

UNION
GRADUATE
COLLEGE

2010 - 2011 Catalog

Provisions of this publication are not to be regarded as a contract between the student and Union Graduate College. Union Graduate College reserves the right to make changes in this catalog, including its course offerings, admission and degree requirements, regulations and procedures, and fees and expenses as deemed necessary by the college.

Union Graduate College is committed to assisting all members of its community in providing for their own safety and security. Information regarding campus security and personal safety, including topics such as crime prevention, campus safety law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures is available from the Director of Campus Safety of Union College at 807 Union Street, Schenectady, NY 12308. This information is also available from the Union College website:

www.union.edu/PUBLIC/SAFETY/CommunityReport.html

Information on Safety Reporting at the Graduate Center (built 2009) is available at: www.uniongraduatecollege.edu

STATEMENT OF NON-DISCRIMINATION

Union Graduate College does not discriminate on the basis of age, race, color, religious belief, disability, sexual orientation, or national origin. Union Graduate College's policy of nondiscrimination extends to all areas of its operations, including but not limited to admissions, student aid, athletics, employment, and educational programs. All the rights, privileges, programs, and activities generally accorded to all full-time matriculated students of Union Graduate College are accorded on a nondiscriminatory basis.

Union Graduate College
80 Nott Terrace
Schenectady, New York 12308
Phone: (518)631-9900
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www.uniongraduatecollege.edu

A MESSAGE FROM THE PRESIDENT

It's my pleasure to introduce you to the unique programs offered by Union Graduate College. We are a student centered organization located just off of the beautiful Union College campus in Schenectady, New York at 80 Nott Terrace.

Union Graduate College serves full- and part-time students, providing outstanding master's-level professional degree and certificate programs in education, engineering (electrical and mechanical), computer science, engineering and management systems, business administration, health administration and bioethics.

A Union Graduate College degree is defined by:

Individual attention to student goals. Student orientated services are unrivaled in the region. Small classes foster healthy discussions and debates between faculty and students, and support a dynamic case-method approach to learning as well as team projects that strengthen students' leadership and interpersonal skills.

Professionalism. Programs where the mature graduate student is treated with respect as an adult responsible for their own education.

Experience. Capstone and other real world based projects, completed in collaboration with faculty or dynamic corporations and organizations, prepare students to take on complex problems and questions, assume responsibility, and become the professionals on which successful organizations rely.

High Motivation. We challenge students to work hard, think innovatively, and demonstrate strong self-discipline. Through collaboration and teamwork, students encourage one another and develop the ability to work effectively with others.

Return on Investment. Close relationships with leading employers in manufacturing, healthcare, financial services, education, and other fields provide students extensive opportunities to work on real projects and problems with faculty, and to land internships that provide valuable hands-on experience in their fields of interest. Union Graduate College alumni hit the ground running. Job placement degree completion and rates are superb.

The Best Opportunities. The career and placement office serves only graduate students and the employers who hire them. These professionals have developed strong relationships with local companies and organizations. They understand the skills and qualifications graduate students need to secure top jobs and internships.

Responsiveness. Most faculty have hands-on experience in the areas they teach, and are highly sensitive to important trends and changing employer needs. They are quick to

respond with courses and programs that meet the interests of students and the changing demands of the marketplace.

Of course, no catalog can capture the heart and soul of a college: the dedication of our faculty, the camaraderie and collegial relationships of our students, the care and concern of our administrators and staff, and our close working relationships with the professional community are hard to express fully in print.

We invite you to start your exploration of Union Graduate College with our catalog. However, we hope that you will call us or visit the campus to meet my wonderful colleagues and enjoy our environment.

Laura Schweitzer, PhD
President

UNION UNIVERSITY

Union Graduate College as a separate institution is part of Union University, a federation of independent institutions. Other members are Union College, Albany Medical College, Albany Law School, Dudley Observatory, and Albany College of Pharmacy and Health Sciences. Each has its own governing board and is responsible for its own programs. There are several programs jointly offered by Union University Schools.

HISTORY OF UNION GRADUATE COLLEGE

The graduate programs of Union University date back to the 1900's. Bolstered by expanding enrollments in all graduate programs, and the growing regional demand for full- and part-time graduate study, a need for a new professional graduate college was recognized. Union Graduate College, as a separate institution, was formed in 2003 from the graduate programs of Union College. In 2009 Union Graduate College moved to its own *Graduate Center* on Nott Terrace and Liberty Streets.

Union Graduate College consists of three graduate schools and a center: the **School of Management** including a program in Healthcare Management and one that qualifies students to sit for the Accountancy Exam, the **School of Education** with a focus on 5th grade through high school education but also offers masters degrees in the humanities, the **School of Engineering and Computer Science** with programs in electrical and mechanical engineering and a new focus on energy, and the **Center for Bioethics and Clinical Leadership** with the only known degree program offering either a focus on clinical or research ethics. Several interdisciplinary degree programs such as in Engineering and Management are also offered.

Union Graduate College believes in providing an educational environment characterized by high faculty-student interaction and small class size, excellent programs with the highest levels of accreditation available and successful student outcomes-both graduation and job placement.

Union Graduate College values its heritage and its pivotal contemporary role in New York's Capitol Region and beyond.

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DEGREES/CERTIFICATES OFFERED

School of Education	Degree	HEGIS Code
Adolescence Education: 7 – 12 with specialization possible in: English, French, German, Greek, Latin, Spanish, Chinese, Biology, Chemistry, Earth Science, Physics, Mathematics or Social Studies	MAT	0803
Adolescence Education: 7 – 12 : Life Science	MS for T	0499
Adolescence Education: 7 – 12 : Math and Technology	MS for T	1799
Adolescence Education: 7 – 12 : Physical Science	MS for T	1901
Adolescence Education: K-12 : Technology	MAT	0839.02
Master of Arts in English	MA	1502
Master of Arts in History	MA	2205
Master of Arts in English and History	MA	4901
Core Certification: Adolescence 7 – 12	N/A	0803
Advanced Study in National Board Certification and Teacher Leadership	Advanced Certificate	0899
Advanced Study in Mentoring and Teacher Leadership	Advanced Certificate	0899
Middle Childhood Extension	N/A	0804
School of Engineering and Computer Science	Degree	HEGIS Code
Computer Science	MS	0701
Electrical Engineering	MS	0909
Engineering and Management Systems	MS	4904
Mechanical Engineering	MS	0910
School of Management	Degree	HEGIS Code
Business Administration	MBA	0506
Business Administration and Law (with Albany Law School)	MBA	0506
Healthcare Management	MBA	1202
Healthcare Management and Law (with Albany Law School)	MBA	1202
Human Resources Management	Advanced Certificate	0515
Management and Leadership	Advanced Certificate	0506
Eight-Year Leadership in Medicine – Healthcare Mgmt (with Union College and Albany Medical College)	MBA	1202
Healthcare Management – Pharm D (with Albany College of Pharmacy)	MBA	1202
Healthcare Management – BS in Pharm. Sciences (with Albany College of Pharmacy)	MBA	1202

Degrees and Certificates - continued

Center for Bioethics and Clinical Leadership	Degree	HEGIS Code
Bioethics	MS	0499
Bioethics and Law (JD) (with Albany Law School)	MS	0499
Bioethics and Social Work (MSW) (with SUNY Albany)	MS	0499
Bioethics and Philosophy (PhD) (with SUNY Albany)	MS	0499
Bioethics and Public Health (MPH) (with SUNY Albany)	MS	0499
Bioethics – Specialization in Health Policy & Law	Advanced Certificate	0499
Bioethics – Specialization in Clinical Ethics	Advanced Certificate	0499
Bioethics – Specialization in Research Ethics	Advanced Certificate	0499
Clinical Leadership in Health Management	MS	1202
Clinical Leadership in Health Management/Pharm BS (with Albany College of Pharmacy)	MS	1202
Clinical Leadership in Health Management / Pharm D (with Albany College of Pharmacy)	MS	1202
Eight-Year Leadership in Medicine-Health Management (with Union College and Albany Medical College)	MS	1202

CONTACT INFORMATION

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 Schenectady, New York 12308
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Laura Schweitzer, President	(518)631-9840
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Joanne Fitzgerald, VP for Enrollment Management & Student Services	(518)631-9842
Joe McDonald, VP for Finance & Operations	(518)631-9869
Bob Keenan, Director of Information Technology	(518)631-9848
Amy Nevin, Associate Director of Institutional Research; Payroll Coordinator	(518)631-9844
Student Services	(518)631-9910
Admissions	(518)631-9831
Registrar's Offices	(518)631-9830
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Center for Bioethics & Clinical Leadership	
Robert Baker, Director	(518)631-9860
Ann Nolte, Assistant Director	(518)631-9860

MISSION

Mission

To provide professional master's degree programs that equip promising students with the knowledge and competencies employers want and graduates need to shape successful careers.

Educational Commitment

To deliver student-centered programs, taught by committed teacher-scholars, which prepare graduates who think critically, communicate effectively, demonstrate disciplinary excellence, and are socially and ethically responsible.

Vision

To serve as a model of innovative, professional graduate education, based on strong community partnerships, that offers unique and highly effective programs and that leverage the economic and cultural vibrancy of New York's Capital Region.

Academic Conduct and Honesty

Union Graduate College is dedicated to teaching its students the most productive academic approaches, the best professional practices, and the highest ethical standards. We believe these goals will develop graduates who conduct themselves with dignity, who are recognized for their honesty, and who are productive in their respective fields. Academic honesty is one critical component of the college's purposes and ideals. Academic honesty is observed when persons think critically and independently, when they act with integrity, and when they distinguish clearly between the work done by others and their own work. The faculty demonstrates these qualities in ways appropriate to their own vocational fields. They promote academic honesty in their students and the college supports them with rules for examinations and for citing literature sources, and defines disciplinary consequences. (Refer to the student handbook for more information).

Union Graduate College

Academic Calendar 2010-2011

MAY 2010

- 17 Summer Registration Begins for all terms
- 28 Summer Registration ends for Current Students
- 31 Holiday: Memorial Day- Building and college closed

JUNE 2010

- 4 Spring classes end
- 7-9 Spring term exams
- 12 Commencement
- 14 Summer I – School of Management 1st term begins (ends 7/20)
Summer II – School of Engineering Computer Science term begins (ends 8/19)
- 15 Summer II – School of Education term begins (ends 8/3)

JULY 2010

- Bioethics Program course work (Term II) - please refer to course listing for start dates
- 5 Holiday: July 4th celebrated – Building and College closed
- 20 Summer I – School of Management 1st term ends
- 21 Summer III – School of Management 2nd term begins (ends 8/26)

AUGUST 2010

- 1-13 Bioethics 2-Wk Pro-Seminar (Term II)
- 3 Summer II - School of Education term ends
- 16-27 Fall Registration (Open House 8/18)
- 19 Summer II – School of Engineering/Computer Science term ends
- 26 Summer III – School of Management 2nd term ends

SEPTEMBER 2010

- 6 Holiday: Labor Day – Building and College Closed
- 8 Fall term classes begin

NOVEMBER 2010

- 8-19 Winter Registration (open house 11/17)
- 16 Fall term classes end
- 17-23 Fall term exams
- 24 Winter Break Begins
- 25-28 Holiday: Thanksgiving Weekend – Building and College Closed

DECEMBER 2010

- 1 School of Education EDS 550B (only) begins
- 24-31 Holiday: Christmas week – Building and College Closed

JANUARY 2011

- 1-2 Holiday: New Years – Building and College Closed
- 3 Winter classes begin

FEBRUARY 2011

- 28 Spring Registration Begins (open house 3/9)

MARCH 2011

- 11 Spring Registration ends
- 11 Winter term classes end
- 14-17 Winter term exams
- 18 Spring break begins
- 28 Spring term classes begin

MAY 2011

- 16 Summer Registration Begins for all terms
- 27 Summer Registration Ends for Current Students
- 30 Holiday: Memorial Day – Building and College Closed

JUNE 2011

- 3 Spring classes end
- 6-8 Spring term exams
- 11 Commencement

Holidays: The College is closed for business:

- New Years Day
- Memorial Day
- July 4th
- Labor Day
- Thanksgiving/Day following
- Christmas
- Days between Christmas and New Years

Student Services Office Hours

During Term:

M-Th 8:00 am – 6:30 pm

Fri 8:00 am – 4:30 pm

Summer & Non-Term:

M-F 8:00 am – 4:30 pm

Student Access to Building – please refer to website each term.

School/Program Hours

Please contact specific offices for their hours.

School Closing

We participate in the School Closing Network which includes most major local radio and television stations and their websites. Decisions regarding **GRADUATE** classes are generally made by 2:00 pm for late afternoon courses and by 4:00pm for evening classes. Notice will be posted at www.uniongraduatecollege.edu. There may be instances that only classes starting after a certain hour are cancelled.

Religious Observances

Classes will be held; students observing holidays should contact their professors in advance to make up work and/or exams.

PROGRAMS AND ADVISORS

Student Services

(518) 631-9910 FAX: (518) 631-9901

School of Education

(518) 631-9870 FAX: (518) 631-9903

School of Engineering and Computer Science

(518) 631-9881 FAX (518) 631-9902

School of Management

(518) 631-9890 FAX: (518) 631-9902

Center for Bioethics and Clinical Leadership

(518) 631-9860 FAX (518) 631-9903

School of Education

All Patrick Allen 631-9870/ allenp@uniongraduatecollege.edu

School of Engineering and Computer Science

All Robert J. Kozik 631-9881/ kozikr@uniongraduatecollege.edu

School of Management

Non-matriculated Students

FT & PT Joanne Fitzgerald 631-9842/ fitzgerj@uniongraduatecollege.edu

MBA- Management

Full-Time: A-F Jay Carlson 631-9888/ carlsonj@uniongraduatecollege.edu
 G-O Zhilan Feng 631-9891/ fengz@uniongraduatecollege.edu
 P-Z Rudy Nydegger 631-9894/ nydegger@uniongraduatecollege.edu
Part-time Alan Bowman 631-9887/ bowmana@uniongraduatecollege.edu
Accelerated (5 yr) Jim Lambrinos 631-9893/ lambrinj@uniongraduatecollege.edu
International: Peter Otto 631-9895/ ottop@uniongraduatecollege.edu

MBA-Health Students

Full-time: Jim Lambrinos 631-9893/ lambrinj@uniongraduatecollege.edu
Part-time: Martin Strosberg 631-9896/ strosbem@uniongraduatecollege.edu
Accelerated (5 yr) Jim Lambrinos 631-9839/ lambrinj@uniongraduatecollege.edu
International: Martin Strosberg 631-9896/ strosbem@uniongraduatecollege.edu

Law Students

JD/MBA Peter Otto 631-9895/ ottop@uniongraduatecollege.edu

Pharmacy Students

MS & MBA John Huppertz 631-9892/ huppertj@uniongraduatecollege.edu

8 Year Med

MS/MBA Martin Strosberg 631-9896/ strosbem@uniongraduatecollege.edu

Certificates

HR	Michele Paludi	631-9890/ paludim@uniongraduatecollege.edu
Mgmt./Leadership	Michele Paludi	631-9890/ paludim@uniongraduatecollege.edu

Center for Bioethics and Clinical Leadership

All BE	Robert Baker	631-9860/ bakerr@uniongraduatecollege.edu
	Ann Nolte	631-9860/ noltea@uniongraduatecollege.edu
	Rosamond Rhodes	212-241-3757/ rosamond.rhodes@mssm.edu
MS CL	Joanne Fitzgerald	631-9842/ fitzgerj@uniongraduatecollege.edu
	Certificates	Ann Nolte

GENERAL ACADEMIC AND PROGRAM INFORMATION

Union Graduate College is located at 80 Nott Terrace in Schenectady, NY at the corner of Nott Terrace and Liberty Street. The majority of classes are held at the UGC Graduate Center and on the Union Campus.

ACADEMIC ADVISEMENT

Questions regarding admission to graduate programs should be directed to Student Services. Faculty members are available by appointment and during posted office hours each term. All students must consult with their academic advisor before enrolling in courses. Your offer of admission letter will assign you an academic advisor. A list of advisors can be found in the Program/Advisor section of the catalog.

ACADEMIC CALENDAR AND COURSE LOAD

Union Graduate College has adopted the Union College trimester system approved by the New York State Department of Education in 1966. It divides the nine-month academic year into three terms of ten weeks each. There are also two summer sessions of five weeks each for the MBA programs, a 2 two-week on-site course for Bioethics and one eight to ten week session for other programs. The Academic year starts with the beginning of the summer sessions and concludes with the spring semester. Under this system each course equates to 3 1/3 semester hours. In converting to minutes each class utilizes between 2000 and 2400 minutes of in-class instruction.

Full-time course load requires a minimum of two courses per term, or six courses during fall, winter and spring terms. A typical trimester course load is three courses per term during fall, winter and spring terms.

ACADEMIC REQUIREMENTS

Students may matriculate as either part-time or full-time students depending on their program (see the Admissions Information section of this catalog). Students are considered full-time if they are enrolled in two or more courses per term (fall, winter, and spring). Students must finish their degree requirements within six years of matriculating at Union Graduate College. A grade point average (GPA) of 3.0 is required to maintain good standing and to graduate. See each program below for limit of < 3.0 grades in coursework.

ACCREDITATION AND CHARTER

Union Graduate College is fully accredited by Middle States Association of Colleges and Secondary Schools. It is also chartered by the New York State Board of Regents and was accredited by the Regents in September 2004.

The MBA program is accredited by AACSB-International (Association to Advance Collegiate Schools of Business), the world's leading business school accrediting body. Union Graduate College's program is unique in being one of the smallest of all AACSB accredited business programs and one of only 28 accredited programs—along with such institutions as Harvard University, Stanford University, and Dartmouth College—that focus solely on graduate degrees. Less than 30 percent of all business programs are accredited nationwide. The Commission on Accreditation of Healthcare Management Education and AACSB-International dually accredit the Healthcare Management MBA program.

The MAT is accredited by The Teacher Education Accreditation Council. It was the first New York State education program to be accredited by TEAC.

