments in various service industries.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6120. Quality and Process Management 3 sem. hrs.
Presents the quality system as a strategic management concept. As such, first, issues related to customer focus, value, and satisfaction; organizational change, learning, adaptability, effectiveness, and improvement; and policy planning and deployment, are addressed. Next, concepts and methods dealing with product and process design, quality function deployment, bench marking, and process improvement and reengineering are discussed. Finally, techniques for quality measurement and improvement such as statistical process control, reliability, process capability, and acceptance sampling are covered. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.*

OSCM 6140. Globalization and Global Operations 3 sem. hrs.
Focuses on both the operational/technical aspects of managing globally dispersed supply chains and on the broader issues surrounding offshore operations (sometimes called outsourcing). These issues include the pros and cons of offshore locations for manufacturing and service operations. Emerging markets such as China, India, East Asia, Eastern Europe and others are examined. The topics included in this course would be valuable to graduate students whose interests and careers are oriented towards global operations.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6141. International Operations Management 3 sem. hrs.
Addresses management of operations within and surrounding global business enterprises. The emphasis will be on managerial and strategic issues facing multi-national companies. The course allows students to: 1) research issues related to international aspects of business operations, 2) explore conducting business in international setting such as all aspects relevant to locating a business operation in a foreign country, 3) asses strategic issues related to foreign direct investment, global strategic alliances and partnerships, global production and distribution, etc.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6150. e-Business and Supply Chain 3 sem. hrs.
Recently managing supply chain and e-business has received great attention in practice, as industries become more uncertain, dynamic, and volatile. In order to achieve a sustainable competitive advantage in market competition in the digital or e-economy today, it is imperative that top executives, decision-makers, supply chain and e-business managers develop and integrated strategy of managing the entire supply chain and e-business strategies, benchmarking and performance assessment, leading edge practices, supply chain and e-business infrastructure-information and solution systems (ERP, EAI, SCP, and SCE systems), customer service, CRM and e-fulfillment, supplier and distributor relationship (outsourcing, strategic alliance, partnership), e-logistics, e-procurement, and e-marketplace, lead time, B2B supply chain transformation, and global supply chain and e-technology management. The primary objective of this course is to help you develop a comprehensive (analytic and integrative) understanding of, and critical insights into, crucial strategic and managerial operations issues and challenges in manufacturing and service firms so that you become a more effective leader/manager in a firm. The class will run interactively with active discussions of actual company cases, real problems and opportunities faced by corporate executives, operations and supply chain managers e-business directors, etc.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6160. Quantitative Decision Modeling and Analysis 3 sem. hrs.
Examines quantitative aspects of managerial decision making. Introduces models and methods that are widely used for the analysis of a variety of managerial problems. Topics may include: linear programming, transportation models, networks, project management, queuing and simulation. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and MANA 6000 and MANA 6001; or cons. of M.B.A. prog. dir.*

OSCM 6180. Supply Chain and Technology Management 3 sem. hrs.
Examines various key supply chain issued in both manufacturing and service firms, such as: supply chain and technology strategy, benchmarking and performance assessment, leading edge practices, customer service, supplier and distributor relationship, lead time, information and solution systems, supply chain transformation through e-Commerce, e-Business, and e-Chain capacity, and global supply chain management. The primary objective is to help develop a comprehensive understanding of, and critical insights into critical strategic and managerial operation issues and challenges in manufacturing and service firms.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir.

OSCM 6931. Topics in Operations and Supply Chain Management 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.

OSCM 6953. Seminar in Operations and Supply Chain Management 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program and OSCM 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.

OSCM 6995. Independent Study in Operations and Supply Chain Management 1-3 sem. hrs.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, and NURS program and OSCM 6100; and cons. of M.B.A. prog. dir.

Real Estate (REAL)

REAL 6115. Real Estate Finance and Investments 3 sem. hrs.
Provides the student with an in-depth knowledge of real estate finance, real estate investment, and the operation of the real estate capital markets. The objective of the course is to understand the many sources and uses of capital in the commercial real estate industry. The course begins with the mechanics of mortgage finance, followed by a detailed presentation of mortgage underwriting, lender ratios, and discounted cash flow analysis.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and FINA 6100; or cons. of M.B.A. prog. dir.

REAL 6931. Topics in Real Estate 1-3 sem. hrs.
Elective course. Topics vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and FINA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.

REAL 6953. Seminar in Real Estate 1-3 sem. hrs.
Elective course. Topics vary.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, or NURS program and FINA 6100; or cons. of M.B.A. prog. dir. Prerequisites may vary from course to course.

REAL 6995. Independent Study in Real Estate 1-3 sem. hrs.
Elective course.
Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE, and NURS program and FINA 6100; and cons. of M.B.A. prog. dir.

ECONOMICS (ECON)

Chairperson and Professor: D. Clark
Professor: Brush, Chowdhury, Daniels, Davis, Nourzad, Smiley *(Emeritus)*
Associate Professor: Breeden, Crane, McGibany, Toumanoff
Assistant Professor: Wang, Yakusheva
Adjunct Assistant Professor: Lephardt
Visiting Assistant Professor: Kohls
Note: Faculty members and their ranks are for the 2008–2009 academic year.

DEGREE OFFERED

Master of Science in Applied Economics, Plan B Professional Project/Essay option only.

PROGRAM DESCRIPTION

The master of science program in applied economics is designed for individuals seeking careers as economics, financial or marketing analysts in business, industry, government, or the financial sector. The program provides students with the solid grounding in economic theory and the working knowledge of advanced quantitative methods needed to succeed as business economists, financial analysts, economic and marketing researchers, government staff economists, or economic consultants. The program concentrates on developing and applying practical skills which can be used to solve real problems confronting business and government. The curriculum is designed to produce practitioners who can develop and interpret economic models. Courses emphasize the application of economic theory and the use of quantitative techniques rather than the derivation of their theoretical underpinnings. Communication skills are stressed through frequent written and oral presentations of results from applied research projects.

PREREQUISITES FOR ADMISSION

Applicants are expected to have a four-year baccalaureate degree with at least one course in each of the following areas: intermediate microeconomic theory, intermediate macroeconomic theory, statistical methods, and calculus. Familiarity with personal computer is also required.

SPECIALIZATIONS

Business Economics, Financial Economics, International Economics, Marketing Research, Real Estate Economics

A general track, requiring no specialization, is also available.

APPLICATION REQUIREMENTS

Students may apply for Regular Degree, Temporary Degree or Non-degree status. It is recommended that students apply for Regular Degree Status when possible. The application is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*.

1. A completed application form and fee.
2. Official transcripts from all current and previous colleges/universities except Marquette.
3. Three letters of recommendation from former professors.
4. GRE scores or GMAT scores.
5. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency.

All application materials should be sent to: Graduate School of Management; David A. Straz, Jr., Hall Executive Center, Suite 275; Marquette University; P.O. Box 1881; Milwaukee, WI 53201-1881.

BACHELOR'S–MASTER'S PROGRAM

This five-year program allows students to earn both their master of science in applied economics (M.S.A.E.) and an undergraduate degree from the College of Arts and Sciences or the College of Business. Undergraduate students begin their graduate work in their senior year by taking two graduate level courses.

These graduate courses double-count toward the undergraduate and graduate degrees. Should a student be denied admission to the M.S.A.E. program, the courses will be counted toward the undergraduate degree. A minimum grade of "B" is required for courses taken as a undergraduate student for graduate credit to apply toward graduate program requirements. Upon completion of the first term as a master's candidate, the student must petition their Graduate School of Management program director to transfer the courses taken as an undergraduate to the master's degree.

To be considered for admission to the five-year program, applicants must formally apply to the Graduate School of Management during their senior year at Marquette University, complete all of the application requirements as listed above, and indicate on their application that they are applying for the five-year program. For detailed information, contact the Economics Department by telephone (414) 288-7377 or fax (414) 288-5757.

MASTER'S REQUIREMENTS

The program requires a minimum of 30 credit hours of course work (at least 15 of which must be in 6000-level graduate courses), a non-credit master's professional project, and an oral comprehensive examination.

For students completing a specialization, course work will include: 12 credit hours of required core courses in economic theory and quantitative analysis, 12 credit hours of course work relating to a chosen area of specialization, and six credit hours of electives. General track students must complete the 12 credit hours of required core courses, 12 credit hours of economics electives, and six additional credit hours in economics, business or the social sciences. With the approval of the program director and appropriate extra work of graduate caliber, a student may apply toward the degree up to six credit hours of selected 5000-level upper division courses. Also, with the approval of the program director, a student may substitute, for the usual elective requirements, up to six credit hours of course work in fields outside of economics and business administration.

The master's professional project consists of a careful application of the student's newly acquired analytical skills to a particular issue or problem. The professional project is completed during the final term of the program and is often an extension of a previously completed course project.

An oral comprehensive examination will be administered in the student's last term of the program. This examination will cover subject matter prescribed by the Department of Economics.

PROGRAM DETAILS

Each student must choose one of the areas of specialization: business economics, financial economics, international economics, marketing research, real estate economics, or the student must complete the general track. All specializations and the general track require a common set of core courses: two courses in quantitative analysis (ECON 6560 and 6561) and two courses in microeconomic and macroeconomic theory (ECON 6503 and 6504). ECON 6560 is strongly recommended to be taken in the first term of course work.

The **Business economics specialization** is suitable for individuals seeking careers in the private sector in industries such as utilities, services and manufacturing. It combines economics courses with such business courses as managerial accounting, marketing management and operations management. **Business economics** requires the core course work plus: six to nine credit hours of additional course work in economics; Managerial Accounting (ACCO 6100); and six to nine credit hours selected from Operations and Supply Chain Management (OSCM 6100), Manufacturing Management (OSCM 6110), Service Operations Management (OSCM 6115), Quantitative Decision Modeling and Analysis (OSCM 6160), Legal Issues in Business and Technology (BULA 6110), Marketing Management (MARK 6100), Marketing Research (MARK 6160), Financial Management (FINA 6100), and Organizational Behavior (MANA 6100), and up to three 1-credit MBA skills classes (BUAD 6101-6125) ideally, BUAD 6108 GIS, BUAD 6112 SAS and BUAD 6113 SPSS or equivalent.

The **Financial economics specialization** is appropriate for those interested in a career in the financial services sector including banks, insurance companies, and securities markets. It blends such economics courses as monetary theory and policy with courses in financial policy and advanced seminar in finance. **Financial economics** requires the core course work plus: Monetary Theory and Policy (ECON 6580), Managerial Accounting (ACCO 6100), Financial Management (FINA 6100), a finance elective (FINA 6110-6953), and six credit hours of electives in economics.

The **International economics specialization** is appropriate for those interested in a career in industries or in government that deal in the ever-expanding global economy. This is accomplished by completing courses in international trade and international currency markets, as well as those with an emphasis on global business practices. **International economics** requires the core course work plus: Monetary Theory and Policy (ECON 6580), International Trade (ECON 6546, International Currency Markets (ECON 6544); six credit hours selected from Global Marketing Strategy (MARK 6140), International Management (MANA 6140), International Political Economy (POSC 6621), and Comparative Economic Development (ECON 5045), International Business Trip: China or Belgium destinations only (INBU 6951); and three additional credit hours in economics. For international economics, there is an additional requirement of a minimum of 12 credit hours of foreign languages at the undergraduate level or the equivalent.

The **Marketing Research specialization** is designed for students interested in a career in marketing research and market analysis, working either for marketing research consulting companies, or in marketing research departments of companies in the service, manufacturing or financial sector. It combines the applied econometric and forecasting courses taught in the economics core with courses in marketing management, marketing research, and other traditional marketing areas. **Marketing Research** requires the core course work plus: Marketing Management (MARK 6100), Marketing Research (MARK 6160); six credit hours selected from MARK 6110-6953 and up to three 1-credit GSM skills classes (BUAD 6101-6125) ideally, BUAD 6108 GIS, BUAD 6112 SAS and BUAD 6113 SPSS or equivalent and six credit hours of electives in economics.

The **Real Estate economics specialization** is intended for students interested in careers regarding the development, site selection, financing and construction of real estate properties as well as urban/regional development. For that purpose, the specialization includes courses in urban and regional economics, the financial and development aspects of real estate as well as courses in data management and GIS tools often used by practitioners in the field. **Real estate economics** requires the core course work plus: Studies in Urban and Regional Economics (ECON 6512), Financial Management (FINA 6100), Real Estate Finance and Investments (REAL 6115), Principles of Commercial Real Estate Development (ECON 6530, and up to three 1-credit MBA skills classes (BUAD 6101-6125) ideally, BUAD 6108 GIS, BUAD 6112 SAS and BUAD 6113 SPSS or equivalent and three graduate level elective hours in economics, preferably Economics of the Public Sector (ECON 6510).