COURSE LOAD STATUS: FULL/PART TIME

The Bioethics, Computer Science, Masters of Science for Teachers, Engineering and Management Administration, Electrical Engineering, Mechanical Engineering, MBA, MBA in Healthcare Administration and MS Clinical Leadership in Health Management programs can all be completed either full-time or part-time. The MAT full-time program is a one-year program, which begins in June.

The classification of a full-time student is based on a course load of two or more courses per term, with a minimum of six courses during the Fall, Winter, and Spring terms. In general, full-time students take three courses per term.

Full-time students in the MS and MA programs take three to four academic terms to complete and the MBA programs take up to two years to complete, depending upon previous coursework that may apply to waivers and/or transfer credit. Part-time students must complete program requirements within six years from the date of matriculation.

IMMUNIZATIONS

All full-time (>1.5 course/term on-site) students are required to submit immunization records prior to the start of classes. Part-time students (<2 course per term on-site) are not required to submit the immunization records, but records will be required if a student chooses to take more than 1.5 courses on-site at any time.

Proof of immunization must be submitted to the Admissions/Registrar's Office prior to registration for all full-time students or part-time students taking >1.5 courses on-site. A form is available for this purpose from Student Services, on the student portal, or downloadable from the web site. Students may also provide a physician's written

statement as proof of immunization but such documentation must provide all required information and be attached to our form.

Students whose religious beliefs prohibit immunization, or for whom immunizations pose a health risk, will be required to submit a statement in support of their request for a waiver.

INTENT TO ENROLL/RESOURCE FEE

All degree programs require a response form and a \$350 Resource Fee to secure a place in the class. All certificate programs require a response form and a \$150 resource fee to secure their place. LIM (Leadership in Medicine) students pay a \$100 fee when complete at Union. Once enrolled, the non-refundable fee is applied to the student's account. The fee covers guest speakers and lecturers for all programs, lab support, computer resources, library access, student government, student activities, all graduation fees and regalia, diploma, and free transcripts for life.

LEAVE OF ABSENCE

If a student wishes to take a leave from a program they are required to discuss this with their academic advisor or Dean. A letter requesting the leave then is submitted to the Registrar and the Dean of their school indicating the time required. If receiving financial aid please be sure to notify the Financial Aid office also and verify any dates that may affect deferments.

NON-DEGREE STUDENTS

Students who are not planning to work toward a degree must submit the first page of the non-degree application, unofficial college transcripts, an immunization form (if taking more than 1.5 courses per term on-site). Applicants must have a bachelor's degree with a cumulative grade point average of 2.7 or better. They are required to register during the posted registration periods (listed in the College Calendar section of this catalog) to avoid any penalty. There is a limit of two non-degree classes for the School of Education and three non-degree classes for all other programs. All academic grade policies regarding C's and F's apply to non-degree students, see academic policies in this catalog.

NON-MATRICULATED STATUS

All degree programs allow non-matriculated students. This allows qualified students to start course work while completing the application. Part-time students may enroll in graduate courses as non-matriculated students before admission to a graduate program, provided they satisfy the course prerequisites and have a Bachelor's degree with at least a 2.7 undergraduate grade point average. Applicants with undergraduate GPAs below 2.7 may seek permissions from the dean to waive the 2.7 requirement for non-matriculated course work and will require Academic Committee approval. There is a limit of two non-

matriculated courses for the MAT. All other degree programs have a limit of three. Non-matriculated students are required to consult with a graduate program advisor before registration. All non-matriculated students must submit an application for graduate admission, unofficial college transcripts, and an application fee before registering for their first course. Official transcripts and the remainder of application pieces are required for the admissions decision.

ON-LINE COURSE-STUDENT VERIFICATION

Student Verification Process: Union Graduate College-Mount Sinai School of Medicine Distance Education Masters in Bioethics Program. This is a hybrid program that uses both on site and on-line instruction, exams and capstones. Prior to acceptance, students are admitted on the basis of official transcripts and letters of recommendations, sometimes supplemented by phone or on-site interviews. Students typically register for their initial course on site, at Union Graduate College (UGC), where they receive a UGC photo identification card, a unique identification number, and secure passwords to log into the UGC portal and UGC on-line courses. On-line examinations require passwords for access and are time limited. Exams are secure in the sense that they cannot be printed or minimized (to go to another screen) without the test freezing and becoming invalid. Instructors receive notification of attempts to tamper with on-line examinations. Projects are mentored either on-site or through frequent e-mail exchanges and phone calls. Final practica for skills certification are conducted on-site, as is the capstone course at which students present projects and are examined in proctored setting for core skills and knowledge prior to being awarded a degree

The SOM has the same policies, minus the exam controls, and the additional control that on-line courses have at least one in-person session.

PROGRAMS OF STUDY

Union Graduate College, through its graduate schools and center, offers the following graduate degrees: Master of Business Administration, Master of Science, and Master of Arts.

Master of Science degrees can be earned in secondary education, clinical leadership in health management, bioethics, computer science, electrical or mechanical engineering, and engineering and management systems. The Master of Arts is awarded in teaching, History, English, and History and English. The Master of Business Administration program offers an MBA and an MBA in Healthcare Management.

Union Graduate College also offers several certificate programs (more information under “**Certificate Programs**”).

Degreed Programs:

MS Programs

A minimum of one academic year of course and thesis work is required for the Master of Science degree in most programs. This is equivalent to nine to twelve (depending on program) full courses, which may include a two-course thesis.

- Master of Science in Engineering and Management Systems requires eleven courses.
- Master of Science degrees in Electrical Engineering, Mechanical Engineering, and Computer Science require between nine and ten credit bearing courses. (See program Specifics)
- Master of Science for Teachers degree requires a minimum of eleven courses, including master's level research thesis work.
- Master of Science in Bioethics degree candidates must pass a capstone course and complete a master's project, which includes a presentation by the student. Twelve courses are required.
- Master of Science in Healthcare Management requires twelve courses.

MA Program

The MA degrees offered by the School of Education require the completion of 11 courses. Master's level research work is a requirement.

MAT Program

A minimum of one academic year of course work, an internship and masters level research work is required. This is equivalent to 16 courses.

MBA Program

The MBA degrees offered by the School of Management require the completion of twenty courses. Full-time students must complete an internship.

Certificate Programs

School of Education

Certificate of Advanced Study Programs

- Certificate of Advanced Study in National Board Certification and Teacher Leadership (4-course program)
- Certificate of Advanced Study in Mentoring and Teacher Leadership (5-course program)

School of Management

The School of Management offers two advanced certificates:

- Human Resource Management
- Management and Leadership

These are six-course programs, and four of the courses may be applied toward an MBA. For MBA students wishing to get a certificate, up to four (4) applicable courses from the MBA program can be used for the certificate. This means two additional courses beyond the requirements for the MBA degree will be required for a certificate.

Center for Bioethics and Clinical Leadership

The Center for Bioethics and Clinical Leadership offers two certificates:

- Bioethics with a Specialization in Clinical Ethics
- Bioethics with a Specialization in Health Policy & Law
- Bioethics with a Specialization in Research Ethics

These are four-course programs, and may be applied toward the MS in Bioethics.

EXTENSION PROGRAMS

School of Education

- Middle Childhood Extension

This is a two-course extension program.

JOINT DEGREE PROGRAMS

Accelerated joint degree programs in conjunction with Union College lead to undergraduate degrees in various disciplines and graduate degrees in business, secondary education, mechanical engineering, electrical engineering, or computer science areas.

Union College undergraduate students who want to enter combined bachelor's-master's degree programs must apply for and be granted admission to Union Graduate College no later than the end of the fall term of their senior year. Students are encouraged to apply as early as the end of their sophomore year for the MBA and Engineering and Computer Science programs. The MAT program requires students to apply after the start of their eighth term and before the conclusion of their tenth term. A cumulative grade point average of 3.0 (3.25 for MAT program) is required for most programs.

Acceptance into a program may enable students to apply up to three 500-level graduate courses for credit in fulfillment of their undergraduate degree at Union College and their graduate degree at Union Graduate College, depending upon their program of study.

Other College Joint Programs

Union Graduate College also offers opportunities for joint degrees with SUNY Albany, Mt. Sinai School of Medicine-NYU and the following Union University institutions: Albany Medical College, Albany Law School, and Albany College of Pharmacy. For

specific degrees/programs offered, see the “Degrees / Certificates Offered” chart previously in this section.

TRANSFER CREDIT/COURSE WAIVERS

With the approval of the program advisor and/or transfer review committee, graduate work completed on a satisfactory level (minimum grade of “B-”) at other institutions may be counted toward a Graduate College degree if it contributes to the completion of degree requirements. Credits transfer in, but grades do not. Matriculated students are notified at time of admission of pre-approved waivers and transfers. Students who want to appeal this decision and request a further review should submit their request in writing to the Director of Admissions and Registrar or their academic advisor. Course outlines and descriptions to complete these reviews may be required. For information on specific rules, go to that schools program page.

STUDENT SERVICES

ALUMNI OUTREACH (518) 631-9852

Union Graduate College's Alumni Career Outreach Coordinator serves as a liaison between the college and its growing alumni network. Alumni are encouraged to attend events, serve as mentors, and assist the Golub Career Center by passing along information about job and internship opportunities for current students and fellow alumni. Alumni are also encouraged to keep UGC informed of news and accomplishments, both personal and professional, by contacting alumni@uniongraduatecollege.edu or visiting our alumni web pages at www.uniongraduatecollege.edu. This information is generally published in our quarterly newsletter, Vision, as well as the monthly e-newsletter sent from the Golub Career Center.

Union Graduate College alumni from the School of Management, School of Engineering and Computer Science, or Center for Bioethics may return to take two additional courses at a reduced rate of 50% of the current tuition. These courses cannot be used toward another degree or certificate, but would serve as an opportunity for alumni to expand their knowledge base within their field of study.

BOOKSTORE OF UNION COLLEGE

Reamer Campus Center (518) 388-6188

The Union College Bookstore provides Union Graduate College students the tools needed to achieve academic excellence, including computers and computer peripherals, in addition, of course, to textbooks and school supplies. The Bookstore also carries a large variety of emblematic products, (i.e., apparel, glass-ware, decals, etc.), candy and snacks, health and beauty care products, recorded CD's, film and film developing, general reading books, magazines and magazine subscriptions, online shopping, textbook buyback, and much more. The staff is always happy to accommodate any special needs required. For more information, visit www.Bookstore.union.edu.

Book requirements for course work can also be found on your student schedule available at your student portal once your registration is complete. If you have any difficulties please contact Student Services for assistance.

CAMPUS SAFETY

Emergencies 911

Non-Emergency Requests: During Business Hours: (518)631-9910

During extended hours: (518)466-0519

GRADUATE CENTER:

The Graduate Center is staffed with Campus Safety Officers during most weekday evenings and partially during the weekends. The purpose is to provide students with a safe environment for studying during extended, non-business hours. Students will have access to the Graduate Center during business hours and extended hours when a Campus Safety Officer is on duty. Students may be required to show a valid Union Graduate College ID. Union Graduate College ID cards are issued from the Student Services Offices at 80 Nott Terrace.

UNION COLLEGE CAMPUS:

Union Graduate College offers many classes on the Union College campus. The Campus Safety Office is located at the Inn at College Park and provides safety services for Union Graduate College while on the Union College campus.

Campus Safety provides a 24-hour, seven-day per week operation. Services include the operation of the control center; vehicular, bike, and foot patrols; preventative patrols; and community patrols. The control center monitors fire alarms and receives emergency calls (911) and requests for service (518-388-6911 or 518-388-6178). Among the many services provided are fire safety inspections and upkeep of life-safety systems and equipment; emergency response to persons in need of assistance for injury or other conflict; crime prevention and investigation; conflict resolution; lost and found; student escorts; student access to rooms, and response to problems involving safety and security of students, faculty and staff.

The Union College campus business office is open Monday through Friday from 8 am to 4:30 pm for all non-emergency business, including vehicle registrations, lost and found, and parking tickets. Information regarding campus security and personal safety including topics such as crime prevention, campus safety law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures is available from the Director of Campus Safety at 807 Union Street, Schenectady, N.Y. 12308.

For further information: <http://www.union.edu/PUBLIC/SAFETYU>

Trolley (518) 248-5111

The Union College campus trolley is a source of safe transportation provided and maintained by the Union College Campus Safety Office. The 24-passenger trolley operates on a standard schedule of 6 pm to 2 am Sunday through Thursday and 6 pm to 4 am on Friday and Saturday. The trolley follows a defined route through the surrounding neighborhood streets, making scheduled stops at the Reamer Campus Center and the Graduate Center. A schedule of the trolley route can be found inside the trolley, in the Reamer Center near the newspapers, in Old Chapel, and is distributed to each Residence Hall.

For further information: <http://www.union.edu/campussafety/services.php>

THE LEWIS AND COLLEEN GOLUB CAREER CENTER (518) 631-9851/9852

Located on the first floor of the Graduate Center, the Golub Career Center is committed to offering personalized assistance to Union Graduate College students. By actively pursuing opportunities to network and build relationships with alumni and employers, we continue to link with successful professionals in the business community. Services include but are not limited to:

- Critiquing student resumes, cover letters and other job search correspondence;
- Assisting with job and internship search strategies;
- Developing professional career action plans;
- Providing feedback on interviewing and networking skills;
- Negotiating assistance with salary and job offers.

A full-time Alumni Career outreach Coordinator Natalia Kutzer, is also available to assist students with making alumni connections. To schedule an appointment, contact Natalia at kutzern@uniongraduatecollege.edu

In addition, the Golub Career Center provides a wide variety of special programs and events throughout the academic year to help prepare graduate students for their job search.

For more information, visit the Union Graduate College website and click “Golub Career Center”, or contact the Coordinator of Career Services, at careers@uniongraduatecollege.edu

CLASSROOMS:

Union Graduate College utilizes both Graduate Center classrooms and Union College classrooms. :

Humanities
Social Sciences
Olin
Bailey

Classroom Abbreviations:

BAIL	Bailey Hall (Union Campus)
GCTR	Graduate Center (80 Nott Terrace)
HUMN	Humanities Building (Union Campus)
NWSE	NW Wing of Sci & Engrg (Union Campus)
OLIN	Olin Building (Union Campus)
SSCI	Social Sciences Building (Union Campus)
STZH	Steinmetz Hall (Union Campus)
SWSE	SW Wing of Sci & Engrg (Union Campus)

CLERY ACT:

Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act is the landmark federal law, originally known as the Campus Security Act, that requires colleges and universities across the United States to disclose information about crime on and around their campuses. Because the law is tied to participation in federal student financial aid programs, it applies to most public and private institutions of higher education. It is enforced by the U.S. Department of Education. According to this law:

- Schools must publish an annual report disclosing campus security policies and three years worth of selected crime statistics;
- Schools must make timely warnings to the campus community about crimes that pose an ongoing threat to students and employees;
- Each institution with a police or security department must have a public crime log;
- The U.S. Department of Education centrally collects and disseminates the crime statistics;
- Campus victims are assured of certain basic rights; and
- Schools that fail to comply can be fined by the Department of Education.

The Campus Safety and Risk Committee will provide upon request all campus crime statistics as reported to the United States Department of Education. The Graduate College, through the Associate Director of Institutional Research who is the campus contact at the Graduate College for such statistics, shall provide hard copy of crime statistics within 10 days of a request. Please visit the following U.S. Department of Education website for campus crime statistics: <http://ope.ed.gov/security/>

Union Graduate College Community Crime Report for 2009-2010 can be found at:
<http://www.uniongraduatecollege.edu>

Union College Community Report Crime Statistics for 2008:
http://www.union.edu/Safety/Campus_Safety/communityreport2008.pdf

Union College Community Report Crime Statistics for 2007:
http://www.union.edu/Safety/Campus_Safety/CommunityReport2007.pdf

Emergency: 911

Union Graduate College Non-Emergency: 631-9900

Union College Non-Emergency: 388-6911 or 388-6178

COMPUTING:

Graduate Center Laboratory

The Graduate Student Computer Laboratory is located on the lower level of the Graduate Center. It includes 14 Windows workstations. Five additional computer are located in

the curriculum Library. The lab is staffed by student technicians 15 hours per week. Laser printers are provided for student use. Applications on the lab's machines include:

- Analysis applications: JMP IN statistical software and SPSS
- Course-specific applications: Mat LAB
- Databases: Access
- Presentation packages: PowerPoint, Visio
- Spreadsheets: Excel
- Word processing: Word
- Audio and Video capture and editing software
- Internet: Internet Explorer, Windows FTP for Windows, Telnet for Windows

The Graduate Center is also completely accessible via wireless connection.

Network Infrastructure:

Union Graduate College's main network connects all computers and phones are located in the Graduate Center. Union Graduate College has also established a wireless network in the Graduate Center throughout the building.

Lap-top Loaner Program

A laptop loaner program allows students to utilize a windows laptop anywhere within the building. Up to seven laptops are available to students or faculty and includes the same software as workstations in the computer center.

On-line Learning:

Union Graduate College strongly believes in the integration of on-line learning technology with traditional learning modalities. A number of our traditional classroom courses use on-line technology to supplement the classroom environment. Our MS in Bioethics is our first online degree program, and contains short on-campus components.

Union Graduate College uses the Moodle Rooms Learning System, a Web-based server software platform that offers industry-leading course management, an open architecture for customization and interoperability, and a scalable design that allows for integration with student information systems and authentication protocols.

COPY CENTER

Union College Reamer Campus Center Room 102 (518) 388-6640

• Hours: 8:30 am - 4:45 pm Monday through Friday

The Copy Center offers state of the art high-speed digital printing and photocopying. Services include full color photocopying, scanning, scan to disk, transparencies, carbonless paper, spiral binding, cutting, and more. The Copy Center also can assist you with the layout of special projects. For information contact the Copy Center at 388-6640.