The **General economics track** provides a more flexible option for students who wish to focus almost exclusively on economics courses. The **General economics track** requires the core course work plus: 12 credits in economics and 6 elective hours in economics, business administration, or social sciences.

Note: Graduate School of Management courses may require appropriate prerequisites.

COURSE DESCRIPTIONS

Graduate School of Management (GSM)

Specific descriptions of GSM courses are provided in the Graduate School of Management section of this bulletin.

Economics (ECON)

ECON 5008. Economics and Law 3 sem. hrs. Relationship between the rights and obligations which the legal system confers on individuals and the allocation of resources which results from alternative assignments of legal rights. Uses and limitations of economic analysis in explaining the process by which legal rights are conferred.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5016. Environmental and Natural Resource Economics 3 sem. hrs.
Economic analysis of environmental and natural resources including land, air, and water. Special emphasis on the role of human values and economic institutions in resource exploitation. Topics covered include: air and water pollution, energy, ocean resources, forestry practices, mineral resources, the population problem, and agriculture.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5045. Comparative Economic Development 3 sem. hrs.
An analysis and description of institutional differences among national economies. A theoretical framework for analyzing the effects of alternative systems on social and economic behavior is developed. Theoretical models are applied to specific cases, with special emphasis on issues of growth and development in advanced variants of capitalist, post-communist and less developed economies.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5070. Economics and Ethics 3 sem. hrs. Interaction of economic principles and understanding with ethical principles and understanding in contemporary society. Analysis of affluence's impacts on character development, the practice of moderation and justice, and the meaning of spiritual poverty. Applications of this ethic to critical features of modern industrial society.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 5075. The Economics of Religion 3 sem. hrs.
Explores how the tools of modern economic analysis, theoretical and empirical, can be used to better understand issues central to religious behavior and participation. Hence, the primary objective is to gain a better understanding of the breadth and application of economic concepts (the student learned in principles and intermediate courses) using the markets for religion as a vehicle for analysis. The secondary objective is to better understand the functioning of the religious markets: Why do individuals allocate time and money to religious activities? How do they determine the allocation between the two? Why are there so many denominations in the United States? Why are some churches very large and others very small? Why do predominately Protestant nations grow faster than predominately Catholic nations? How does religious participation affect individual attitudes toward trust, trade and immigration? *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6503. Microeconomic Theory and Applications 3 sem. hrs.
Surveys mathematical techniques applied to economics, including differential calculus and linear algebra. Develops neoclassical theory of firm and consumer behavior using mathematical techniques. Emphasizes the methodology of constructing and using microeconomic models. Explains economic behavior at the individual, firm, market, and general equilibrium levels. Offered fall term.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6504. Macroeconomic Theory and Applications 3 sem. hrs.
Covers both long-run growth and short-run fluctuations. Begins with an analysis of the economy's long-run growth path using neoclassical and endogenous growth models, then surveys theories of the business cycle orthodoxy by orthodoxy in historical order. Static and dynamic models of the economy are developed and used for policy analysis. Offered spring term. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6506. Industrial Organization and Public Policy 3 sem. hrs.
Empirical studies in patterns of market structure, business behavior and performance. Industrial concentration, entry barriers, pricing and promotional behavior, efficiency and profitability. Applications in the field of antitrust and regulation.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6510. Economics of the Public Sector 3 sem. hrs.
Economic analysis of the public sector, including the topics of taxation and expenditure policy, federalism/centralism, economics of law, Parento criteria, and constitutional economics. Culminates in the presentation of a research paper on a suitable topic in public economics. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6512. Studies in Urban and Regional Economics 3 sem. hrs.
Uses economic tools to examine decisions of firms and households in a spatial setting. Covers regional economic issues, such as why cities exist and where they tend to develop, inter-urban household migration and firm location decisions, and models of urban growth. The urban economic topics explored include the inter-urban location decisions of economic agents in the context of amenities, public goods and zoning restrictions. Finally, the tools developed in the class are used to investigate urban problems such as poverty, housing, and transportation issues. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6520. Studies in Labor Market Analysis 3 sem. hrs.
Determinants of the demand and supply of the services of human beings. Compensatory wage differentials, human capital investment, migration and immigration, and labor market discrimination. The role of unions, government in the labor market and current issues. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6522. Health Economics 3 sem. hrs.
Focuses on the use of economic models and regression methods in the analysis of healthcare. Covers a variety of topics including the cost-benefit analysis and managed care, demand for health, production of health services, income disparities in health outcomes and distribution of health, insurance and risk-sharing, and the role of government. At the end of this course, you will be able to apply economic reasoning and statistical methods to many healthcare issues. Offered occasionally.
Prereq: Admitted to the graduate ECON program or cons. of M.S.A.E. prog. dir.

ECON 6530. Principles of Commercial Real Estate Development 3 sem. hrs.
Provides the student with an introductory knowledge of the real estate development process. Focuses on the physical and analytical tools necessary in the real estate development process including: finding the development opportunity, land acquisition/site analysis, building design and public approvals, legal, market analysis, project management, construction, leasing, and financing. Throughout an increasingly sophisticated real estate development feasibility process is followed to assess the viability of a development at different states of the development process. *Prereq: Admitted to the graduate ECON program; or cons. of the M.S.A.E. prog. dir.*

ECON 6544. International Currency Markets 3 sem. hrs.
An examination of various foreign currency markets, including spot, forward and derivative instruments, understanding the economic, historical, institutional, and empirical aspects of these markets. Analysis of the relationship between currency markets, money markets and bond markets. Development and study of the fundamental models of balance of payments and exchange rate determination.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6546. International Trade 3 sem. hrs.
Examines traditional and contemporary issues of international trade using the basic tools of microeconomics. Addresses the basis for trade, the effects of trade, and impediments to trade in particular. Specific topics include various trade theories, arguments for and against protection, the instruments and effects of trade policies, economic integration, and foreign direct investment.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6560. Applied Econometrics 3 sem. hrs.
Specification, estimation, and statistical verification of multiple linear regression models, and hypothesis testing. Causes, consequences, detection of such problems as heteroscedasticity, autocorrelation, and ARCH. Other topics include estimation of models with panel data and limited dependent variables. Offered fall term. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6561. Applied Time-Series Econometrics and Forecasting 3 sem. hrs.
Continuation of ECON 6560 focusing on more advanced econometric and forecasting techniques using primarily time-series models such as ARIMA and transfer functions, VAR, and VEC as well as the method of combining forecasts. Emphasis on the practical knowledge of above techniques, and on reporting and presenting econometric results. Offered spring term. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6580. Monetary Theory and Policy 3 sem. hrs.
Factors affecting money supply, money demand, and money's influences on the macroeconomy. Federal Reserve policy and its implication for money supply. International monetary economics and coordination of monetary policy among different countries. Monetary policy under different exchange rate regimes. Examination of contemporary theoretical and econometric monetary issues and policy pre-

scriptions. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.*

ECON 6931. Topics in Economics 1-3 sem. hrs.
Topics will vary. *Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir. Prerequisites may vary from course to course.*

ECON 6953. Seminar in Economics
1-3 sem. hrs.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir. Prerequisites may vary from course to course.

ECON 6964. Practicum in Applied Economics
1-3 sem. hrs.
Directed work in applied economic analysis under the supervision of a working professional in a business, financial, international or public policy area. Requires a faculty supervisor. Offered annually.
Prereq: Admitted to the graduate ECON program; or cons. of M.S.A.E. prog. dir.

ECON 6995. Independent Study in Economics 1-3 sem. hrs.
Prereq: Admitted to the graduate ECON program and cons. of M.S.A.E. prog. dir.

ECON 9970. Graduate Standing Continuation: Less than Half-Time
0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9984. Master's Comprehensive Examination Preparation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9985. Master's Comprehensive Examination Preparation: Half-Time
0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9986. Master's Comprehensive Examination Preparation: Full-Time
0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9991. Professional Project Continuation: Less than Half-Time
0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9992. Professional Project Continuation: Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

ECON 9993. Professional Project Continuation: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

EXECUTIVE MASTER OF BUSINESS ADMINISTRATION (EXBU)

DEGREE OFFERED

Master of Business Administration, Plan B Non-Thesis option only.

PROGRAM DESCRIPTION

The Marquette Executive M.B.A. program is designed for participants whose increasing career responsibilities require the development of broad business knowledge and skills. This is accomplished during a relatively short schedule while allowing participants to fulfill the demands of their current job. The Executive M.B.A. is designed so that students finish their degree in less than 18 months. After a five-day introductory session, the program meets all day on Saturday of every other week. The final semester begins with a mini-immersion session (Thursday-Saturday). Classes meet 7:45 a.m. – 5:00 p.m.

Marquette's program is both global and technological. The global focus includes courses on global finance and economics and international management and marketing, culminating with an international trip to examine the similarities and differences of international companies. The tuition includes the international trip and a laptop computer.

SPECIALIZATIONS

A specialization in International Business is earned by all students in the Executive M.B.A. program who successfully complete all International Business courses with the grade of B or above. These courses are part of the E.M.B.A. curriculum. Additional courses are not required.

Students wishing to pursue a second specialization in Economics, Finance, Human Resources, Management Information Systems, Marketing, or Total Quality Management must complete a separate set of 12 credits specific to that specialization requirement. For a list of approved specializations and the requisite course work, contact the M.B.A. program director, or visit our Web site at *www.marquette.edu/gsm*. Credits cannot double-count for more than one specialization. The students must earn a grade of B or above in each of the prescribed electives, and all electives must be taken at Marquette University. Specializations are noted on the students' official university transcript.

Graduates of the Executive M.B.A. program may pursue a specialization within five years of graduation. To obtain additional information regarding this opportunity, contact the M.B.A. office at (414) 288-7145 or e-mail MBA@marquette.edu

PREREQUISITES FOR ADMISSION

Applicants are expected to have a four-year bachelor's degree in any field and at least five years of managerial or professional experience.

APPLICATION DEADLINE

Applications are accepted throughout the year and reviewed as they are received. Applicants will be accepted as they qualify until the class has been filled. Classes start each August.

APPLICATION REQUIREMENTS

The Executive M.B.A. program has prepared an admissions packet for applicants. Copies may be obtained by contacting the Executive M.B.A. office by phone at (414) 288-7145, by fax at (414) 288-8078, by mail at Executive M.B.A. Program, Straz Hall, Marquette University, P.O. Box 1881, Milwaukee, WI 53201-1881, or by e-mail at MBA@marquette.edu. Also visit our Web site at *www.marquette.edu/gsm*.

Applicants must submit, directly to the Graduate School of Management:

1. A completed application form and fee.
2. Specific information including a recent resume, career goals, professional/ community activities, honors and other special circumstances.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Two letters of recommendation (using the form in the application packet).
5. Official test scores from the Graduate Management Admission Test (GMAT).
6. Additional information, which may be requested on an individual basis.
7. A personal interview is required of all applicants. It will be scheduled after college transcripts and letters of recommendation have been received.

GENERAL INFORMATION

Executive M.B.A. tuition for the class starting in fall 2010 is $54,500.00 for the entire 17 month program. Fee includes the $2,500 deposit, all tuition credits, all textbooks and materials, a laptop computer which the student retains at the end of the program, computer software, most meals, an international trip, including travel to and from destination plus lodging, and all other applicable fees. For more detailed information, contact the Executive M.B.A. office by phone at (414) 288-7145, by fax at (414) 288-8078, by mail at Executive M.B.A. Program, Straz Hall, Marquette University, P.O. Box 1881, Milwaukee, WI 53201-1881, or by e-mail at MBA@marquette.edu.

MASTER'S REQUIREMENTS

The curriculum ensures that participants will have the theoretical and practical knowledge as well as the skills necessary to be a leader.