DINING FACILITIES (518) 388-6050

Dutch Hollow, located on the Union College campus in the Reamer Campus Center, features fast food and much more. Beverages, pizza, ice cream, submarine sandwiches, and “broiled to order” items are readily available before and after evening classes from 7:30 a.m. to 12:00 a.m. Monday through Thursday. Specials are served from 11:30 a.m. to 2:00 p.m., and 5:00 to 7:30 p.m., Monday through Friday. Another popular spot is the Rathskellar, opened by students in the 1950s and located in the basement of Old Chapel. Hours are: Tuesday through Friday 11:00a.m. to 7:30 p.m., Friday, Saturday late night – 9:00p.m. to 1:00 a.m.

DISABILITY ACCOMMODATIONS

Students with Disabilities Policy

Union Graduate College is committed to protecting students with disabilities from discrimination in any form and to promoting access to educational opportunities for all of its students. Thus, the Graduate College will provide academic adjustments to qualifying students as required by Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990.

An individual with a disability may request a reasonable accommodation when she or he knows that there is an educational barrier that is preventing her or him, due to a disability, from effectively performing their studies. Union Graduate College recommends that an individual request a reasonable accommodation before his/her performance suffers or conduct problems occur. A “disability” is defined as an individual who: has a physical or mental impairment that substantially limits one or more major life activities of such individual, has a record of such impairment, or is regarded as having such impairment.

Together with the request for accommodation, the student seeking accommodation must submit documentation of disability. The documentation must support the accommodation request by demonstrating by the opinion of a competent qualified health care provider that the student requesting accommodation has a physical, mental or learning impairment which substantially limits a major life activity and sets forth the nature, manner and duration of that limitation. This documentation generally must be within the last 24 months. The College reserves the right to require further evaluation.

This opinion of the qualified health care provider must reflect the student's present level of functioning of his/her major life activity affected by the disability. The opinion of the qualified health care provider must also provide detailed data that support the requests for any reasonable accommodation.

Applicants or students must pay the cost of obtaining the professional opinion of the qualified health care provider. The Graduate College has the discretion to require supplemental assessment of a disability. If the Graduate College requires an additional assessment for purposes of obtaining a second professional opinion, then the College shall bear any cost not covered by any third party.

While a student can request a particular type of accommodation, it is the College that determines how to meet a particular need. Therefore, alternative accommodations may be

provided which are more cost effective or efficient than those requested by the student seeking accommodation.

An applicant or student must request a reasonable accommodation by contacting the Graduate College Registrar. Academic adjustments will be provided to the extent that the modification does not fundamentally alter the nature of a service, program or activity or would result in undue financial or administrative burdens. Written notification of the Graduate College's decision will be mailed to the student. The decision can be appealed within ten days by submitting a written request to the President. The President's decision will be communicated to the student. There will be no further appeal.

HEALTH INSURANCE - STUDENT

Student Services

(518) 631-9831

All full-time students are required to have health insurance. Annually all full-time students are required to go to www.gallagherkoster.com and click on Student Access and select Union Graduate College from the drop down menu. Students will either enroll or waive insurance coverage prior to their first term of study and each year following that (annually). Information may be obtained at www.uniongraduatecollege.edu. Students who have a current health insurance, including Medicaid, should process the waiver request on-line.

If students change their course load from part-time to full-time they are required to file a change of load/status form with the admissions/registrar office. They also will be required to either enroll or waive out of the health insurance once full-time.

HEALTH SERVICES - STUDENT

Local Hospitals

Ellis Hospital: 1101 Nott Street
Schenectady, NY 12308
Emergency Department: (518)-243-4121
Business Office: (518)-243-1500

**Ellis Hospital:
McClellan Campus** 600 McClellan Street
Schenectady, NY 12304
Emergency Department: (518) 382-2222
Business Office: (518) 382-2000

Locations for Immunizations:

Ellis Family Health Center

(Located on the first floor in Cushing Center at Ellis Hospital- 624 McClellan St.)
(Dental, Ob-Gyn, and Primary Care)

Open: M-F 7am-4pm
Phone Number: (518)-382-2260

Immunization charges: MMR and PPD prices vary (**Must be established patient**)
Nurse Navigator: 1-888-633-4661 – if you do not have insurance

Schenectady County Public Health Services

(Corner of Nott Terrace and Eastern Ave)

107 Nott Terrace St. – Suite 204

Schenectady, NY 12308

Open: Tuesday 9-11 and Wednesday/Thursday-9am–noon
must call ahead for immunization appointment

Phone Number: (518)-346-2187

Immunization charges: MMR - \$10
PPD - \$10-administered on Tuesdays and read on Thursdays

Schenectady Free Clinic

(between State and Union Street) (For students who do not have insurance)

600 Franklin St.- Rm 205

Schenectady, NY 12305

Open: Monday and Thursday 1pm-5pm,
first come, first serve (only for students
without health insurance)

Phone Number: (518) 344-7067

Graduate Student Assistance Program:

Please contact The Wellness Corporation at 1-800-326-6142

24 hours a day, 7 days a week

Help with: Anxiety/Stress/Depression
Anger Management
Drug or Alcohol Abuse
Abusive Relationships
Home Life – School – Work Balance
A classmate with any of these concerns

LIBRARIES:

Schaffer Library

Hours: 8 am - 2 am, Monday – Thursday
8 am - 10 pm, Friday
10 am - 10 pm, Saturday
10 am - 2 pm, Sunday

(Special hours posted for examination and vacation periods.)

Services

Students must come to the library’s Circulation Department at least one time to register using their UGC picture identification card. Students issued a replacement identification card should also check with the Circulation Department. Please call 388-6280 with any questions about registering with the library.

UGC students in good standing with the library may borrow circulating library materials and obtain research materials through interlibrary loan at no charge. UGC students are subject to all library rules, regulations and fine schedules.

Access to library bibliographic and full text databases and electronic journals is available from library computers located on the first floor of the library and in campus computer labs. When you initially started at UGC you should have had an opportunity to complete an application form for this service and been contacted with user and password information – if you need verification on this please contact Student Services at (518) 631-9910.

Individual instruction on using library resources as well as assistance in using the Interlibrary Loan system is available at Schaffer Library Reference Desk most hours the library is open. Please call 388-6281 with any questions about using library resources. Please call 388-6612 with any questions about Interlibrary Loan.

Hours and general information about Schaffer Library and library services are posted on the Library Web: <http://www.union.edu/PUBLIC/LIBRARY/>. The librarian liaison to UGC is Mary Cahill. Students with any questions or concerns about library services may contact Mary by phone (388-6612) or email (cahillm@uniongraduatecollege.edu).

School of Education Library

The School of Education's Curriculum Library (located in the basement of The Graduate Center) is a non-circulating collection of books, magazines, articles, textbooks, and other professional materials that have been purchased and/or donated to the education program. The School of Education has accumulated substantial holdings on current and historical topics central to teachers, schools, and teaching in each of the disciplines. National Board Certification Support Groups use the library as an educator's professional library.

PARKING POLICY/TRAFFIC REGULATIONS/VEHICLE REGISTRATION

Students may park in the Graduate Center parking lot during business and extended hours. No long-term parking is permitted. Students do not need a parking permit for the Graduate Center lot however they may be asked to present a valid Union Graduate College ID.

While parking on the Union College campus, Union College parking rules are enforced. The parking policy and traffic regulations apply to anyone who has a car on the Union campus. This includes students, faculty, staff and visitors. Parking decals are required, please see Vehicle Registration annually. The number of parking spaces on the campus is not sufficient to accommodate a vehicle for every student and employee (while there are generally enough parking spaces to accommodate the number of registered cars at any given time, it is not possible for everyone to park right next to the place where he/she works or attends classes.) This policy is designed to manage the available spaces as well as to maintain open areas for traffic flow and safety purposes.

All roadways on campus are considered fire lanes to ensure that emergency vehicles have access to all buildings and residence halls. No parking is allowed in fire lanes. The campus speed limit is 15 miles per hour on all campus roadways and in parking lots. Violators will be ticketed. Reckless driving or driving under the influence will most likely result in immediate suspension of privileges pending the adjudication of Conduct Charges. For a complete list of regulations governing parking and driving on campus, including possible sanctions for violations, you may consult the Campus Safety Website: <http://www.union.edu/PUBLIC/SAFETY/PoliciesAndRegulations.html> or go to the Campus Safety Office for a hard copy, which you will receive when you register your vehicle.

Vehicle Registration – Union campus:

To register on the Union Campus:

- Go to Campus Safety at The Inn (near corner of Nott and Erie)
- Complete Vehicle Registration form
- Bring copy of car registration
- Bring driver's license
- Pay \$15 annual fee (check to Union College or Cash)

STUDENT SERVICES – Admissions & Registrar

Rhonda Sheehan, Director of Admissions and Registrar (518) 631-9835

Student Services handles all matters dealing with admissions, registration, class schedules, grades, academic records, graduation, international student services, disability accommodations/academic adjustments, commencement, veterans affairs, and certification of attendance or eligibility in such areas as veterans' benefits, government loan deferment, insurance, and other policy issues.

ADMISSIONS INFORMATION

Office Hours:

During Term:

M-Th 8:00 am – 6:30 pm

Fri 8:00 am – 4:30 pm

Summer & Non-Term:

M-F 8:00 am – 4:30 pm

Union Graduate College's Student Services has a friendly and helpful staff waiting to assist students through the application process. We welcome applications from both full- and part-time applicants. The office, which is located on the first floor of the Graduate Center, oversees all admissions, registration, disability accommodation request and graduation processes. Please feel free to contact us at (518) 631-9831 with any questions.

CONTACT INFORMATION

Erin Wheeler (518) 631-9850

Director of Student Recruitment

Joanne Fitzgerald (518) 631-9842

Vice President for Enrollment Management & Student Services

Rhonda Sheehan (518) 631-9835

Director of Admissions and Registrar

Diane Trzaskos (518) 631-9831

Coordinator of Admissions

GENERAL REQUIREMENTS FOR ADMISSIONS

Evidence of intellectual achievement, motivation, and aptitude are required for admission to graduate programs. All students must have or be a candidate for an undergraduate degree from an accredited college before applying for graduate admissions status. A grade point average of "B" (3.0 cumulative index) or better in undergraduate work is expected for admission. The Admission Committee attempts to meet the desire of the Board of Trustees for broad geographic and socioeconomic distribution in the student body. We also accept students who will broaden the range of backgrounds and lifestyles within the College community.

APPLICATION – FILING DATES

Accepted on a rolling basis throughout the year:

- Master of Arts in Teaching (Part-time)
- Master of Arts (History, English or History/English)
- Master of Science for Teachers
- Master of Science in Computer Science
- Master of Science in Electrical Engineering

- Master of Science in Mechanical Engineering
- Master of Science in Engineering & Management Systems
- Masters of Business Administration
- Masters of Business Administration in Healthcare Management
- Masters of Science in Clinical Leadership
- Joint MBA programs with Albany Law School
- Joint MBA/MS programs with Albany College of Pharmacy
- Certificate Programs (*Exception: Current MBA students interested in a certificate must submit a completed certificate program application, along with the \$60 application fee, prior to the first week of the winter term of the year of expected graduation*)

March 1st Recommended Filing Date:

- Master of Arts for Teaching (Full-time only)

June 1st Recommended Filing Date:

- MS Bioethics

Union College Combined Degree – Required to file application by 10th term (fall Senior Year)*:

- BS-BA/MAT (as early as 8th term)
- BS/MS School of Engineering/Computer Science with Union College (as early as end of sophomore year)
- Accelerated BS-BA/MBA (as early as end of sophomore year)

*Separate applications and admission decisions to each school are required.

Applying for the MA in History, English, or History and English during/after completion of one of the School of Education Certificate of Advanced Study Program:

Students enrolled in a Certificate of Advanced Study may apply to the MA in History, MA in English, or the MA in History/English during or after completion of the certificate program. If the student is accepted into an MA program, up to 3 certificate courses taken may be transferable to the MA program,

Applying for MBA or MS during/after completion of one of the Management Certificate Programs:

Students enrolled in a Certificate Program may apply to the MBA/MBA in Healthcare Management or MS program during or after completion of the certificate program. If the student is accepted into an MBA program, up to four of the certificate courses taken may be transferable to the MBA program. Courses must be within the last five years with a grade of B- or better.

Students seeking an MBA or MS after the start or completion of their certificate program may not take additional non-matriculated courses. The GMAT must be completed before course work towards an MBA is started.

Applying to a Management Certificate program while in one of the MBA Programs:

Students already in the MBA program who are interested in a certificate must complete the certificate program application, along with the \$60 application fee within the first week of the winter term of the year of expected graduation.

For MBA students wishing to earn a Management Certificate, up to four applicable courses from the MBA program can be used for the Certificate. This means that two additional courses beyond the requirements for the MBA degree will be required for the Management Certificate. Note: Students may not take additional non-matriculated courses.

**Applying to a Management Certificate Program after completion of an MBA:
Need write up**

Students with a UGC MBA degree who are interested in a certificate must complete the certificate program application, along with the \$60 application fee.

For MBA alumni wishing to earn a Management Certificate, up to four applicable courses from the MBA program can be used for the Certificate. This means that a minimum of two additional courses beyond the requirements for the MBA degree will be required for the Management Certificate. Courses must be within the past five years and the grades must be a B- or better.

Applying for an MBA after completion of an MS degree:

Students enrolled in an MS degree program can apply to an MBA program during or after completion of MS. This will require a minimum of 9 additional courses. Courses must be within the past five years and the grades must be a B- or better.

Requirements for obtaining a second MBA

Students who received one of the School of Management's previously offered degrees may take the additional courses to obtain their additional degree, assuming original course work to be waived fits within the new degree requirements. In order to count toward the new MBA, the previous MBA must have been completed within the past five years and the students must have received a grade of at least a "B-".

The requirements for an MBA in Healthcare Management, after having completed an MBA, are the two Health core courses, seven advanced Health courses and three electives not previously taken.

The requirements for an MBA, after having completed an MBA in Healthcare Management, are two MBA core courses and ten advanced non-health MBA courses not previously taken.

APPLICATION MATERIALS REQUIRED

1. Application first page
2. Application fee of \$60*
3. All official college transcripts

4. Three letters of recommendation (MAT requires two of the letters be academic)**
5. Testing (see testing section below in this section)
6. Essay (see program application on web for essay instructions)
7. Resume - requested
8. Interviews (required for the MAT and MST programs and strongly recommended for all other programs)
9. International students require a full course-by-course grade/degree evaluation completed by a recognized professional evaluator, such as World Education Services (WES) and a TOEFL or IELTS official result.

After a completed application is received, applicants are notified within 4 weeks of a decision.

Once submitted, all application materials become the property of Union Graduate College and are not returnable.

*The application fee is waived for Union College current students and applicants to the Engineering and Computer Science programs through the Engineering Consortium (BPMI, KAPL, General Electric, Benet Labs and Plug Power).

**Albany Law School JD/MBA applicants are not required to submit recommendations, however the UGC Admissions Committee reserves the right to request them if additional information is needed to make an admissions decision.

Note: MBA after certificate require

- GMAT
- Application & fee

MBA after MS

- GMAT or petition to waive
- Application & fee
- Updated transcripts

Application first page: Prospective students can submit an application via the web at uniongraduatecollege.edu. The application can also be downloaded in print format from our website www.uniongraduatecollege.edu. Students can also speak to an admissions representative by calling (518) 631-9831.

Application Fee: \$60 for all degree-seeking applicants. Union College current students and those applying to the Engineering and Computer Science programs through the Engineering Consortium (BPMI, KAPL, General Electric, Benet Labs and Plug Power) may waive the application fee. Non-degree students are not required to pay an application fee.

School Transcripts: All programs require official college transcripts from all institutions from which college credit has been earned (even if such credits have been

transferred into another institution/degree). A transcript indicating your undergrad degree award is required.

Recommendations: Three recommendations are required. JD/MBA applicants do not require the letter of recommendations but they may be requested. The MAT program requires that two of them be academic faculty familiar with the student's academic ability. The preferred format is UGC's official form available on the web or at admissions offices. A letter format, not utilizing official form, may be accepted in some cases.

Testing: The MBA programs require the GMAT (see more information below). The Bioethics, MS Degrees in Clinical Leadership, and MAT programs may request a standardized test if the applicant is below a 3.0 GPA. All other programs do not require entrance exams.

Essay: Required by all programs. Instructions for required essays can be found on the back of the specific program application located on website.

Resume: Submission of a current resume is requested for all degree programs and certificates.

Interviews: Required by the MAT, MA and MST programs and recommended for all other programs. Other programs may request an interview.

Additional MAT Applicant Requirements

Applicants to the MAT program must have completed the equivalent of at least 30 semester hours in the liberal arts major area (English, foreign language, mathematics, science, social sciences, technology) in which they seek certification.

Additionally, MAT applicants will need to complete prerequisite the following prerequisites:

- A course in Educational Psychology or its equivalent
- One year of a college-level foreign language or its equivalent
- Two weeks of structured field experiences and the journals associated with them (one in a high-needs school)

International Applicants

The TOEFL or IELTS is required for all programs unless the applicant has studied in an English-speaking university for a minimum of two years. The Admissions Committee may request a telephone interview. It is recommended that international applicants currently studying or living outside the United States who require an I-20 or DS-2019 submit their applications five months prior to the first term they plan to start their studies. A complete course-by-course Grade/Degree Evaluation of all transcripts must be completed by a recognized professional evaluator, such as World Education Services (WES) prior to admission.

DEFERMENT

Students may request a deferment of their admission for one year. The request is required in writing to the Director of Admissions and the Dean of the school you have been admitted to. Extensions beyond the one year deferment must be submitted in writing to the appropriate admissions committee through the Director of Admissions.

TESTING

The Graduate Management Admissions Test (GMAT) is required for applicants to the MBA programs. Joint applicants from Union College or Siena College for the MBA program may waive the GMAT if their undergraduate grade point average is equal to or higher than a 3.4 cumulative average. For other colleges where we have articulation agreements, the GMAT is not required for students with a cumulative GPA of 3.5 or above. Students with advanced degrees may request consideration for a GMAT waiver by writing to the Director of Admissions. The GMAT is required for scholarship opportunities.

GMAT Codes:	MBA Full-time	2PK-PN-57
	MBA Part-time	2PK-PN-66
	MBA Health FT	2PK-PN-52
	MBA Health PT	2PK-PN-50

Joint applicants from Albany Law School may waive the GMAT if they submit their LSAT (such applicants should have a copy of LSATs and Albany Law School transcripts sent by ALS to Union Graduate College). Albany Law School JD/MBA applicants are not required to submit recommendations, however the UGC Admissions Committee reserves the right to request them if additional information is needed to make an admissions decision.

Joint MS in Clinical Leadership or MBA with Albany College of Pharmacy applicants must submit the GMAT, MCAT or PCAT for admissions. ACP students with a 3.2 GPA may waive the testing requirement.

The GRE may be requested by the MAT program in specific instances.

The Bioethics admissions committee may also request a standardized test.

All other programs do not require entrance exams.

REGISTRATION INFORMATION

WHEN TO REGISTER

Registration dates are listed in the Academic Calendar section of this catalog, on the course listings each term and on the web site. Information regarding registrations is emailed to current students and applicants for the upcoming term approximately two weeks prior to the start of registration. Current students registering after the registration period is closed may incur a late fee penalty.

PRIOR TO REGISTRATION

- **Study Plan/Advisement Required prior to Registration:**
 - Schools of Management and Education: You must have a completed study plan with your advisor/department.
 - School of Engineering: Contact Dean Kozik for course approval (Engineering and /or MBA Courses require approval) **prior** to registration.
 - Center for Bioethics: Contact Ann Nolte for course approval **prior** to registration
- **Financial balance cleared:** If you have a financial balance you will have to clear that before registering. It will stop you from registering.
- **Holds cleared:** Holds such as financial, immunization, undergrad, etc. will block you from on-line registration and hold a paper registration. You can find these holds on your student portal.

WAYS TO REGISTER

- **ON-LINE REGISTRATION - Matriculated and Union LIM joint program students**
 - Go to MYUGC student portal and follow instructions to reserve your courses.
 - Your “reserved” seat will be forwarded to the Registrar for verification with your study plan/advisers approval (where applicable) and you will receive an email confirmation that it is “successful” and at that time your course status of “reserved” will change to “registered.”
 - If there is a problem with your registration request, you will receive an email communication that it was “unsuccessful” and that you need to address the issue with your advisor and then confirm with Chian Chang when that is complete.
 - You can print your schedule from the portal, which will include your text book requirements
- **PAPER REGISTRATION – Non-matriculated, Non-degree, Union undergrads and those who wish to continue paper registration, please use one of these methods on paper:**
 - Register in person at the Graduate Center 80 Nott Terrace (open 8-6:30 Mon-Thur; 8-4:30 Fri-during term; close at 4:30 daily during breaks and summer)
 - Mail registration forms to: Union Graduate College, 80 Nott Terrace, Schenectady, NY 12308
 - FAX your registration to 518.631.9901
 - Scan/email to both willisJ@uniongraduatecollege.edu & sheehanr@uniongraduatecollege.edu

- You will receive a confirmation copy in the mail within one week after registration period.

Union undergrads wishing to take graduate-level courses:

- *Non-degree student* are limited to two courses (cumulative) with undergraduate and graduate advisor approval. Paper registration is required.
- *Admitted joint program students* may take up to three (cumulative) with undergraduate and graduate advisor approval and must utilize paper registration until complete at Union and are full-time graduate students.
- LIM students – may utilize the on-line registration.
- Registration forms – special ones are available at either Registrar’s office.

Audit Information

- Permission of the instructor is required.
- Laboratory courses and independent studies may not be audited.
- Please note: Courses registered as audit cannot be changed back to credit after the start of classes.
- Audit fee is 50% cost of course.
- Registration is required.

Note:

- Some classes have restricted enrollment – please register early.
- The college retains the right to cancel a course if enrollment is insufficient. The students are notified via email.

SECTION NUMBERS

Course numbers may contain an extension number or section number (example: MBA-500-51 – the “51” indicates type/location of course).

- 00 No charge course: internship, lab, Engineering Project
- 01 Union College offering (undergrad)
- 31 UGC Course taken @ ACP Campus
- 41 UGC Course taken @ Graduate Center
- 51 UGC Course taken @ Union Campus
- 61 On-Line Course ($\geq 90\%$ or more on-line)
- 71 Hybrid ($<90\%$ in class)
- 81 Cross listed course with Union College/UGC
- 91 Independent Study

LATE REGISTRATION FEE

Additional fee will be assessed to late registrations (first time registrants are exempt).

A non-refundable late registration fee of \$75 is posted to student accounts for all registrations of current students received after posted registration period.

PAYMENT FOR COURSE/S

Payment: Payment can be made in person or if paying by credit card over the phone or at your student portal.

Payment in full is due the first week of the term unless:

- You are receiving loans and have completed paperwork for pre-approved loans.
- Receiving pre-approved company billing
- Bioethics on-site course tuition is due one week prior to the start of the on-site course

ADD/DROP

If you have already submitted a registration form or an on-line registration for a specific term and want to make changes you can:

- Use a paper form – add/drop. Submit it to the Graduate Center
- On-line – if you have access to on-line registration you can follow the same steps for registration.

[Course add/drop form](#) from the UGC website www.uniongraduatecollege.edu.

Withdrawing or dropping a course may result in penalties – see “Withdrawal Fees”.

AUDITING OF COURSES

Students may audit courses for one-half the tuition charged for a credit course. Auditors must have appropriate course prerequisites and obtain written permission from the instructor. Laboratory courses and independent studies are not open to auditors. Audit status is indicated by a “Z” on the student’s transcript and is not calculated in the student’s cumulative average.

Students who wish to change from credit to audit may do so by notifying Student Services in writing prior to the end of the sixth week of classes. No tuition refunds are available for changes from credit to audit.

COSTS

FINANCIAL INFORMATION

TUITION COSTS (per course) – programs within:

- School of Education \$2,130
- School of Engineering/Computer Science \$2,700
- School of Management & Clinical Leadership \$2,635
- Bioethics \$2,485

Tuition payment is due first week of class unless otherwise noted.

Full tuition payments and fees are due at Student Services the first week of classes. Tuition for on-site Bioethics courses is due one week prior to the start of the course. Students who do not make payment by then will be charged a late payment fee of \$75.00. Tuition for graduate courses is listed above. A schedule of fees for withdrawal from courses is listed in this section.

Please note: If you are taking a course outside your major, the cost is determined by your degree designation, not the course.

All tuition and fees must be paid in full. A student will be placed on delinquent status if they maintain an unpaid tuition and fee balance. Delinquent accounts will be forwarded to the college's collection agency and then to the attorney for collection. Students will receive written notification in advance of any action. The student will be responsible for any and all collection costs, attorney fees, accrued interest, etc. that result from the collection of his/her delinquent tuition and fees.

To withdraw from a course, a student must submit a drop form to Student Services and contact the professor. See "Refund Policy" below. Students may withdraw from a course up until the end of the sixth week of classes. Withdrawal after the sixth week will appear as an "F" on the student transcript. Any student who stops attending a course without written notification to Student Services will also receive an "F" and be charged the entire course amount. Please note: Students will not be permitted to withdraw if there is an outstanding balance on their bill.

LIM Tuition

There is an additional charge for the LIM MBA degree over the undergraduate comprehensive fee that is paid. Students pay for the six additional courses they take at Union Graduate College at the graduate tuition rate in effect during the student's spring term of their senior year of study and the summer after their senior year.

Tuition Waiver Policy

Students with tuition waivers must pay all fees other than course tuition. Tuition Waivers/Scholarship will be placed on your student account after add/drop periods.

Tuition Discount Programs

- **Senior Citizens**
Persons over 65 are eligible for a tuition waiver for one course per year on a space-available basis, and with the permission of the instructor.
- **Alumni**
Union Graduate College alumni from the School of Management, School of Engineering and Computer Science, or the Center for Bioethics may return to take two additional courses at a reduced rate of 50% of the current per course tuition. These courses can be used toward another degree or certificate.

Company Billing

Some companies and government agencies pay their employees' tuition directly to the College. If your tuition will be paid in this manner, please supply authorizing forms or letters from your employer which must include your company's contact person and information.

Company Reimbursement

Some companies and government agencies pay their employees' tuition once grades are received. If your tuition will be paid in this manner, you will be responsible to pay tuition in full the first term you register. For subsequent, consecutive terms, providing the same numbers of classes are taken, you may register with the balance to be paid before the end of the third week of the term. You are required to contact Student Accounts at (518) 631-9833 at time of registration. Please note: If payment is not received in our office by the fourth week of the current term, whether reimbursement has been received or not, a late payment fee of \$75 will be assessed.

Master Card and Visa

Tuition and fees may be charged on MasterCard and/or Visa accounts. The authorization section of the registration form must be completed and signed.

FEES:

Application Fee \$60 (Non-refundable)

The application fee is required of all degree-seeking or certificate applicants, with the following exceptions: Union College current students receive a waiver for this fee to all programs. Students employed as part of the Engineering Consortium (BPMI, KAPL, General Electric, Benet Labs and Plug Power and applying to an engineering degree). There is no application fee for non-degree students.

Resource Fee/Intent to Enroll:

\$350 Degreed Programs/\$150 certificate programs/\$100 LIM students

After accepting an offer of admission all students are required to pay the resource fee and return a response form to the Registrar's office to secure a place in the class. The fee covers guest speakers and lecturers for all programs, lab support, printing, student

government, student activities, all graduation fees and regalia, diploma, and unlimited free transcripts.

Note:

- non-degree and extension programs do not require a resource fee
- If you are taking a degree program and certificate program concurrently, two fees are not required.
- LIM students pay this fee prior to graduation from UGC

Late Fees - Registration:

Additional fee will be assessed to late registrations (first time registrants are exempt):

- A non-refundable late registration fee of \$75 to all registrations of current students received after posted registration period.

Late Fees - Tuition Payment:

Tuition is due by the first week of classes.

- All students paying after this will be assessed a late tuition payment fee of \$75 which is non-refundable.

Fee for Checks Returned To the College: \$45

Status Continuation: \$100

Graduate students who are degree candidates and are working on their thesis must pay a continuation fee for any term in which they are not formally enrolled in one of the required research and thesis courses. The summer term is not applicable.

Other Fees:

Master's Thesis*	\$0
Diploma Fee*	\$0
Graduation Regalia*	\$0
Transcripts*	\$0
Parking Decal (annual)	\$15 (Union undergrad campus only)
ID Cards	\$0
Replacement ID Cards	\$25
Diploma Replacement Fee	\$50

- Included in Resource Fee

OTHER COSTS:

Books and Supplies

Books and supplies will be approximately \$750 per academic year (based on full-time attendance).

Living Expenses

Students are required to secure their own off-campus housing. The estimated cost of housing is from \$300 to \$500 per month depending on an individual's personal choice.

The Financial Aid limit for living expenses (regionally) is \$18,060 annually for 2010-2011.

REFUND POLICY

Refunds are based on the date of the student's add/drop (required form), complete termination, or official course withdrawal as noted in the "Schedule of Refunds." Furthermore, refunds are based on the official starting date of the term, not on the student's actual class attendance.

Add/Drop (first two weeks of a term – form required)

Students may change sections or courses of equal credit without financial penalty. Adding new courses may incur additional tuition liability according to the tuition schedule. Students may add courses the first two weeks of a term (or 1st week during summer), with an advisor's approval and no additional late fee. Dropped courses are subject to financial obligations as listed in the withdrawal section.

Official Course Withdrawal (form required)

If a student officially withdraws from all of his/her courses before completing at least 60% of the term, his/her financial aid will be recalculated based on the student's withdraw date. The student's recalculated aid will be based on the percentage of time he/she completed in the term. The percentage of financial aid eligibility will be directly related to the percentage of the term completed. For example, if a student completed 10% of the term, he/she will be eligible for 10% of his/her financial aid. If he/she completes 30% of the term, he/she will be eligible for 30% of his/her financial aid.

Unofficial Withdrawals

If a student does not formally withdraw from all of his/her courses but stops attending courses before completing 60% of the term, the student is considered unofficially withdrawn from the college and his/her financial aid will be recalculated under Return of Title IV Aid regulations. In the case of an unofficial withdrawal, the effective date of withdrawal will be the last date of attendance recorded.

Complete Termination

Students who drop all registered courses through the last day of the add/drop period (for dates see each terms course listing) they will be eligible to receive the appropriate refund percentage as noted below. If a student is withdrawing from a program a letter to the Registrar and Dean of their school is required.

Schedule of Refunds

Requests prior to the start of the term or prior to the second class meeting (after 1st) – refund is 100% of tuition and fees.

Requests prior to the third class meeting (after 2nd) – refund is 75% of the tuition and lab fees.

Requests prior to the fourth class meeting (after 3rd) – refund is 50% of the tuition and lab fees.

After these periods there is no refund.

Exceptions

Students who withdraw to enter military service or have a military change of assignment prior to the end of the term are eligible for a 100% refund of the tuition and refundable fees for courses not completed. Documentation of such military services must be provided from the appropriate military official.

Course Cancellation:

If the College should elect to cancel a course due to enrollment limits or based on other circumstances any tuition paid for that course will be refunded in full.

Note: Students earn their financial aid by attending classes.

Federal Regulations require Union Graduate College to recalculate a student's financial aid eligibility if the student withdraws from or stops attending his/her class before completing at least 60% of the term. If a student stops attending classes after the college's refund policy period, the student is liable for all his/her tuition and fees, even if the financial aid eligibility is reduced under the Return of Title IV Aid recalculation.

GENERAL FINANCIAL OBLIGATION

Diploma and transcripts will be withheld from a student who has not met all financial obligations to the College. Failure to satisfy all financial obligations will result in the account being sent to an agency for collection; the student will be responsible for all collection costs, attorney fees, accrues interest, etc. that results from the collection of his/her delinquent tuition and fees.

FINANCIAL AID

FINANCIAL AID APPLICATIONS

A Free Application for Federal Student Aid (FAFSA) is required for students applying for financial aid (see www.FAFSA.ed.gov). Applicants should contact the Financial Aid office at Union Graduate College at (518-631-9836). Specific program scholarships are listed in this catalog in the Financial Aid Section. Work study is also available to graduate students – applications are available in the financial aid office.

The Office of Financial Aid of Union Graduate College is located on the first floor of the Graduate Center in Student Services. It is responsible for financial aid services to the students of Union Graduate College. Questions concerning eligibility for state and federal programs should be directed to the Director at (518) 631-9836. Students may qualify for one or more of the programs listed below. Student Services has a Financial Assistant who will process loan disbursements.

TYPES OF FINANCIAL AID

Federal Subsidized Stafford Loans

This is a need-based loan available to matriculated graduate students who are United States citizens or permanent residents who demonstrate financial need. Students may borrow up to \$8,500 per year, if they qualify. The maximum aggregate Federal subsidized and unsubsidized loan limit is \$138,000, including undergraduate loans.

Loans carry a fixed interest rate of 6.8%, which is deferred until six months after completion of studies or a drop in enrollment below half time. Students have up to ten years to repay. Eligibility is determined by completing a Free Application for Federal Student Aid (FAFSA – www.fafsa.ed.gov), graduate financial aid supplement form, and submitting federal tax returns and other supporting documentation to the Financial Aid Office of Union Graduate College. Allow twelve weeks from start of the application process to receipt of the loan disbursement.

Federal Unsubsidized Stafford Loans

This loan is non-need based and available to qualifying matriculated graduate students are eligible. The maximum Federal subsidized and unsubsidized loan limit is \$138,000 including undergraduate loans.

Note: If the loan originally covers a term in which you do not enroll at least half time, the disbursement will not be accepted and will be cancelled by the financial aid office after verifying the student is not enrolled. Students who withdraw from Union Graduate College must visit the Financial Aid Office for exit information regarding their loan. Upon graduation, this information session is required.

Graduate Federal Plus Loans

A federal loan which, historically, was only available to parents is now expanded to include graduate students. It is based on a credit check and is fixed at 7.9%. Please contact the Financial Aid office for more information.

Supplemental Loan Programs

Available to students attending Union Graduate College on a full or part-time basis. Loan approval is based on a review of credit worthiness and ability to repay. Loans are funded through private lenders and financial institutions. Please contact the Financial Aid office for more information.

Refund Disbursements

Once refunds have been posted to the student account and applied to tuition, any remaining funds left will be disbursed in a check to the student. Please allow 1-2 weeks after the end of the add/drop period.

Federal Work Study

Students who are interested should secure a form from the admissions office and submit to the financial aid office as early as possible. Student(s) must demonstrate financial need per federal regulations in order to qualify for federal work study. All positions are filled on a first come, first served basis with the neediest students considered first. Students will typically work 10 hours/week for the terms they are approved for.

Tuition Assistance Program (TAP)

Full-time matriculated graduate students who are residents of New York may apply for TAP. Eligibility is based on New York State net taxable income. Graduate students may receive up to \$550 per year. In order to receive TAP, you must file a FAFSA application and complete a TAP application@ www.hesc.com.

Scholarships and Fellowships

Below is a listing of available scholarships through Union Graduate College. Students interested in these should contact the specific programs for requirements, updates, and availability.

School of Education Scholarships/Fellowships

A limited number of scholarships are available from the program in the form of a Dean's Scholarship to recognize academic excellence. Other students who qualify based on financial need may receive some assistance in the form of need-based scholarship. Application forms for graduate MAT scholarships are available from the School of Education office, Financial Aid office or at our website.

The Harriet and Roscoe L. Williams '30 Endowed Scholarship

In memory of Harriet and Roscoe L. Williams, whose lives of dedication and service enriched schools and communities in the Dutchess County, Adirondack and Capital

District regions of New York State. The Williams family supports scholarship assistance to highly qualified MAT graduate students preparing for careers in classroom teaching and educational administration in New York.