COURSE DESCRIPTIONS

EXBU 6191. Teams and Performance
1 sem. hr.
Concentrates on the issues of forming effective teams, group processes, and group development. Participants will be evaluated in terms of the overall team performance, as well as through peer evaluations by team members. Topics include: team building activities, developing group visions, group versus individual decision making, and strategies for improving team performance. S/U grade assessment. *Prereq: Admitted to Executive M.B.A. program.*

EXBU 6500. Economic Issues of Today
2 sem. hrs.
Covers the tools and fundamental principles of economic analysis with a focus on managerial problem-solving. A major deliverable will be individual student assessments of the important economic issues confronting their firms together with an identification of a sales history as the basis for a demand model and study.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6501. Applications in Business Economics 2 sem. hrs.
Expands in the methodologies of modeling and forecasting that enable a manager to explain and predict important components of the firm's operations and environment. Covers the topics of pricing strategies and game theory as well as the global and macroeconomic environments of today's businesses. The course will culminate with a major deliverable consisting of a team project that models firm demand utilizing 'live' (real firm) data and that forecasts one year into the future. *Prereq: Admitted to the Executive M.B.A. program.*

EXBU 6510. Accounting for Managerial Decisions 4 sem. hrs.
Emphasizes the role of accounting as a financial information system for managerial decisions. Since course participants will have had differing exposure to financial accounting, the basic financial accounting concepts and procedures will be covered first. Then, specific managerial accounting techniques and concepts will follow. Short cases, term projects and a computerized operational planning exercise will be used to learn the value of budgeting as a planning tool. Each of the major assignments will require written and oral reports.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6520. Marketing Management 3 sem. hrs.
An integrated study of the analysis, planning, implementation, and control of marketing programs from a managerial point of view. Topics include: application areas of strategic marketing, customer analysis, market segmentation and competitive positioning, product development, brand management, pricing strategy, marketing channels, marketing communications, social and ethical issues in marketing, among others. Highlighting the course are case studies applied in the above topical areas.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6530. Corporate Finance 3 sem. hrs.
Focuses on the application of financial theory on managerial decision. Topics include: the areas of risk, valuation, capital structure, mergers and acquisitions, and investment decisions. These issues are addressed through case studies of successful and unsuccessful financial strategies.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6542. Global Marketing and Management 3 sem. hrs.
Discussion of: 1) leveraging core competencies in intercountry market selection and production positioning; 2) formulating and implementing global marketing strategies; 3) achieving strategic and competitive advantage in managing value chain activities globally; 4) developing an organizational infrastructure to manage cross-cultural differences and achieve operational synergy; and 5) promoting a unified global marketing and management vision.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6543. Global Issues in Finance and Economics 3 sem. hrs.
Surveys modern approaches to balance of payments and exchange rate determination, and examines various foreign currency markets including spot, forward, and derivative markets. Covers foreign exchange risk, pricing and arbitrage. Applications include exposure and hedging in these markets for corporate and portfolio managers. Also includes an in-depth analysis of international trade including the pros and cons of free trade and the effects of tariffs and quotas. Recent trade policy such as NAFTA, the WTO, and the EU are also considered.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6550. Information Technology 3 sem. hrs.
Examines various emerging information technologies, possibly including data communications and networking, object-oriented design, expert systems, and group computing software. Emphasis is placed on understanding how to assess the potential application of these technologies to business problems, and on the process of assimilating these technologies within the organizations.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6560. Quantitative Tools for Decision Making 3 sem. hrs.
Provides the business manager with effective quantitative methods and tools for managerial decision making and problem solving. The use of statistical and mathematical concepts and techniques for formulating and analyzing business problems will be emphasized. Instead of concentrating on detailed theoretical material, this course seeks to increase the executive's conceptual appreciation for statistical and quantitative techniques.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6571. Ethical and Societal Issues in Business 1 1.5 sem. hrs.
Examines the impact of business on society, and the impact of ethical and societal issues on business. Objectives include: improving the student's ability to recognize and identify ethical issues, placing ethical issues in an organizational context, and improving the student's ability to reason toward a satisfactory resolution.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6572. Ethical and Societal Issues in Business 2 1.5 sem. hrs.
Introduction to the descriptive, normative and prescriptive elements of moral theory and their application to business. Students will gain familiarity with classical theories of right and wrong, good and bad, distributive justice and rights. These frameworks will then be applied to moral dilemmas in business. Pedagogical approaches may include case studies and research of current and classical ethical issues in business. Particular attention will be paid to international and global aspects of current corporate practices. *Prereq: Admitted to Executive M.B.A. program.*

EXBU 6580. Managing People in Organizations 3 sem. hrs.
Investigates the impact of human behavior on organizations and investigates how managers can predict and influence such behavior. Begins by focusing on the individual, then the group, and finally the organization as a whole. Topics include: interpersonal perception, motivation, conflict, leadership, corporate culture and organizational change.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6590. Supply Chain Strategy and Practice 3 sem. hrs.
Examines issues critical to service and manufacturing operations. Topics include: just-in-time systems, total quality management, sourcing and logistics, technology transfer, and risk management. Emphasis will be given to globalization of operations.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6640. Strategic Management 3 sem. hrs.
Examines the diagnostic, problem-formulating, and problem-solving strategies of top managers. The course serves as an integration of earlier courses, and also presents current ideas concerning appropriate strategies for firms of varying sizes in diverse environments.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6931. Topics in Executive Business 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6951. International Study in Business 3 sem. hrs.
Consists primarily of a structured 7-day trip to compare and contrast international business practices with those of the United States. Preparation includes readings and case discussions of international firms, including those scheduled to be visited. After the trip, a written analysis of the differences and similarities of European and American companies is required. *Prereq: Admitted to Executive M.B.A. program and student in good academic standing.*

EXBU 6953. Seminar in Executive Business 1-3 sem. hrs.
Topics will vary.
Prereq: Admitted to Executive M.B.A. program.

EXBU 6995. Independent Study in Executive Business 1-3 sem. hrs.
Prereq: Admitted to Executive M.B.A. program; and cons. of M.B.A. prog. dir.

ENGINEERING MANAGEMENT (ENMA)

Engineering Director of Graduate Studies and Adjunct Associate Professor: Polczynski
Business Administration Director of Graduate Studies and Professor: Srivastava
Note: Faculty members and their ranks are for the 2008–2009 academic year.

DEGREES OFFERED

Master of Science in Engineering Management, Plan B only.

PROGRAM DESCRIPTIONS

MASTER'S PROGRAM

The Marquette University master of science in engineering management program responds to the world's growing need for technologists who can lead in the conceptualization, development, and globalization of new generations of commercially viable technology-based products, processes, and services. Program graduates acquire knowledge, skills, and direct hands-on experience in:

- generating innovative technical solutions to existing and emerging market needs;
- transferring technical solutions into entrepreneurial products and services; and
- developing global supplier and customer bases to apply technical solutions worldwide.

By its very nature, this program requires a partnership between the fields of engineering and management. Marquette's engineering management program is truly interdisciplinary since it is developed, sponsored, organized, and administered by a coalition of members from the College of Engineering and the Graduate School of Management. Both have

graduate programs that are long-standing and highly regarded. The engineering management program capitalizes on these strengths by drawing on established and successful courses from each college.

PREREQUISITES FOR ADMISSION

Admission decisions are based on a variety of criteria, each of which is intended to measure the applicant's ability to succeed in the program. No application can be evaluated until all of the required official documents have been received.

An applicant must have completed or be in the process of completing a four-year bachelor's degree (usually in engineering) from an accredited college or university. Students holding a bachelor's degree in disciplines other than engineering may be admitted to the program but may be required to take additional courses.

APPLICATION REQUIREMENTS

Applicants must submit, directly to the Graduate School:

1. A completed application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Three letters of recommendation.
5. *(For master's applicants only)* official GRE or GMAT test scores.
6. Resume or job profile.
7. *(For international applicants only)* a TOEFL score or other acceptable proof of English proficiency. Waived for applicants whose native language is English or who have received a degree from an accredited academic institution in an English-speaking country.

MASTER'S REQUIREMENTS

All students must complete a minimum of 33 credit hours of course work, of which 27 credit hours are considered core courses and 6 credit hours are electives. A minimum of 18 credit hours must be taken from the College of Engineering and a minimum of 15 credit hours must be taken from the Graduate School of Management.

Students who do not have an adequate undergraduate background in business may also be required to complete one or more M.B.A. foundation courses (ACCO 6000 Accounting Foundations, ECON 6000 Economics Foundations, INTE 6000 Information Technology Foundations, MANA 6000 Mathematics Foundations, MANA 6001 Statistics Foundations) in preparation for the core business courses.

CORE COURSES

Nine core courses (27 credit hours) must be selected from a restricted set of classes in each of the following three areas: business administration, engineering management, and decision support. The list of approved core courses may change from time to time to maintain a state-of-the-art program. Currently, the core courses that are approved in each of the three required areas are as follows:

Business Courses (select at least three)

ACCO 6100 Managerial Accounting
ECON 6100 Managerial Economics
FINA 6100 Financial Management
MANA 6100 Organizational Behavior
MARK 6100 Marketing Management
OSCM 6100 Operations and Supply Chain Management

Engineering Courses (select at least four)

ENMA 6030 Engineering Six Sigma Design and Development
ENMA 6040 Lean Manufacturing Systems
ENMA 6050 Reliability, Failure Analysis, and Risk Assessment
ENMA 6060 Innovation and Technology
ENMA 6070 Engineering Project Management
ENMA 6080 Front-End Engineering Product Development
ENMA 6090 New Product and Process Portfolio Management
ENMA 6931 Management Issues in Engineering and Technology
ENMA 6995 Independent Study in Engineering Project Management

Decision Support Courses (select at least two)

ECON 6560 Applied Econometrics
ENMA 6010 System Modeling, Simulation, and Analysis
ENMA 6020 Engineering Innovation and Entrepreneurship
MARK 6160 Marketing Research
OSCM 6160 Quantitative Decision Modeling and Analysis

ELECTIVE COURSES

Students choose any two graduate-level engineering or GSM (6000-level) beyond foundation elective courses that meet their individual needs. Students who wish to select courses from other departments must obtain approval from the Graduate Committee.

HUMAN RESOURCES (HURE)

DEGREE OFFERED

Master of Science in Human Resources, Plan B Non-Thesis Option only.

PROGRAM DESCRIPTION

The master of science in human resources (M.S.H.R.) program is designed to meet the educational needs of individuals who are pursuing or intend to pursue a career in human resources. Students from any undergraduate field may be accepted into the program. Central to the program's objective is the development of skills and knowledge in the areas of greatest concern to a human resources professional. These critical areas include: compensation and reward systems, employment and labor law, labor relations, training and development, staffing, benefit administration, human resources information systems, and issues of diversity.

PREREQUISITES FOR ADMISSION

Admission to the M.S.H.R. program requires: a) a four-year bachelor's degree from an accredited college or university; b) an acceptable record of academic achievement at the bachelor's level and in any previous graduate course work; c) acceptable scores on required admission tests; and d) an overall composite profile of admission data (including an evaluation of previous work experience) that predicts success in the program.

APPLICATION REQUIREMENTS

Students may apply for Regular Degree, Temporary Degree or Non-degree status. It is recommended that students apply for Regular Degree Status when possible. The application is online via our Web site at *www.marquette.edu/gsm*. Then click on *Apply Now*.

1. A completed application form and fee.
2. Essay questions on the application form.
3. Official transcripts from all current and previous colleges/universities except Marquette.
4. Official test scores from the Graduate Management Admission Test (GMAT) or the Graduate Records Exam (GRE).
5. Resume or job profile.
6. *(For international applicants or applicants applying for Graduate School financial aid, i.e. assistantship positions)* three letters of recommendation.
7. *(For international applicants only)* an official TOEFL score or other acceptable proof of English proficiency.

Note: Temporary non-degree applicants (admission valid for one term only) must submit all of the above except the GMAT or GRE scores. Students are encouraged to complete all application materials and apply for degree status. Temporary status is valid for one semester only. Temporary non-degree status students are not eligible to continue taking M.S.H.R. classes beyond one semester without degree admission. Typically, non-degree admission is not recommended in the human resources program.

BACHELOR'S-MASTER'S PROGRAM

This five-year program allows students to earn both their master of science in human resources and an undergraduate degree with a major or a minor in human resources. Students begin their graduate work the summer immediately following their senior undergraduate year by taking two graduate level courses. The remaining eight courses are completed in the student's fifth year.

Students may take two HURE courses (six credits) in their senior undergraduate year. These graduate courses double-count toward the undergraduate and graduate degrees. Should a student be denied admission to the M.S.H.R. program, the courses will be counted toward the undergraduate degree. Upon completion of the first term as a master's candidate, the student must petition their Graduate School of Management program director to transfer the courses taken as an undergraduate to the master's degree.