School of Engineering and Computer Science Scholarships/Fellowships

A limited number of one-year and/or partial year tuition scholarships are available for qualified full-time students. Most scholarships are associated with assistantships or completion of a master's thesis as part of the qualified applicants plan of study to complete his/her degree program. Applications are available from the admissions office or at our website, and you should contact the Dean, School of Engineering and Computer Science if interested.

School of Management Scholarships/Fellowships

Full Time Students Merit Based Awards

Full-time MBA students are automatically considered for scholarships and need not fill out a separate scholarship form. Scholarship is awarded in the form of tuition-free courses. Scholarship is allocated based on a combination of entering GPA and GMAT score. UGC budgets a limited amount of scholarship (free courses) annually. Each full-time MBA application is evaluated for scholarship; however the annual scholarship budget is typically all allocated by August for the start of the academic year. Students will automatically be considered for scholarship in the following academic year. Students who were not required to take the GMAT for admission may elect to take the GMAT in order to qualify for scholarships. If taking the GMAT after receiving official admission communication – notify the admissions office that you are submitting scores to be considered for scholarship review.

Joint Union College/Union Graduate College accelerated BS/BA/MBA students who wish to qualify for merit scholarships must take the GMAT regardless of their grade point average at Union College. This scholarship cannot be awarded until the student has completed Union College requirements.

Many of the MBA Scholarship Awards are supported by alumni and donors. Recipients of these endowed scholarships will be notified.

Part-time MBA Students

Students pursuing the MBA on a part-time basis will be considered for merit scholarships based on that portion of their tuition that is not reimbursable by an employer. Tuition waivers will be awarded through August as long as funds are available. Students interested in being considered for part-time financial aid must inform the Director of Admissions at (518) 631-9835. Students are required to submit a copy of their employer's tuition benefits policy with a letter requesting consideration to the Director of Admissions.

International Students

International students will be considered for merit-based scholarships on an individual basis.

German Federation Exchange Program

Two nine-course scholarships are awarded in conjunction with the German Federation Exchange Program.

Center for Bioethics Scholarships:

Directors Scholarship:

The Admission's Committee evaluates each full time applicant for merit scholarship based on prior academic performance. Merit scholarships are distributed in the form of course tuition waivers and are awarded as long as funds are available.

Mount Sinai School of Medicine Scholarship:

Faculty, Staff & Students of Mount Sinai School of Medicine and affiliated institutions are eligible to apply for the MSSM Scholarship. This covers up to 1/3 of the tuition for all Bioethics courses.

Bioethics Elective Discounts:

Bioethic students who elect to take more electives than are required for their program are eligible to take them for a 50% reduction in tuition.

VETERANS ADMINISTRATION EDUCATIONAL BENEFITS

Union Graduate College welcomes veterans to all of our programs. Students who are eligible to receive educational benefits under the various chapters administered by the V.A. may obtain more information by contacting Student Services at 518-631-9834.

Entitlement will vary depending on the education program.

Students claiming veterans' benefits are required to submit written monthly statements attesting to the fact that they are attending class. The following statement must be submitted in person or by mail before the fifth of every month to Student Services, Attn: Veterans' Benefits:

“I, the undersigned, attest that I have regularly attended the classes for those courses in which I am currently enrolled.”

Any veteran not forwarding this statement along with their signature, will be decertified, resulting in the termination of benefits.

With the exception of students eligible under Chapter 33, students pay tuition and fees upon registering and subsequently receive benefit checks from the V.A. on a timely basis.

Veterans who leave the Graduate College to perform military service are guaranteed readmission with the same academic status he/she had when last in attendance. The length of absence from the Graduate College cannot exceed five years under most circumstances.

Yellow Ribbon Program

The Graduate College participates in the Yellow Ribbon GI Education Enhancement Program, which is a provision of the Post-9/11 Veterans Educational Assistance Act of 2008. More information about this program may be found at:

http://www.gibill.va.gov/GI_Bill_Info/CH33/Yellow_ribbon.htm.

POLICIES AFFECTING FINANCIAL AID ELIGIBILITY

Return of Title IV Aid

Under the Higher Education Amendments of 1998, Federal student aid must be calculated for the students who withdraw from or stop attending all of their courses before completing at least 60% of the term. This calculation is required under the Return of Title IV Aid regulation. Class attendance is monitored throughout the term.

Official Withdrawals

If a student officially withdraws from all of his/her courses before completing at least 60% of the term, his/her financial aid will be recalculated based on the student's withdraw date. The student's recalculated aid will be based on the percentage of time he/she completed in the term. The percentage of financial aid eligibility will be directly related to the percentage of the term completed. For example, if a student completed 10% of the term, he/she will be eligible for 10% of his/her financial aid. If he/she completes 30% of the term, he/she will be eligible for 30% of his/her financial aid.

Unofficial Withdrawals

If a student does not formally withdraw from all of his/her courses but stops attending courses before completing 60% of the term, the student is considered unofficially withdrawn from the college and his/her financial aid will be recalculated under Return of Title IV Aid regulations. In the case of an unofficial withdrawal, the effective date of withdrawal will be the last date of attendance recorded.

TUITION LIABILITY

If a student officially or unofficially withdraws after the end of the college's refund period, the student is liable for all of his/her tuition and fees, even if the student's financial aid is decreased. If the student's financial aid previously covered his/her bill, but no longer covers it after the Return of Title IV Aid calculation, the student will be expected to pay his/her outstanding tuition and fees. Further, if the student receives a disbursement of financial aid, and the Return of Title IV Aid calculation shows the student was not entitled to the funds, the student will be billed for the funds, and the overpayment information will be forwarded to the U.S. Department of Education.

It will be the student's responsibility to repay the funds before he/she is eligible to receive any further federal student aid, even if the student attends another college. This overpayment will appear on the student aid report until the overpayment is repaid.

ACADEMIC REQUIREMENTS

Union Graduate College has adopted the Union College trimester system, approved by the New York State Department of Education in 1966. Under this system, each course equates to 3 1/3 semester hours. A full-course load is considered two (2) courses per term or six (6) courses per year. It is expected that students will spend from 2.5 to 3.0 hours outside of class for each hour spent in class. Union Graduate College credit bearing courses are generally worth 3 1/3 credit hours. In converting to minutes each class utilizes between 2000 and 2400 minutes of in-class instruction.

GRADING POLICIES AND PROCEDURES

Course Numbering System

Union Graduate College uses a course numbering system with two levels. Courses numbered below 500 are prerequisite courses for which no credit is given. Courses numbered 500-699 are graduate level courses.

Academic credit is computed using a system which equates 1 full course to 3 1/3 credit hours. All courses listed in this catalog are full credit courses unless designated otherwise.

Grading

Grades are awarded according to the following system:

A	4.0	B+	3.3	C+	2.3
A-	3.7	B	3.0	C	2.0
		B-	2.7	F	0.0

WA	Waived	F-PF	Fail a Pass/Fail course
WA-R	Waived with Replacement	W-PF	Withdrew from Pass/Fail course
TR	Transferred	P-PF	Pass a Pass/Fail course
I	Incomplete	I-PF	Incomplete in a Pass/Fail course
Y	Faculty delayed grade	Y-PF	Faculty delayed grade in Pass/Fail
W	Withdrew (after add/drop)		

A Matriculated student who receives a grade of “F” (see “Dismissal” section) may petition the Academic Committee for approval to repeat the course. If permission is granted, both the “F” and the new grade appear on the transcript and are included in the cumulative index. Please refer to the Academic Standing paragraph of this section below.

All grades are posted on the student portal - under academics > my grades. They are not released over the phone or via email. You can also print an unofficial transcript on the portal.

Incompletes

Incomplete grades will only be assigned in extenuating circumstances. A grade of incomplete may be requested before the submission of grades, but only on the grounds of circumstances beyond the control of the student.

1. The incomplete request must include the student's signature, the instructor's signature, and the signed approval of the Dean or Director of the program. The form must be submitted to Student Services.
2. All work must be completed at the end of the following term and a grade turned in to Student Services.
3. For cases in which it is not possible to complete the work within the deadline because of circumstances beyond the control of the student, a petition for an extension of incomplete may be submitted in writing to the Academic Committee through the Registrar's office.
4. For Bioethics courses only offered once per year the incomplete must be completed within one year.

Withdrawal from a Course

1. With the advisor's signature, and with proper notice (Add/Drop form) to Student Services, a student may withdraw from a course (i.e. with a grade of W) at any time in the first six (6) weeks of a term (or first three during summer). A withdrawal/drop made during the add/drop period will not show on a transcript. (In accordance with federal immigration regulations, international students F-1 and J-1 visa holders, must consult their Foreign Student Advisor/Designated School Official, as well as their academic advisor for approval to withdraw from a course). All students are also responsible to notify the professor of the course.
2. Dropping a course after the sixth (6th) week date will result in a grade of "F", unless the advisor and the Dean of the graduate school of which the student is a member, agree that there are extraordinary personal circumstances that justify altering this procedure.
3. If proper notice of withdrawal from a course is not given to the Registrar, a grade of "F" will be posted to the record.

Please note: Students will not be permitted to withdraw if there is an outstanding balance on their bill, and they will receive an "F" for the course.

Pass/Fail Grades

If a graduate thesis, internship, or project is two-part, the first part is graded with a pass/fail grade. A grade of "Pass" will not be calculated in the cumulative index; a grade of "Fail" however, will count as a failing grade. After completion of the second part, a final grade is assigned. These are the only classes a pass/fail option is available for.

Faculty Initiated Grade Changes

Grades are assessments, as fair and objective as possible, of the student's work at the end of the term. Fairness demands that all students be held to the same reasonable standards. All instructors are expected to make fair and careful appraisal of each student's work, and to submit grades to Student Services no later than the due date specified by that office for the final exam period.

Grades, once submitted, come within the protective domain of the College. Grade changes (other than clerical error) must be made in writing to and approved by the Dean/Director of the program and the Academic Committee. The Dean/Director will present the request to the Academic Committee.

A faculty member must request in writing to change a grade for substantive reasons. This request must be approved by the Dean/Director of the program and the Academic Committee. The Dean/Director will present the request to the Academic Committee.

The Academic Committee will not accept a request without a full explanation supported with detail. Faculty may not allow a student to submit late or additional work in order to improve the grade, unless an official grade of incomplete has been assigned.

Student Grade Appeal

The Academic Committee will grant a grade change appeal by a student only under extraordinary circumstances, namely when it can be demonstrated that the grade was inequitably awarded. The grade change appeal process is as follows:

1. A student wishing to appeal a grade in a course should do so no later than the end of the second week of the subsequent term.
2. The student should first confer with the faculty member who assigned the grade (if this faculty member is not available then the student should meet directly with the Dean of that program). The student should inform the instructor of concerns and seek to fully understand the grounds and procedures the instructor has used in determining the grade. The aim of this conference is to attempt to reach a mutual understanding about the grade and the process by which it was assigned.
3. If upon meeting with the faculty member as outlined above, the matter is not resolved within two (2) weeks, the student may make a formal written complaint to the Dean/Director of the School in which the class is offered. The Dean/Director shall review the complaint, consult with the faculty member and student, and render a decision within one week. If upon review, the Dean/Director finds sufficient grounds of an inequitable award of the grade to warrant a grade change, he may do so in consultation with the Academic Committee. (See the Student Handbook for more information on the Academic Committee.)
4. If the issue is not yet resolved within a second two (2)-week period, or if the student wishes to appeal the decision of the Dean/Director, the student may submit a written appeal to the Academic Committee. The Academic Committee will consider the student's letter of appeal, and any other relevant materials provided by the Dean/Director,

and make a determination regarding the appeal. The Academic Committee may, in its discretion, meet with the involved parties. In no case will the Academic Committee substitute its judgment on the merits of a student's work for the bona fide judgment of a faculty member. The decision of the Academic Committee is final. Note: If the student believes he or she has been the victim of harassment or discrimination, the Affirmative Action Policy found in Appendix A of the Student Handbook describes the process by which to file a formal complaint against any member of the Graduate College community.

Repeat Policy

Students who repeat a course they have previously failed will have both grades listed on the transcript. All credits attempted and total quality points earned will be used in calculating the cumulative grade point average. Students who repeat a course they have previously passed (with a grade of "C" or better) will have both grades listed on the transcript, but neither the quality points associated with the second grade nor the credits attempted or earned will be factored into their GPA.

Internships

Completion of College-supervised internships is a requirement for graduation in some programs. Entities hosting internships may inquire regarding health history, criminal history or require a criminal background check in order to permit students in their facility, and may deny a student's participation in the program because of a felony or misdemeanor conviction, failure of a required drug test or inability to produce an appropriate health clearance which could result in delayed graduation or in the inability to graduate from the program.

ACADEMIC STANDING

Good Academic Standing

Union Graduate College regards a student as "in good standing" academically if he or she satisfies two conditions: (1) satisfactory progress toward the degree and (2) maintenance of a minimum GPA of 3.0.

Satisfactory Progress for Full-Time Students

Satisfactory progress means a sufficient accumulation of course credits toward a degree. In order to achieve the minimum satisfactory academic progress, students must complete six (6) courses per academic year. Students failing to achieve these academic year standards may be placed on academic warning and forfeit their access to Federal Student Aid Funds until minimum standards are met. These minimum standards are in addition to the minimum GPA standards described below. The New York Tuition Assistance Program (TAP) has stricter requirements.

Satisfactory Progress for Part-Time Students

Satisfactory progress means a sufficient accumulation of course credits toward the degree. In order to achieve the minimum satisfactory academic progress, students must

complete their degree within six (6) years of matriculation. These minimum standards are in addition to the minimum GPA standards described below. The New York Tuition Assistance Program (TAP) has stricter requirements.

Minimum GPA Standards

A cumulative GPA of at least 3.0 is necessary for graduation. Students with a cumulative or term GPA below 3.0 will be sent an academic warning letter. The student must raise his/her grade average to “B” to petition for graduation. Failure to do so will lead to placement on academic probation and possible termination of graduate status.

While students are studying at the Graduate College towards their degree, a grade of “F” in one course or a grade of “C” or “C+” in two (2) graduate level School of Engineering/Computer Science, Bioethics/Clinical Leadership or School of Education courses or three (3) School of Management MBA program courses may indicate that the student is not of graduate caliber and will be dismissed from their program. For students in a School of Management Certificate program, two grades of C or C+ (or one grade of F) or Students in a Bioethics or Education Certificate program with one grade of C, C+ or F will result in dismissal from the program. Matriculated students may petition for readmission, in writing to the Dean/Director of their program. The Dean/Director will refer the request to the Academic Committee. Please note that a grade of B- is considered substandard performance for a graduate level course.

A student placed on academic warning due to the non-attainment of minimum cumulative GPA standards but permitted to remain at the College, as an enrolled student shall be considered in “good standing” where questions of eligibility for Federal Student Aid Funds are concerned.

The Dean/Directors may review the status of any student in their program whose cumulative GPA or other considerations suggest questions of satisfactory progress toward graduation. If, after such a review, the student’s record is deemed unacceptable by the Dean/Director, they may adopt one of the following actions with the approval of the Academic Committee:

Academic Warning: The student may remain in the program, but unless the record improves, the student will be subject to subsequent action.

Suspension: When, in the judgment of the Dean/Director, a student’s record makes it inadvisable to continue in the program, he or she may be suspended, normally for not less than two terms.

Dismissal: In certain cases, the Dean/Director may dismiss a student.

The Dean/Director needs to notify the Registrar in writing of these decisions including the reasons for the decision within three (3) business days of the decision. The Registrar will then notify the student in writing by certified mail within three (3) business days of receiving the decision to the student’s mailing address.

Appeals of decisions of the Dean/Director should be directed to the Academic Committee in writing within two (2) weeks of receiving the decision. The decision of the Academic Committee will be given in writing to the student in person or by mail to the student's mailing address no later than five (5) business days after the decision is rendered. The decision of the Academic Committee is final.

The Academic Committee

The Academic Committee (AC) is responsible for recommending and applying Union Graduate College policy for the admission and academic performance of students. The Committee consists of nine voting members: the Dean and one faculty member from the School of Management; the Dean and one faculty member from the School of Education; the Dean from the School of Engineering and Computer Science and one at-large teaching faculty representative from any one of the schools; one student member, the Registrar, and the Vice President of Enrollment are voting members. A vote of five of the voting members of the Academic Committee shall be necessary to constitute a decision of the Academic Committee.

The AC reviews applications accepted by the graduate college's Admissions Committee on which the Grade Point Average (GPA) falls below the 2.7 minimum requirement, and reviews petitions submitted by students with academic considerations. Students who wish to petition the AC with regard to grades, graduate status, or other matters must follow the procedures as listed in the Student Handbook. The AC is also responsible for conducting hearings on matters pertaining to student violations of the Standards of Academic Honesty and the Student Disciplinary Code and making recommendations to the President resulting from the hearings.

GRADUATION REQUIREMENTS

To qualify for a degree a student must:

1. Complete satisfactorily the requirements in the degree program, including the major field examination and/or thesis, or internship as applicable;
2. Attain a minimum cumulative GPA of 3.0 overall.

In addition, a student also must have paid all sums due Student Services, must have made satisfactory provision for payment of any other financial obligations assumed while in Union Graduate College, and must have returned all books borrowed from the Library.

Students are solely responsible for assuring that the program presented for graduation fulfills all requirements, both in general and in specialized study. Student Services should be consulted when questions arise about the satisfaction of graduation requirements.

Notice of intent to graduate must be sent to Student Services no later than December 1 prior to their June graduation.

Waivers of Graduation Requirements

Request for waivers of graduation requirements must be made in writing to the Graduate College Registrar. The registrar will present the request to the Academic Committee for consideration. The ruling of the academic Committee is final. The student will be notified in writing by the registrar of the Academic Committee decision within five (5) business days of the rendering of the decision.

TRANSCRIPTS

Official transcripts from Union Graduate College must be requested in writing with a signature. Except in extenuating circumstances they cannot be sent to students, but will be mailed to other educational institutions, certification boards, employers and prospective employers. This insures the privacy of the student's academic records. Unofficial transcripts, without the college seal, are available for the student's personal records and are available on the student portal for students who were active as of 2005 or later. A financial hold on a student account will prevent the release of transcripts. There are no fees for transcripts, but if there is a special service required to deliver the transcript the cost is the students/alumnae's responsibility. A transcript request form can be found on the college website (www.uniongraduatecollege.edu). For questions please call 518-631-9834.