To be considered for admission, applicants must formally apply to the Graduate School of Management during their senior year at Marquette University, complete all of the application requirements as listed above, and indicate on their application that they are applying for the five-year program. For information, contact the director of the M.S.H.R. program by telephone (414) 288-3643, by fax (414) 288-5754, or by e-mail at tim.keaveny@marquette.edu.

MASTER'S REQUIREMENTS

The M.S.H.R. program requires a minimum of 36 credit hours of course work. The required number of credits can be as many as 38 if a student has not completed a microeconomics course during undergraduate studies.

FOUNDATION COURSE WORK

Students who have not completed a microeconomics course are required to complete ECON 6000 Economics Foundations (2 sem. hrs.). This course is in addition to the required 36 hours for the M.S.H.R. degree.

CORE COURSE WORK

Students must complete each of the following courses for 6 credit hours:

HURE 6500 Human Resource Statistics and Research Design
HURE 6590 Strategic Human Resources Management

HUMAN RESOURCES CORE

Students must complete 3 or 4 of the following courses for 9 or 12 credit hours:

HURE 5020 Labor Relations
HURE 6510 Employee Compensation
HURE 6530 Staffing Work Organizations
HURE 6580 Training and Development

Labor relations, compensation, staffing, and training, are the central functions performed by human resource professionals. Our students are required to take at least one course in three of the four areas. If a student elects to take all four of the above courses, the supporting field course work is reduced from 9 credit hours to 6 credit hours.

ETHICS CORE

(Select one)

HURE 5003 Employment Law
HURE 6170 Ethical Issues, Regulatory Environment and Human Resource Management
HURE 6535 Diversity in Organizations
MANA 6170 Global Environment of Business

ELECTIVE CORE

(Select three)

HURE 5003 Employment Law
HURE 5005 Employee Benefit Systems
HURE 5050 Human Resources Information Systems
HURE 6125 Negotiations
HURE 6170 Ethical Issues, Regulatory Environment and Human Resource Management
HURE 6535 Diversity in Organizations
HURE 6931 Topics in Human Resources
HURE 6953 Seminar in Human Resources
MANA 6100 Organizational Behavior
MANA 6110 Leadership, Motivation, and Organizational Change
MANA 6170 International Management
PSYC 8665 Industrial Psychology and Organizational Development
PSYC 8668 Personnel Selection

SUPPORTING FIELD COURSE WORK

In addition to foundation and core course work, students in the M.S.H.R. program must take six or nine credits (two or three courses) selected from a wide variety of supporting areas both within and outside of the Graduate School of Management. Supporting areas of study include: communication, counseling, instructional leadership, economics, law, research methodology, and business administration. Students may choose any combination of courses in these areas from the list of designated classes.

COURSE DESCRIPTIONS

HURE 5003. Employment Law 3 sem. hrs. Provides an overview of the major federal laws which regulate human resources management, as well as common law. Topics include: wrongful discharge, privacy, defamation, negligent hiring, Title VII, affirmative action, the Americans with Disabilities Act, ERISA, Workers' Compensation, and the Occupational Safety and Health Act. Provides human resource managers and line supervisors with a sufficient working knowledge of these laws to reduce the risk of imposing legal liability on their employers by their own actions and to minimize liability for questionable or unlawful acts of company agents through prompt and effective action. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 5005. Employee Benefit Systems 3 sem. hrs. The course addresses the design and administration of employee benefit systems. Among the programs studied are: health and wellness programs, pension and retirement programs, and cafeteria plans. Legally mandated benefit systems are also studied. *Prereq: Admitted to the graduate HURE program: or cons. of M.S.H.R. prog. dir.*

HURE 5020. Labor Relations and Collective Bargaining 3 sem. hrs. Examines the development, structure and process of collective bargaining as well as negotiation processes and strategies in a variety of settings. Central topics include labor law, union organization, general principles of negotiation, and labor contract negotiation in particular. The course is taught from a neutral perspective, emphasizing the rights and responsibilities of labor, management and government. Makes extensive use of bargaining exercises.

HURE 5050. Human Resources Information Systems 3 sem. hrs. Addresses the use of human resource information systems to facilitate and improve managerial decisions pertaining to human resource issues. Topics include: information systems fundamentals and modeling of human resource issues to assist decision making in such areas as HR and affirmative action planning, staffing, training and development, compensation and benefit administration. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6050. Human Resources Information Systems 3 sem. hrs. Addresses the use of human resource information systems to facilitate and improve managerial decisions pertaining to human resource issues. Topics include: information systems fundamentals and modeling of human resource issues to assist decision making in such areas as HR and affirmative action planning, staffing, training and development, compensation and benefit administration. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6125. Negotiations 3 sem. hrs. Provides a comprehensive investigation of the process and dynamics surrounding adverse variety of negotiations and conflict resolution efforts. Both academic models of negotiations and actual events, historical and contemporary, will be examined in detail. Strategies and tactics for achieving objectives, limiting losses and maintaining positive relations will be emphasized in light of radically changing social and business climates. Methods for becoming an effective negotiator will be presented through both analytical frameworks and experiential opportunities. Cost/benefit assessment of negotiations will be developed in the actual costing of an agreement and the impact of failing to achieve an agreement and having to resort to alternative options. *Prereq: Admitted to the graduate HURE program; or cons. of the M.S.H.R. prog. dir.*

HURE 6170. Ethical Issues, Regulatory Environment and Human Resource Management 3 sem. hrs. Addresses an array of human resource topics from the manager's point of view. Three themes will be woven throughout this course: ethical issues presented by selected human resource policies and programs; the legal and regulatory environment pertaining to employees and to union organizations and representation; and establishing consistency between human resource management policies and programs and the strategic objectives of the organization. *Prereq: Admitted to the graduate ACCO, BUAD, ECON, ENMA, HCTM, HURE or NURS program; and cons. of M.S.H.R. prog. dir.*