DIPLOMAS

Diplomas will not be released to anyone who has a financial obligation or grades of "I" incomplete and "Y" delayed.

Replacement Diplomas

Diplomas that have been lost, damaged or destroyed can be reordered. The replacement diploma will be an original diploma; the Registrar's Office does not maintain duplicate copies. Processing of replacement diplomas takes approximately 4 – 6 weeks. The fee for a replacement diploma is \$50.00 (payable to Union Graduate College), and must accompany the request for replacement.

To order a replacement diploma, print out the Replacement Diploma Order Form found on the college website (www.uniongraduatecollege.edu). Mail completed form, along with fee, to Union Graduate College / Registrar's Office, 80 Nott Terrace / Schenectady, NY 12308.

FERPA

Notification of Rights under FERPA

The Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act of 1974 (FERPA) affords students certain rights with respect to their education records. They are:

(1) The right to inspect and review your student education records within 45 days of the day Union Graduate College (“Graduate College”) receives a request for access. Students should submit to the Registrar written requests that identify the record(s) they wish to inspect. The Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. The Graduate College will respond to reasonable requests for explanations and interpretations of the records.

(2) The right to request an amendment of your student education records that you believe are inaccurate, misleading, or otherwise in violation of your privacy rights. FERPA, however, only allows students to challenge and correct "ministerial errors" in their records, not to bring substantive claims regarding the reasons for a particular notation having been made. Students may ask the Graduate College to amend a record that they believe is inaccurate or identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the Graduate College decides not to amend the record as requested by the student, the Graduate College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

(3) The right to consent to disclosures of personally identifiable information contained in your student education records, except to the extent that FERPA authorizes disclosure without consent. One exception that permits disclosure without consent is disclosure to Graduate College officials with legitimate educational interests in the information. A Graduate College official is: a person employed by the Graduate College in an administrative, supervisory, academic, research, or support staff position, or a person or company with whom the Graduate College has contracted (such as an attorney, auditor, security personnel or collection agent); representatives from the Union Graduate College’s accrediting bodies; a person serving on the Board of Trustees of the Graduate College; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another Graduate College official in performing his or her tasks. A Graduate College official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional or job responsibilities.

(4) The right to refuse to permit the designation of any or all of the following categories of personally identifiable information, hereafter “directory information,” which is not subject to the above restrictions on disclosure and may be disclosed by the Graduate College at its discretion:

- Name and campus e-mail address

- City, town or village and state or country of residence
- Class, anticipated date of graduation, major field of study, including the college, division, department, or program in which the student is enrolled
- Participation in officially recognized activities and sports
- The most recent educational institution attended and previous educational institutions attended and dates of graduation therefrom
- Honors and awards received, including selection to a Dean's list or honorary organization
- Photographic, video or electronic images of students taken and maintained by the Graduate College
- Marital status and spouse's name

Any student wishing to exercise this right must inform the Graduate College Registrar in writing, by completing a form available in the Registrar's office, within two weeks of the date they receive this notice of the categories of personally identifiable information which are not to be designated as directory information with respect to that student.

(5) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the Graduate College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
US Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-5920
Phone: (202) 260-3887

STUDENT DISCIPLINARY CODE **AND ACADEMIC HONESTY**

A student's first responsibility is academic honesty. The College assumes that students will not resort to plagiarism, theft and mutilation of library books and periodicals, or any other form of academic dishonesty. Any student found guilty of academic dishonesty will be subject to appropriate disciplinary action. Additional information is found in the Graduate Student Handbook, which is available at the www.uniongraduatecollege.edu.

All members of Union Graduate College community are bound together by respect for the individual and the collective rights of others. Any student who violates the safety and security of Union Graduate College community is subject to disciplinary action by the College as outlined in the Student Disciplinary Code (See the Graduate Student Handbook). Any member of Union Graduate College community or a guest/visitor may file an incident report against a student with any member of the Academic Committee.

Union Graduate College has a central concern for establishing and maintaining a community in which work and learning proceed in a humane and caring atmosphere for all its members. Sexual harassment is a violation of law and will not be tolerated in any form at Union Graduate College.

Sexual harassment, according to the definition developed by National Organization of Women, is any repeated or unwanted verbal or physical sexual advance, sexually explicit derogatory statements, or sexually discriminatory remarks made by someone in the classroom or workplace which is offensive or which causes the recipient discomfort or humiliation, or which interferes with the recipient's education or job performance.

Should students feel they have been the victims of any form of the behavior noted above, they may initiate informal discussion or more formal procedures through the Affirmative Action Advisor. The policy in the Graduate Student Handbook regarding sexual harassment outlines appropriate actions students may take. It is distributed to all new students.

Union Graduate College's policy of nondiscrimination on the basis of age, race, religion, disability, sexual orientation or national origin extends to all areas of College operations including, but not limited to, admissions, student aid, athletics, employment and educational programs.

All student policies and procedures can be found in the Student Handbook on the webpage: www.uniongraduatecollege.edu

SCHOOLS AND PROGRAMS

SCHOOL OF EDUCATION

Location: 80 Nott Terrace, Schenectady, NY 12308

Telephone: (518) 631-9870

Fax: (518) 631-9903

Dean: Patrick F. Allen

Associate Deans and Clinical Faculty: Catherine Snyder

Bruce Tulloch

GENERAL INFORMATION

Degrees Offered

- Master of Arts in Teaching
- Master of Science for Teachers of Mathematics and Science
- Master of Arts in English, History and English/History

Certificate of Advanced Study Programs

- Certificate of Advanced Study in National Board Certification and Teacher Leadership
- Certificate of Advanced Study in Mentoring and Teacher Leadership

Extension Program

- Middle Childhood Extension (grades 5-6)

Professional Development Projects with Schools

- National Board Certification Facilitators Support Groups
- Establishing Effective Mentoring Programs in Schools
- East Asia Project

Articulation Agreements

The School of Education has articulation agreements with Hamilton College and Skidmore College whereby students who have graduated from either of these institutions with a 3.3 GPA or better will be eligible for two course waivers/transfers into the Union Graduate College MAT program.

Mission Statement

The School of Education promotes the art of accomplished teaching and learning. Our graduates know their disciplines and know how to teach their disciplines effectively to a wide range of students. The faculty and students are members of learning communities

that promote professional excellence and ethical behavior. Graduates have the ability and skills necessary to lead from the classroom.

Waiver/Transfer Policy:

- Student may be granted a **waiver** for any course based on undergraduate or graduate level courses. These courses may have been taken as part of another degree. Waiver guidelines for individual courses are outlined below. Typically only final grades of B- or better in prior courses are considered for waiver.
- Students may be granted a **transfer** for any course based on completion of a comparable graduate level course with a grade of B- or better. The course transferred may not have been used to meet the requirement of another degree. Transfers reduce the total courses required.
- Students may be granted a **replacement** for any course based on coursework and /or experience. Replacements do not reduce the total courses required. The UGC Academic Committee may mandate a specific replacement course.
- A minimum of 14 courses must be completed at UGC. If course waivers and transfers reduce the number of remaining courses below the minimum, students must take additional electives to reach the required minimum.
- For Union College students, no more than two UGC courses may double count for both graduate and undergraduate degrees.
- Courses taken as undergraduates in excess of this number, may be replaced, but not waived.
- All requests **must** be submitted by the end of the first term (Fall, Winter, or Spring) during which the student takes a course as a matriculated student. Each request must be submitted on the appropriate form and accompanied, at a minimum, by a copy of the transcript showing the relevant course(s) and a catalog description of the course (an official copy of the transcript must be on file at UGC). Students are encouraged to attach syllabi and other materials that will help the Waiver committee rule on the request(s). In some instances, the Committee may require such materials.
- Prior coursework should typically have been completed within the last five years.
- Matriculated students are expected to take their courses at Union Graduate College. Occasionally, however, situations occur where matriculated students may take qualified courses at another school to be considered for transfer. Such transfers should be reserved for courses unique to the student's study (career) needs that are not offered at UGC or courses that solve a pressing scheduling problem.
- These courses will require the approval of the waiver/transfer committee.

WAIVER GUIDELINES FOR CORE COURSES

Course Minimum Level for Pre-requisite Coursework Required:

Foreign Language: Two undergraduate semesters of a foreign language in a college/university, or three years of secondary school foreign language with a minimum of a B average.

PSY 246 One undergraduate or graduate course in Educational Psychology, Adolescent Learning/Development, Learning Theory, or the equivalent.

EDS 500A One undergraduate or graduate course or equivalent in field observations at the middle school/junior high school level.

EDS 500B One undergraduate or graduate course or equivalent in field observations at the high school level.

Minimum Requirement for a course waiver/transfer:

EDS 541 One undergraduate or graduate course that includes teaching reading to adolescents.

EDS 544 One undergraduate or graduate course in writing literacy.

____5__ One graduate course in the field of certification.

____5__ One graduate course in the field of certification.

A student who has completed a master’s or Ph.D. in the field of certification may apply for a third waiver course in the field of certification. The appeal must be approved by the Academic Committee.

DEGREES

The Master of Arts in Teaching (MAT)

The MAT degree is designed for individuals who have completed a baccalaureate degree in a liberal arts discipline and who would like to teach subjects such as English, foreign languages, mathematics, science or social studies in secondary schools or technology at the K-12 level.. This program provides the pedagogical course work and experience necessary for New York State initial certification, grades 7-12. It also provides the opportunity to extend and deepen knowledge in the subject area of certification and the Master’s degree necessary for professional certification.

MAT Program Requirements

The MAT program requires at least 16 courses: 10-13 in pedagogy and 3-5 in the subject area for which certification is sought. Prerequisites are PSY-246 (Educational Psychology), one year of a college level foreign language or its equivalent, and EDS 500 A, B, C (two weeks of structured field experiences). Pre-requisites must be completed before a student enrolls in the intensive summer program, not necessarily before the student is accepted into the program. Core requirements are: EDS 540 (Psychology of Teaching), EDS 540L (Psychology of Teaching Laboratory); one of the EDS 511-516 courses (Curriculum and Methods of Teaching English, languages, mathematics, science, social studies or technology); EDS 541 (Essential Reading Literacy), EDS 544 (Writing in the Content Classroom); EDS 550A (Seminar on Special Needs Populations), 550B (Assessment) and 550C (School Reform). The program requires a one-year teaching internship (EDS 551, 552, 553), Master’s research (either a two-term thesis in the discipline (____ 598-99), or a one-term classroom-based project (____ 580), plus three to five electives. Students who plan to complete the course-work over a two- or three-year

period may apply at any time in the academic year, but they must apply no later than March 1 of the year in which they intend to enroll in the special intensive summer program.

Admission to the MAT

Applicants to the program must have completed a BS or BA from an accredited institution with the equivalent of at least 30 semester hours (9 courses at Union College) in the liberal arts major area (English, language, mathematics, science, social sciences) in which they will seek certification. A minimum grade point average of 3.0 in undergraduate or previous graduate work is normally expected in this discipline, and overall. An interview, an essay, and at least three references are required, two of which must be academic. Evidence of intellectual achievement, motivation, and aptitude are necessary for admission.

Union College undergraduates are also eligible for a BA/MAT or BS/MAT combined degree program (see below). Students may begin the combined degree program during any term, but must complete the intensive summer program prior to the beginning of their internship. Students expecting to begin the program in the summer must submit application materials no later than March 1 of the preceding spring. Students who plan to complete the course work and internship over a two- or three-year period may apply at any time in the academic year, but they must apply no later than March 1 of the year in which they intend to enroll in the special, intensive summer program. Interested students must see a program advisor before registering and may register for only two elective courses before matriculation. In addition to the admission requirements above, students are expected, before the special summer program, to have completed: 1) an undergraduate educational psychology course or the equivalent competency examination, and 2) two weeks of structured field experiences as defined in School of Education Program literature. All students must complete one year of a foreign language at the college level or its equivalent before the college can recommend certification.

The Teaching Internship

Most MAT candidates will complete a half-day, year-long internship in a secondary school, taking full responsibility for at least two classes. Students will be interviewed at the site(s) where they expect to intern. Entrance into the internship portion of the program is contingent upon completion of Psychology of Teaching; Essential Reading Literacy and the appropriate Curriculum and Methods course with minimum grades of “B.”

Master’s Research and Thesis

The thesis generally comprises two of the 3-5 courses in the discipline. For students attempting to complete the program in one calendar year, the thesis is generally undertaken in the fall and winter terms. The thesis advisor is normally a faculty member in an academic discipline directly related to the student’s area of certification. The thesis and all the required paperwork must be on file in the Registrar’s Office two weeks prior to graduation.

The MAT Project

In lieu of a thesis, students may enroll in ____ 580, which involves carrying out classroom-based research in an academic discipline related to pedagogy. Students who write an MAT Project normally undertake it during the winter term. Opting to complete a project usually means enrolling in one more elective course in the discipline than those who undertake an MAT thesis.

Computer Literacy

Each student in the MAT program is expected to leave the program with a greater degree of computer/technology literacy than the degree of literacy with which s/he entered. Students who enter with less than basic computer knowledge are expected to include as an elective at least one of the following: CST 565, 570 or 571, or demonstrate competence in one of those areas.

Elective Course Work

Students in the MAT program are normally required to take at least three elective courses in their academic discipline selected with the approval of their advisor. If the student chooses to undertake an MAT Project in lieu of an MAT Thesis, then the student must select an additional elective for a total of four graduate electives related to the area of certification. Courses are offered in the late afternoons and evenings during the academic year. With the approval of an advisor, up to two graduate-level courses may be transferred into the MAT.

Post-Graduate Teaching CORE

For some individuals already holding an advanced degree in a discipline related to their prospective teaching area, it may be unnecessary to complete the entire MAT degree program in order to qualify for professional certification. Selected students will be accepted into the Post-Graduate Degree Teaching CORE. The CORE consists of 12 graduate courses in pedagogy including a year-long internship (counting for 3 of the 12 courses). A full-time, eight-week summer term is required. Students who complete only the CORE are not normally recommended for certification by the School of Education program. Each CORE student must apply for certification on her/his own. That means each CORE students must meet the letter of New York State certification standards as defined by the Office of Teaching Initiatives.

BA or BS/MAT Combined Degree Program

Although all Union College undergraduate students who meet the School of Education's entrance requirements are eligible to become MAT students, to be eligible for the combined undergraduate/graduate degree program a student must be a Union undergraduate and must normally have a grade point average of at least 3.25 or above. Students must apply to the program no earlier than their 8th term and no later than the end of their 10th term. Students will complete the usual requirements for the baccalaureate degree, including PSY 246 (Educational Psychology) and the non-credit structured field experiences (EDS 500A and EDS 500B). In the summer prior to their last year (in most cases between the senior year and their graduate year), students will complete the graduate 8-week summer term of EDS 540 (Psychology of Teaching), EDS 540L (Psychology of Teaching Lab), the appropriate Curriculum and Methods course EDS 511-516, and EDS 541 (Essential Reading Literacy). They will take EDS 550A, B,

C concurrently with the year-long teaching internship. In addition to the education courses required for certification, combined degree students must enroll in either a two-term thesis in the discipline or a one-term master's degree project. Students who undertake a thesis must enroll in one additional elective; students who undertake a project must enroll in two additional electives. For undergraduate and graduate work, students in the combined degree program will complete a minimum of 50 courses, allowing them to apply two of their courses to both the undergraduate and graduate degrees.

New York State Certification

Those students seeking New York State Certification through Union Graduate College should apply online at <http://www.highered.nysed.gov/tcert> (The New York State Education Department, Office of Teaching Initiative's TEACH website). Each student should apply online in June of the year they graduate. Application is for a state-approved program Initial Certification in their area of certification. Transcripts and all necessary verification are submitted and/or matched online. Students must have completed the MAT program, been fingerprinted, completed SAVE and Drug Abuse / Child Abuse training, passed all three of the NYS certification examinations (LAST, ATS-W, and CST) in order for the program to recommend certification. Payment is made by credit card online. Instruction in the online application will be provided for graduating students by the MAT faculty. Although each MAT graduate is seeking Initial New York State certification, the MAT and the MST provide students with the required master's degree necessary for Professional Certification. A teacher may apply for Professional Certification after s/he has completed three years of full-time teaching and has completed the master's degree necessary for Professional Certification.

The Master of Arts in English, the Master of Arts in History and the Master of Arts in History and English

Union Graduate College is proud of its long history of providing strong academic development in the disciplines and producing graduates who are known for their exceptional academic strength and superb preparation to teach. Our newest degree programs, the Master of Arts in English, Master of Arts in History, and the Master of Arts in English and History, expand our reputation for quality academic and teacher preparation.

The purpose of the Master of Arts in English, Master of Arts in History, and the Master of Arts in English and History is to improve students' core content knowledge (English and History), especially for school faculty teaching in grades 7-12 and for professionals seeking graduate level academic education.

This degree is also an attractive option for:

- Teachers who have attained Initial Certification in a bachelor's program and who need a master's degree to attain Professional Certification,
- Teachers seeking professional development in academic content in order to meet the 175 hour professional development mandate,

- Individuals seeking a master’s degree in an academic discipline for professional reasons (such as private school teaching, library work, museum personnel, and research work),
- Individuals who intend to pursue doctoral study and are seeking further preparation for that degree.

At Union Graduate College, students will gain more than an advanced degree. They will learn a wider range of teaching methods to engage their students and breathe new life into their English and History curriculum. Those seeking non-teaching professional work will achieve much greater depth of knowledge in their discipline.

Program Requirements

The MA in English, MA in History, or the MA in English and History is awarded upon the completion of eleven courses (36.3) credits). At least six of the courses for English or History, or eight of the courses (for English and History) need to be in an academic subject area (English, History, or English and History), although all 11 courses may be in one or both discipline areas. Beyond the six to eight courses in the discipline, each student may complete up to three to five courses in electives related to teaching, such as a higher education certificate in Mentoring and National Board Certification and Teacher Leadership, a fifth and sixth grade extension, or electives such as Literacy, Assessment, or Special Needs Populations.

Normally the degree can be completed on a part-time basis over a 2-3 year time span for those students working full-time. The program can also be completed on a full-time basis in one calendar year.

Students must consult an academic advisor in planning their program of study and should matriculate no later than the end of their second course. One or two graduate level courses from other institutions may be transferred into the program, as determined by a Union Graduate College faculty advisor.

MA in English Program Content:

Core:

EGL 581	Criticism
EGL 580 or EGL 598/599	MA Project or Thesis
EGL 510	Writing and Teaching: A Process Approach
EGL 523	The American Short Story
EGL 524	Modern American Fiction
EGL 565	Reading Shakespeare
EGL 582	The Civil War Era, Interdisciplinary Approaches
EGL 595	Reading Poetry
EGL 596	Reading American Fictions

Electives: Students work with academic advisors to select up to five electives from the Master of Arts in Teaching Program, the Certificates of Advanced Study in Mentoring or National Board Certification and Teacher Leadership, and the Fifth-Sixth Grade Extension

MA in History Program Content

Core:

HST 580 or HST 598/599	MA Project or HST Thesis
HST 589	Comparative Social Studies
HST 510	Comparative Global History
HST 511	The Writing and Ratification of the Constitution
HST 582	The Civil War Era, Interdisciplinary Approaches
HST 584	Personality in History
HST 558	The Holocaust
HST 596	The Presidency

Electives: Students work with academic advisors to select up to five electives from the Master of Arts in Teaching Program, the Certificates of Advanced Study in Mentoring or National Board Certification and Teacher Leadership, and the Fifth-Sixth Grade Extension

Master's Research and Thesis

Each student undertakes a capstone research project in their academic discipline or interdisciplinary concentration by completing either a two-term thesis supervised by an academic faculty member or a one-term MA Project on action research. The thesis advisor is normally a faculty member in the academic discipline.

Admission to the MA in English, MA in History or MA in English and History

The School of Education admits students on a rolling basis throughout the year. Admission to these degree programs is based on evidence of intellectual achievement, motivation, and aptitude for the profession. All teaching students must possess or be a candidate for an undergraduate degree from an accredited college or university before applying for graduate admissions status.

A grade of B (3.0 cumulative index) or better in previous undergraduate and graduate work is generally expected for admission.

- A minimum of 30 units in the field of certification.

The program is generally designed for those students who have completed the course work for Initial Teaching Certification, grades 7-12, although some students who already hold Initial Certification choose to complete the program to achieve the master's degree necessary for Professional Certification before they teach full-time. The program is also appropriate for those professionals who need in-depth graduate study in the academic disciplines of English, history, or English and history.

Certificates of Advanced Study

Certificate of Advanced Study in Mentoring and Teacher Leadership (16.5 credits)*

Certificate of Advanced Study in National Board Certification and Teacher Leadership
(13.2 credits)*

Application Materials required:

- Application form –
- Application fee of \$60
- Candidate Statement – see below for specific requirement
- Interview
- Official Transcripts
- Upon admission a reply for and \$150 resource fee will be due.

Admissions Criteria:

- Initial or Professional Certification, or a Permanent Certificate to teach any level from K-12 in any subject
- Three years of teaching experience (required for the CAS in National Board Certification only)
- Generally a 3.0 in all previous coursework

How to apply:

- Contact Chris Angley at angleyc@uniongraduatecollege.edu or call 518-631-9870 to schedule a faculty interview and for application packet.
- Submit official transcripts for all previous coursework
- Submit a candidate statement about the rationale for pursuing the Certificate of Advanced Study
- Submit completed application with the \$60 application fee

Cost:

- Application fee of \$60
- Tuition for one course is \$1000
- Resource fee of \$150

Courses required for the Certificate of Advanced Study in Mentoring and Teacher Leadership *

EDS 621: Mentoring I: Mentoring Interns and Novice Teachers
EDS 622: Mentoring II: Advanced Mentoring
EDS 623: Directing a Mentoring Program
EDS 624: School Law
EDS 625: Teacher Leadership

Courses required for the Certificate of Advanced Study in National Board Certification and Teacher Leadership *

EDS 610: Reflective Teaching Practices:
EDS 611: Learning to Teach to the Highest Standards
EDS 624: School Law

EDS 625: Teacher Leadership

*Courses may be applied toward a Master's degree at Union Graduate College in English, History, English and History, Mathematics, the Sciences, and Technology.

Middle Childhood Extension Program

The Middle Childhood Extension Program authorizes teachers who are certified in Adolescence Education, grades 7-12, to teach in their subject matter in grades 5 and 6. The subject matter areas include biology, chemistry, earth science, English, Chinese, French, German, Greek, Latin, mathematics, physics, social studies and Spanish.

Application Materials required:

- Application form – non-degree (no fee)
- Interview
- Official Transcripts (If UGC alum – not required) from latest degree

Application Criteria:

- Must hold current, valid base NYSED Certification
- Generally a 3.0 in all previous coursework

Cost:

- Tuition for one course is \$1050

Required Classes:

- EDS 570: Middle School Students, Structures, and Standards (3.3 credits)
- EDS 571: Middle Adolescence Literacy (3.3 credits)

Job Placement Statistics

MAT/MST graduates pursuing teaching jobs:

2002 Graduates

Percent placed by September after graduation—96%

2003 Graduates

Percent placed by September after graduation—88%

2004 Graduates

Percent placed by September after graduation—100%

2005 Graduates

Percent placed by September after graduation—91%

2006 Graduates

Percent placed by September after graduation—96%

2007 Graduates

Percent placed at six months after graduation—95%

2008 Graduates

Percent placed at six months after graduation – 93%

2009 Graduates

Percent placed at six months after graduation – 78%

Outline of MAT Program

Prerequisites: Educational Psychology or equivalent, EDS 500A, EDS 500B (non-credit, two weeks), or equivalent; one year of a college level foreign language or its equivalent.

Summer Session: An eight-week intensive summer session is required of all students immediately prior to their internship comprised of EDS 540, EDS 540L, and EDS 511-516 (depending on major), and EDS 541.

Typical MAT Full-time Program, One Year

Summer: EDS 511-516, EDS 540 (internship), EDS 540L, EDS 541

Fall: EDS 550A, EDS 551 (internship), ___ 598 (Thesis) or EDS 544, Elective

Winter: EDS 550B, EDS 552 (internship), ___ 599 (Thesis) or ___ 580 (MAT Project), Elective

Spring: EDS 550C, EDS 553, EDS 500C, Elective

The Master of Science for Teachers

This graduate program is designed for individuals who already hold provisional or initial certification with the State of New York and wish to gain the Master's degree necessary for permanent certification. The program offers courses in topics of contemporary importance in the life sciences, physical sciences, mathematics, and computer fields. Courses are designed to provide information in specific subject areas and their integration into the classroom. The program enables teachers to enhance their subject matter competence, to develop further competence in their present teaching assignments, to move from one subject area or teaching level to another, or to meet additional certification requirements. A different selection of courses is offered each academic year.

Program Requirements

The MS for T degree in science or mathematics is awarded for the completion of eleven courses (36.3 credits). Normally, six courses are taken in one of three general subject

areas: Life Science (biology, geology, chemistry), the Physical Sciences (chemistry, geology, physics), or the Mathematics/Computer field. Students interested in the degree must consult an academic advisor in planning their program of study and should matriculate no later than the end of their second course. One or two graduate level courses from other institutions may be transferred into the program, as determined by a faculty advisor.

Admission to the Program

Applicants to the program must have completed a BA or a BS from an accredited institution. A minimum grade point average of 3.0 in undergraduate and/or previous graduate work is normally expected. An interview, an essay, and at least three references are required, two of which must be academic. Evidence of intellectual achievement, motivation, and aptitude are necessary for admission. Students may complete the degree on a part-time or full-time basis and may apply at any time during the year.

Master's Research and Thesis

The thesis generally comprises two of the five courses in the discipline area of concentration. The thesis advisor is normally a faculty member in the academic discipline. If a student does not complete a thesis, s/he must complete master's level research by completing a Master's Project.

The MS for Teachers of Mathematics and Science Project

In lieu of a thesis, students may enroll in ____ 580, which involves carrying out classroom-based research in pedagogy as it relates to the discipline of the student's academic concentration. Students who write an MS for Teachers of Mathematics and Science Project normally complete it during the winter term with a School of Education faculty member. Electing to complete a project usually means completing one more required elective in the discipline than those who complete an MS for Teachers thesis.

Elective Course Work

MS for Teachers students are normally required to take five elective courses beyond the six courses required in their discipline area selected with the approval of an advisor. Graduate courses in the subject area of certification and in education-related subjects are offered in the late afternoons and evenings of the academic year. With the approval of an advisor up to two graduate-level elective course may be accepted in transfer.

Computer Literacy

Each student in the MS for Teachers program is expected to leave the program with a greater degree of computer/technology literacy than the degree of literacy with which s/he entered. Students who entered with less than basic computer knowledge are expected to include as an elective at least one of the following: CST 565, 570 or 571, or demonstrate competence in one of those areas.

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Location 80 Nott Terrace, Schenectady, NY 12308
Telephone (518) 631-9881
Fax: (518) 631-9902

Dean of Engineering and Computer Science: Robert J. Kozik

GENERAL INFORMATION

Degrees Offered

- Master of Science in Computer Science
- Master of Science in Electrical Engineering
- Master of Science in Mechanical Engineering
- Master of Science in Engineering and Management Systems

Mission

The School of Engineering and Computer Science focuses on advancing fundamentals and applying the practical professional knowledge required by today's rapidly changing industries. Students gain from a flexible multi-disciplinary approach that emphasizes the latest technology and is designed to meet their career goals. Recent programmatic changes have introduced emerging energy technologies and increased the integration of business skills to meet the evolving technology/business industry needs.

Job Placement

Over 80% of the students are working professionals enhancing and/or broadening their technical background. Full time students are provided job placement services with focus on the Capital Region and the surrounding Tech Valley industries.

Transfer Policy:

Students may be granted a transfer for any course (Core or Elective) based on completion of a comparable graduate level course with a grade of B- or better. The course transferred may not have been used to meet the requirement of another degree. Transfers reduce the total courses required. There is a maximum of two transfers allowed for the School of Engineering and Computer Science programs.

Prior coursework should have been completed with the last five years.

Matriculated students are expected to take their courses at Union Graduate College. Occasionally, however, situations occur where matriculated students may take qualified courses at another school to be considered for transfer. Such transfers should be reserved for courses unique to the student's study (career) needs that are not offered at UGC or

courses that solved a pressing scheduling problem. These courses will require the approval of the program advisor.

Directions:

Supply the information requested for each course you wish to transfer (see UGC – School of Engineering and Computer Science’s policy on the bottom of this form). Required documentation includes:

- A copy of all relevant transcripts (originals must be on file at UGC)
- At minimum, a catalog description of relevant course(s)
- Relevant course syllabi are highly recommended

Submit completed form to Rhonda Sheehan, Union Graduate College, 80 Nott Terrace, Schenectady, NY 12308

Joint Degree and Other Programs:

Union College (UC) accelerated joint degree program:

- MSME Degree Program – no more than three UGC courses may double count for graduate and undergraduate degrees
- MSEE Degree Program – no more than three UGC courses may double count for graduate and undergraduate degrees.

Knolls Atomic Power Laboratory

Technical Development Curriculum

At Union Graduate College

The Technical Development Curriculum (TDC) is part of a three-year Engineering Leadership Development Program that consists of KAPL work assignments as well as a program of technical study leading to a Master of Science Degree in Mechanical Engineering or Electrical Engineering. The KAPL portion of the TDC consists of one year of technical study in which Program members attend KAPL-taught lessons (termed TDC-1). The technical study for the remaining portion of the TDC consists of course work at UGC

The Master of Science Degree is a degree comprising ten UGC courses. Successful completion of TDC-1 will be the equivalent of three UGC courses, and the no credit MER/EER 599 Master of Science Graduate Project. Each Engineering department will determine the entrance requirement for the degree programs. For additional information contact UGC, Dean, School of Engineering and Computer Science.

GE Power Systems and Energy Course

At Union Graduate College

The Power System and Energy Course (PSEC) in conjunction with Union Graduate College is normally a one-year program of technical study leading to a Master of Science Degree in Electrical Engineering. The Master of Science Degree is a degree comprising ten UGC courses. Successful completion of PSEC will be the equivalent of three UGC courses and the non-credit Graduate Seminar in Electrical Engineering. For addition information contact UGC, Dean, School of Engineering and Computer Science.

Integration of GE Edison Engineering A Course Into School of Engineering, Union Graduate College

The Union Graduate College Master of Science Degree in Mechanical Engineering and Electrical Engineering is a degree comprising ten UGC courses. Successful completion of the GE Edison Engineering A Course @ GE-GRC will be the equivalent of three UGC courses and the no credit MER/EER 599 Master of Science Graduate Project. For additional information contact UGC, Dean, School of Engineering and Computer Science

Integration of GE (Energy) A Course Into Union Graduate College, School of Engineering

The Union Graduate College Master of Science Degree in Mechanical Engineering and Electrical Engineering is a degree comprising ten UGC courses. Successful completion of the GE (Energy) A Course will be the equivalent of three UGC courses and the no credit MER/EER 599 Master of Science Graduate Project. For addition information contact UGC, Dean, School of Engineering and Computer Science.

DEGREES

Master of Science in Computer Science

The Computer Science program expands the fundamentals and explores advances in computational theory, programming languages, software systems, hardware integration, and information technology.

Program Requirements

Nine courses numbered 500 or higher, are required, including CSc 511. Three of the nine courses must come from CSC 531, 533, 537, 538, 542, 548, 550, 571, 572 and 583. Two of the nine courses must be either a project (CSc 594–595) or a thesis (CSc 596–597). Students who have extensive software experience may petition to take other graduate-level courses instead of the project/thesis requirement. EER530, from the EER department, may also be used toward the degree. The nine courses must include a course from each of the core areas:

- Computational theory CSc 512, CSc 542
- Programming languages CSc 513, CSc 531, CSc 550
- Software systems CSc 510, CSc 516, CSc 533, CSc 548
- Hardware systems CSc 518, CSc 552, CSc 554, CSc 537

In addition to the nine courses, all candidates are required to participate in the MS Graduate Seminar in Computer Science (CSc 599). This non-credit seminar serves as the capstone experience of the MS in Computer Science degree. It is normally taken in the last year of the candidate's program.

Master of Science in Electrical Engineering

The electrical engineering program explores technologies and related industry opportunities in modern electric machinery, modeling and control of power electronics, telecommunications, optics and image processing, and the continuing evolution of software and networks. Strong emphasis is placed on Power Electronics/Energy Conversion and related technologies.

Program Requirements

A minimum of ten graduate courses and an MS Graduate Project in Electrical Engineering are required. Each student's program should include at least seven electrical engineering courses and up to three electives. Each student should, in conference with the graduate advisor, plan a complete graduate program prior to taking any courses for graduate credit. Students with weak backgrounds may need to take more than ten courses.

Electives should normally be chosen from graduate level courses in electrical engineering, computer science, mechanical engineering, and MBA programs. The advisor must approve every course taken for graduate credit. A thesis could be considered as one or two technical electives.

All candidates not completing a thesis or independent study are required to participate in the MS Graduate Project in Electrical Engineering. This is a non-credit, no-fee project that serves as the culminating experience of the MS in Electrical Engineering degree.

Master of Science in Mechanical Engineering

The Mechanical Engineering program expands graduates' understanding and application of solid mechanics, thermal-fluid systems, materials, and manufacturability to advance career opportunities in power systems, emerging energy technologies, and product design evolution. Students are encouraged to consider MBA electives and several technical courses to integrate business skills to complement technical expertise.

Program Requirements

The MSME requires a total of ten courses. Two of three core courses must be taken by all students: MER 502 (Engineering Analysis) is required by all students and one or both of the following: MER 501 (Transport Phenomena) or MER 500 (Elasticity). Of the remaining eight courses, six must be in the mechanical engineering major. The remaining two courses are selected from engineering (mechanical or electrical), computer science, mathematics, or from the MBA program. Not all courses from these areas are satisfactory selections; therefore all course selections must be approved by the graduate advisor before course registration. Each student must submit a program plan of study (to be approved by the advisor) before completion of the first course taken for graduate credit.

Students can complete the degree by taking ten courses and the MS Graduate Project in Mechanical Engineering noted below. They also have the option of replacing one or two courses with independent research conducted in the form of a Master's Project (one course) or a thesis (two courses) with departmental approval. All students, either part-time or full-time, intending to do Research and Thesis must consult the department for appropriate guidance. Part-time students not completing a Master's Project, thesis, or

independent study are required to complete an MS Graduate Project in Mechanical Engineering. This is a non-credit, no-fee project that serves as the culminating experience of the MS in Mechanical Engineering degree.

Master of Science in Engineering and Management Systems

The engineering and computer science professions continue to require the understanding and application of broadening technologies that complement each other in their product, system, or service application. Course offerings from all three disciplines (Electrical Engineering, Mechanical Engineering, Computer Science) may be required to provide a student with their desired technical growth or parallel the direction of their industrial interests. Technical career growth may be additionally enhanced by supplementing strong technical fundamentals with management disciplines such as finance, marketing, operations, or other related business skills. The Master of Science in Engineering and Management Systems provides a balanced degree program of engineering and computer science complimented by courses from the School of Management.

Program Requirements

A minimum of eleven (11) graduate courses are required. Each student's program should include at least 6 courses from the School of Engineering and Computer Science and 5 courses from the School of Management. Each student should, in conference with their graduate advisor, plan a complete graduate program prior to taking any courses for graduate credit. Students with weak backgrounds may need to take more than eleven (11) courses. The student's advisor should approve every course taken for graduate credit toward this degree.