HURE 6500. Human Resource Statistics and Research Design 3 sem. hrs. Addresses the topics of measurement, sampling and research design in the context of human resources management systems. Statistical methods studied include analysis of variance, analysis of covariance, correlation, regression, multiple regression, as well as selected nonparametric statistics and measures of association. Extensive use of human resource management examples will be employed to facilitate transfer to work organization settings. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6510. Strategic Compensation 3 sem. hrs. Focuses on theory and practice relevant to the development of compensation systems which are internally consistent, externally competitive and individually motivating. Topics include: motivation theories; job evaluation methods; salary and benefit surveys; pay structures; and alternative compensation plans, including gainsharing, broadbanding and pay-for-knowledge. Relevant government regulations are also studied. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6530. Staffing Work Organizations 3 sem. hrs. Studies theories and practices relevant to staffing work organizations. Topics include: reliability and validity of selection procedures, criterion development, evaluation of alternative selection procedures and compliance with equal employment opportunity, affirmative action as well as other relevant regulations. *Prereq: Admitted to the graduate HURE program and HURE 6500; or cons. of M.S.H.R. prog. dir.*

HURE 6535. Diversity in Organizations 3 sem. hrs.
Focuses on the complex dynamics of diversity in organizations as seen from the vantage point of social science and organizational studies. Examines demographic trends in the work force, differentiates cultural practices and value among diverse groups, and discusses strategies for dealing with discrimination and stereotyping. The focal themes of the course include: the nature or character of diversity, organizational practices, and theoretical implications. Individual, interpersonal and organizational factors influencing diversity will be examined using both a conceptual and an experiential approach. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6580. Training and Development 3 sem. hrs.
Addresses principles and factors that contribute to the personal growth and development of employees. Focuses on training and employee development within work organizations. Training includes program development, principles of learning, training techniques and evaluation. Employee development topics involving career planning and management will also be addressed. *Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir.*

HURE 6590. Strategic Human Resource Management 3 sem. hrs.
Investigate principles of human resource strategy and the link to business strategy. Concepts emphasized include resource-based theory of the firm, sustained competitive advantage, as well as fit and flexibility in the design of human resource systems. Approaches to evaluating and assessing the contribution and effectiveness of human resource systems are studied.
Prereq: Completion of MANA 6100 for BUAD graduate students; completion of 9 HURE credits for HURE students; or cons. of the M.S.H.R. prog. dir.

HURE 6931. Topics in Human Resource Management 1-3 sem. hrs.
Elective course. Topics will vary.
Prereq: Admitted to graduate BUAD, ECON, ENMA, HCTM, HURE or NURS program; ACCO 6100; or cons. of M.S.H.R. prog. dir. Prerequisites may vary from course to course.

HURE 6953. Seminar in Human Resources 1-3 sem. hrs.
Prereq: Admitted to the graduate HURE program; or cons. of M.S.H.R. prog. dir. Prerequisites may vary from course to course.

HURE 6995. Independent Study in Human Resources 1-3 sem. hrs.
Prereq: Admitted to the graduate HURE program; and cons. of M.S.H.R. prog. dir.

HURE 9970. Graduate Standing Continuation: Less than Half-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

HURE 9976. Graduate Assistant Research: Full-Time 0 sem. hrs.
Fee. SNC/UNC grade assessment.
Prereq: Cons. of G.S.M.

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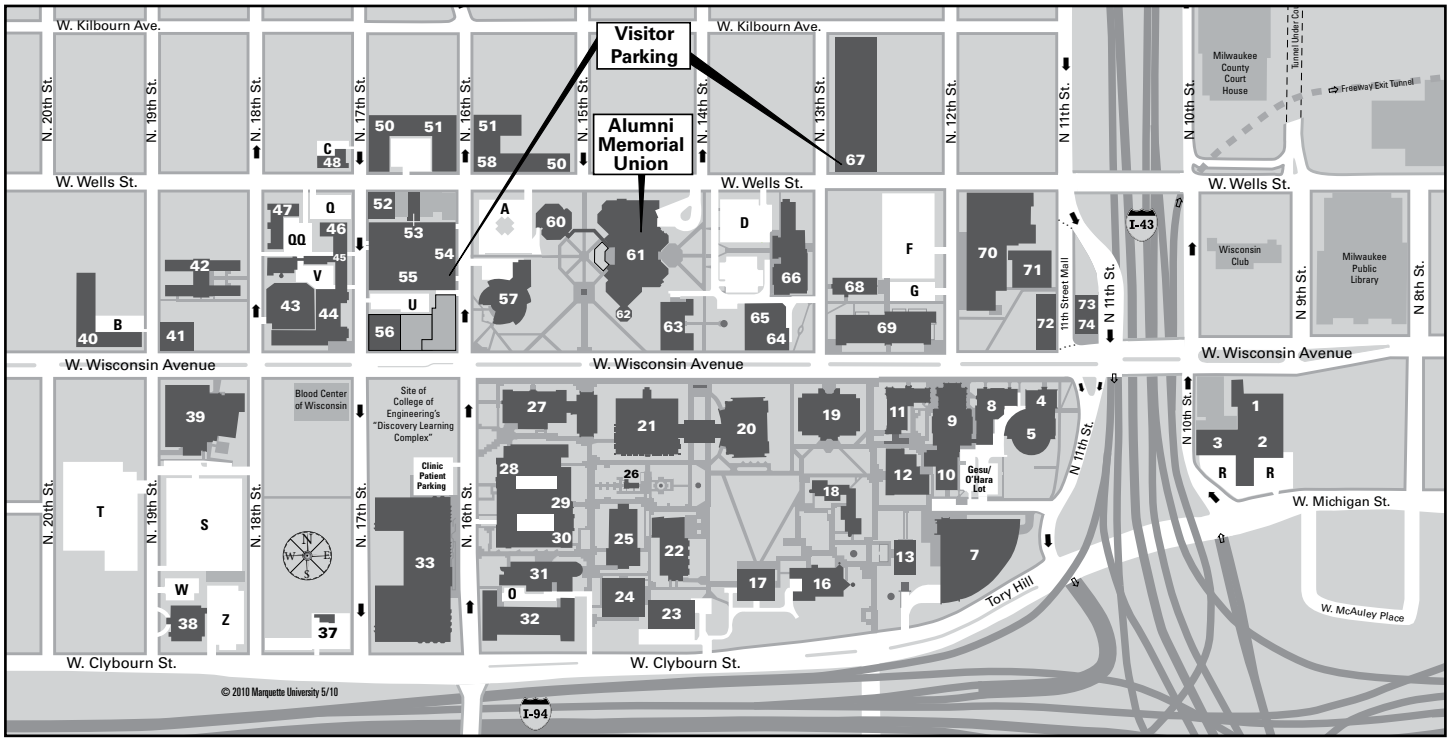
Marquette University **Campus Map**



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