Graduate courses taken from the School of Engineering and Computer Science should be selected from the following:

- Mechanical Engineering - credit bearing Mechanical Engineering courses
- Electrical Engineering - credit bearing Electrical Engineering courses
- Computer Science - credit bearing Computer Science courses of which 1 of 2 or 3, 2 of 4 or 5, or 3 of 6 must come from CSc 531, 533, 537, 538, 542, 548, 550, 571 and 583. If only 1 Computer Science course is taken, it may be any credit-bearing course.

Graduate courses taken from the School of Management should be selected from those credit bearing courses numbered MBA-510 and above unless otherwise approved.

The Master of Science in Engineering and Management Systems Program will not allow graduate work from another institution to be transferred toward completion of this degree program per the existing transfer policy noted elsewhere in this catalog. This program is focused at providing the working professional or new graduate student the opportunity to integrate curriculum from each of the School of Engineering and Computer Science and School of Management disciplines to focus on a career or industry objective. As such, reducing the core engineering and computer science requirements or management requirements by allowing prior transfer courses is not consistent with the objective of the curriculum or the degree. During completion of the degree requirements a candidate may

obtain agreement to take a graduate course from another institution and apply it to this degree as part of their approved course selection such as a nano engineering course from SUNY Albany.

MS Degree Requirements in Engineering and Computer Science

MS Program Required?	MS Thesis	MS Project or Independent Study	Core Program Required?	Remaining Program	Capstone Experience
Computer Science Nine courses required	The student must choose from one of the following: <ol style="list-style-type: none"> 1. Complete a two-course thesis 2. Complete a two-course independent programming project 3. Substitute two courses with faculty approval. 		Yes , CSc511 as part of nine courses.	The nine courses must include one course from each of these four areas: <ol style="list-style-type: none"> 1. Computational theory 2. Programming languages 3. Software systems 4. Hardware systems Three courses from the following: CSC531, 533, 537, 538, 542, 548, 550, 571, and 583.	The MS Graduate Seminar in Computer Science*: A regularly scheduled seminar in which all candidates participate in a discussion of current topics in Computer Science.
Electrical Engineering Ten courses required	Not required, but if the student elects to do a thesis, it counts as one or two technical electives.	Not required, but if the student elects to do an independent study, it counts as one technical elective.	No	Minimum of seven EE courses and up to three electives.	The MS in Electrical Engineering Culminating Experience: The candidate must choose one of the following: Thesis, Independent Study, Masters Project, or MS Graduate Project* approved by the faculty advisor.
Mechanical Engineering Ten courses required	Required for full-time students. Not required of part-time students but, if	Not required, but if student elects to do independent MS project, it counts as one course.	Yes , two core courses: MER 502 (Engineering Analysis), is required MER 501 (Transport Phenomena)	Six ME courses plus two electives.	The MS in Mechanical Engineering Culminating Experience: The candidate must complete either a thesis, Independent

	selected, thesis counts as two technical electives.		and/or MER 500 (Elasticity)		Study, Masters Project or MS Graduate Project* approved by the faculty advisor.
Engineering and Management Systems Eleven courses required	Not required	Not required	No	Six courses from the School of Engineering and Computer Science Five courses from the School of Management	Not required

*MS Graduate Seminar and MS Graduate Project are no-fee, no-credit course listings.

SCHOOL OF MANAGEMENT

Location 80 Nott Terrace, Schenectady, NY 12308
Telephone (518) 631-9890
Fax (518) 631-9902
Website www.uniongraduatecollege.edu

Dean: Eric Lewis
Associate Dean: Alan Bowman
Chair, MBA Healthcare
Management Program John Huppertz

GENERAL INFORMATION

Degrees Offered

- Master of Business Administration (MBA)
- Master of Business Administration—Healthcare Management

Mission

To graduate MBAs who bring professional and disciplinary excellence to their work immediately and who assume leadership roles as they advance in their careers—who think analytically, are technologically current, communicate effectively, work well in teams, have the ability to work in cultures other than their own, and are committed to ethical action. To enrich the learning process by maintaining close personal interaction between students and faculty. To hire and support faculty who are active researchers and dedicated to creating a collegial, student-focused learning environment. To enter into mutually beneficial partnerships with the business community.

AACSB—International Accreditation

The School of Management's program is accredited by AACSB—International (Association to Advance Collegiate Schools of Business), the world's leading business school accrediting body. The program is unique in being one of the smallest of all AACSB—International accredited business programs and one of only 28 accredited programs—along with such institutions as Harvard University, Stanford University, and Dartmouth College—that focus solely on graduate degrees. Fewer than 30 percent of all business programs nationwide are accredited.

Course Waivers and Transfers:

Relevant course work previously taken at either the undergraduate or graduate level may be used to reduce the number of courses required to complete the MBA Management and MBA Health programs. These reductions can come in the form of either course waivers or course transfers. The combined number of course reductions through waivers and transfers may not exceed eight for an MBA student. All course waivers and course transfers must be approved by the Transfer and Waiver Review Committee. This committee conducts a review of each student's transcript and the student is notified at the

time of admission of pre-approved waivers and transfers based on this review. Students who want to request a further review should contact the Director of Admissions and Registrar. The request should be made in writing and accompanied (at minimum) with a copy of the transcript showing relevant courses. Students are encouraged to attach catalog descriptions, course syllabi, and any other materials that may aid in the decision. The request should be consistent with the waiver and transfer policies described below. All requests must be submitted by the end of the first term (fall, winter, or spring) during which the student takes a course as a matriculated student.

Course Waivers:

Course waivers may be granted for most core courses. Core courses are specific courses required to complete the MBA degree. Previous course work to be used for course waivers may have been done at the undergraduate or graduate level and may have been used to earn another degree. Generally, two undergraduate courses or one graduate course corresponding to a core course are required to waive that core course. A grade of B- or better must have been obtained in a course for it to be considered to waive a core course.

Course Transfers:

Course transfers refer to graduate courses only that have been previously taken that do not correspond to a specific core course. Courses that qualify will be transferred in as advanced electives. They do not have to correspond to a specific advanced elective in the MBA program as long as they are deemed relevant to the MBA degree by the Transfer and Waiver Review Committee. Courses considered for transfer may not have been used to earn a previous degree. A grade of B- or better must have been obtained in a course for it to be considered for transfer.

Waiver with Replacement:

Students are required to take 12 courses at UGC. If the total waivers and/or transfers exceed 8, the committee may grant a waiver with replacement. This means the waived course is not taken but one is taken in its place – it does not reduce the number of courses required. The committee may mandate a specific course be taken.

MBA Internships

All full-time MBA students without meaningful business experience are required to complete a minimum of 400 hours of meaningful employment in a business environment. This also applies to JD/MBA, pharmacy/MBA and the accelerated BA or BS and MBA program students.

The internship is an opportunity for the student to apply theories, concepts and skills learned in the course of the MBA Program. The student will gain an understanding of the administrative elements and day-to-day functioning of an organization while accomplishing assigned tasks. This will strengthen judgment, decisiveness, and team skills. It will also allow the student to assess his/her own potential in the work environment and possible areas needing development to realize a successful career in management.

MBA students register for MBA 683 and Health MBA students register for HCM 683. This is a no cost, no credit course, that appears as pass/fail on students' transcripts. It is required for full-time students to graduate. The internships are coordinated with the Director of Career Development.

At the conclusion of the internship an evaluation is required from the employer and the student before the pass/fail grade will be given. The internship is in addition to the twenty required courses.

MBA International Studies

Exchange Programs

MBA students will have the opportunity to experience international business studies at Universities in France, Germany and/or China. UGC MBA students will generally spend the fall term studying abroad since it is most compatible with the semester system at these schools. Coursework completed at the overseas universities will transfer to UGC. Students pay tuition to UGC and pay their own travel and living expenses when abroad. This opportunity is available to matriculated UGC students who have completed at least one trimester of courses at UGC.

Exchange Programs with terms Abroad are available at the following Schools:

- **IESEG School of Management, Lille, France** <http://www.ieseg.fr>
- **Shanghai Jiao Tong University , Antai College of Economics and Management, Shanghai, China** www.acem.sjtu.edu.cn
- **University of Karlsruhe, Germany, Masters Programs of the Hector School** www.hectorschool.com

MBA International Study Tours

Currently two courses are offered that provide the MBA students the opportunity to travel abroad as part of the course. The courses are as follows:

China Study Course MBA 668

China is everywhere these days. Powered by the world's most rapidly changing large economy, it is influencing our lives as consumers, employees and business people. This course will give the MBA students a better understanding of "How to do business in China". The course will include a twelve day visit to Shanghai and Beijing in the month of December. The combination of university seminars on business related topics; visits to Chinese, foreign and joint venture companies; and some exposure to the history and culture of China will provide the basis for the understanding of the challenges of doing business in china.

Each student is required to conduct a research project, write a research paper and present their findings. The intent is that the trip will offer the opportunity to do some primary research and to confirm or supplement the preliminary findings of the research. This is a course for MBA credit and will be considered a management advanced elective course

designated as global. Mel Chudzik, who has lived and worked in China, will be the professor and will accompany the students to China.

Swiss Study Tour (Healthcare) HCM 601

This study tour, from November 26 – December 6, will give Union Graduate College Healthcare MBA students a better understanding of the healthcare delivery system in Switzerland. The Swiss healthcare system is a combination of public, subsidized private and totally private systems. Like every other country in Europe, Switzerland guarantees health care for all its citizens. But the Swiss system does not remotely resemble the model of bureaucratic, socialized medicine often cited by opponents of universal coverage in the United States. That is why many academics studied the Swiss health care system as a model that delivers excellent healthcare across its population. Students will have an opportunity to learn firsthand about the unique characteristics of the system and attend seminars where experts in the field will discuss current issues in terms of healthcare delivery. We will also have a number of site visits at major research hospitals, private clinics, physician offices, HMO, and pharmaceutical companies. For further information about the program and cost, please contact Prof. Otto

Grading Guidelines

(A) *Exceptional* performance: Consistently displays original thinking; good organization; capacity to analyze and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

(A-) Similar to A, but exhibits occasional gaps in knowledge or critical thinking skills.

(B+) Similar to B but, on occasion, displays superior knowledge or critical thinking skills.

(B) *Competent* performance: evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

(B-) Similar to B, but occasionally fails to exhibit average understanding or thinking skills and occasionally fails to produce minimally acceptable work.

(C+) Similar to C, but with more frequent displays of competent knowledge and thinking skills.

(C) *Unacceptable performance*: Displays a general lack of understanding of the subject matter; frequently fails to develop solutions to simple problems in the material; often produces uninspired work that is faulty and lacking style and rigor. Without compensating higher performance in other classes, such students are generally deemed unfit to graduate.

(F) Lack of competence or willingness to complete work is evident to the point that the student should be immediately declared unfit to graduate.

Job Placement Statistics for 2008

Among MBA Graduates looking for jobs:

2008 Graduates	
Percent placed by time of graduation	69 %
Percent placed by three months post graduation	86%
Percent placed by six months post graduation	100%

Among MBA in Healthcare Management Graduates looking for jobs:

2008 Graduates	
Percent placed by time of graduation	60%
Percent placed by three months post graduation	80%
Percent placed by six months post graduation	80%*

*Only 5 Health MBA students were seeking employment at graduation.

Among MBA and MBA in Healthcare Management Graduates looking for jobs:

2008 Graduates	
Percent placed by time of graduation	67%
Percent placed by three months post graduation	85%
Percent placed by six months post graduation	97%

Job Placements Statistics for 2009

Among MBA Graduates looking for jobs:

Percent placed by time for graduation	66%
Percent placed by three months post graduation	87%
Percent placed by six months post graduation	87%*

*At the six month point, data was unavailable on two graduates

Among MBA in healthcare Management Graduates looking for jobs:

Percent placed by time graduation	50%
Percent placed by three months post graduation	67%
Percent placed by six month post graduation	83%

*Six MBA in Healthcare Management graduates were seeking jobs at graduation. At the six month point, data was unavailable on one graduate.

Among MBA Graduates looking for jobs (Health & non-Health MBAs):

Percent placed by time of graduation	62%
Percent place by three months post graduation	83%
Percent place by six month post graduation	85%

*At the six month point, data was unavailable on three graduates

DEGREES

The MBA General Management Program

Objectives

The MBA Management program prepares students for analytical, managerial, and executive-level positions in a variety of enterprises. The design and delivery of the curriculum emphasize broad exposure to core business disciplines; the building of analytical, computer, communication, and human management skills; and the development of an ethical, systems- oriented, cross-functional perspective for decision-making.

AACSB Accreditation

The MBA program is accredited by The Association to Advance Collegiate Schools of Business (AACSB)

Program Requirements

As shown below, the MBA program includes twelve required core courses, and seven advanced courses and the required capstone course. After waivers and transfers, a minimum of twelve courses must be completed in the MBA. For more details, see the waiver policy. One advanced level course must be taken in each of the three required categories. Students must complete at least eight core courses before taking any advanced courses. Students must take all core courses within each category before taking an advanced course in that category. The capstone course (MBA 681) is typically the last course taken. Full-time students take core courses in their first year and advanced courses in their second year. An internship or relevant business experience is required for the degree. An internship is not considered one of the twenty required courses. By taking additional courses in a given category, students can create their own unique programmatic focus.

Required Core Courses (Twelve)

All students must complete and/or waive the required courses. The course waivers and transfers must not exceed eight courses. Eight core courses must be completed before advanced courses can be taken.

MBA 500 Managing Ethically in a Global Environment

MBA 501 Mathematics for Management (1/2)

MBA 502 Introduction to Probability (1/2)

MBA 506 Statistical Models for Management

MBA 510 Financial Accounting

MBA 512 Managerial Accounting and Finance

MBA 517 Advanced Corporate Finance

MBA 520 Principles of Economics

MBA 525 Marketing Management and Strategy
MBA 531 Operations Management
MBA 545 Achieving Business Value from Information Technology
MBA 551 Managing People and Teams in Organizations
MBA 570 Legal Principles of Business

Required Advanced Courses (Seven)

Students must choose at least one course in each of the following three areas. Of the courses chosen, at least one must be designated as Management Science (*) and at least one designated as Global (**).

Finance/Accounting and Economics

MBA 610** Contemporary Topics in Financial Reporting
MBA 611 Personal Financial Planning
MBA 612* Advanced Management Accounting
MBA 613 Advanced Auditing and Research
MBA 619 Investments
MBA 620 Investment Management
MBA 624 Sports Economics
MBA 629 Money, Markets and Banking
MBA 661** International Finance

Marketing and Operations

MBA 625 Marketing Communications
MBA 626* Marketing Research Techniques
MBA 627 Marketing High Tech Products
MBA 628 Consumer Behavior
MBA 632* Quality Systems Management
MBA 640** Integrating eSystems Into Global Business
MBA 641* Business Process Simulation
MBA 643 Systems Analysis & Design for Managers
MBA 665** International Marketing Management
MBA 682* Management Science

Management and Human Resources

MBA 635 Project Management
MBA 642 Business Analysis Using Information Systems
MBA 650 Competing By Design
MBA 652 High Performance Leadership
MBA 653 Organizational Development and Transformation
MBA 654 Labor Relations
MBA 656 Ethics Issues in Management
MBA 658 Women in Management
MBA 660** Executive Decision Processes in Global Environments
MBA 662** International Business
MBA 664 Entrepreneurship
MBA 667 Leaders on Leadership
MBA 668** China Study

MBA 675	Foundations of HR Management
MBA 676	Managing Human Resources
MBA 677**	International Human Resource Management
HCM 601	Swiss Health Care Delivery System

Capstone

All students are required to take the following capstone course.

MBA 681	Strategic Management and Leadership (Capstone)
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Internship MBA 683

Internship or relevant business experience is required for the degree. An internship is not considered one of the twenty courses.

Completing the MBA program in twelve months

Students who waive at least four courses may be able to complete the MBA program in one year by starting in the summer term. Four courses can be taken during the summer in two terms and twelve courses can be taken in the three terms during the regular academic year. Students interested in this option must meet with an academic advisor during the previous academic year.

The MBA-Healthcare Management Program

Chair: John W. Huppertz (518) 631-9892
huppertj@uniongraduatecollege.edu

Objectives

The primary purpose of the MBA Program in Healthcare Management is to prepare its graduates for management positions in health service delivery organizations (e.g. hospitals, managed care organizations, group practice, long-term care) and in related organizations (e.g. consulting, government, corporate benefits). A successfully prepared graduate will be able to obtain an entry-level or mid-level position, competently perform the duties of that position, and advance and grow professionally in a career.

The program serves students with diverse educational backgrounds and work experiences fully supporting and encouraging those with limited or no clinical and managerial experience who matriculate on both a part-time and full-time basis. The program provides its education in an environment that fosters a high level of interaction among and between students and faculty, both in and out of the classroom. Faculty and students value this small-class environment.

Goals

Program graduates will be able to:

- 1) Understand the organizational setting of health services delivery including the inputs, processes, outcomes and the legal and ethical context.
- 2) Acquire the interpersonal skills necessary for fulfilling managerial roles including leadership, communication, negotiation, and conflict resolution.
- 3) Apply analytical and functional skills to solve a range of business problems facing health delivery and health-related organizations.

- 4) Assist their organizations in effectively responding to changes in the reimbursement and health policy environment.

Overview

The MBA in Healthcare Management prepares graduates for careers as administrators and analysts in health care, governmental, and private sector organizations with strong health care interests. Typical organizations hiring health systems graduates include hospitals, clinics, health maintenance organizations, consulting firms, planning and regulatory agencies, and research firms. The curriculum is designed to help students understand the complexities of the health care system and to manage health and health-related facilities more effectively.

CAHME Accreditation (formerly ACEHSA)

The MBA in Healthcare Management is accredited by the Commission on Accreditation of Healthcare Management Education and AACSB–International. The program has been continuously accredited since 1981 and was most recently re-accredited in 2005. The MBA in Healthcare Management program is one of only 21 programs nationwide dually-accredited by both ACEHSA and AACSB.

Program Requirements

As shown below, the MBA–Healthcare Management program includes ten required core courses and ten advanced courses (seven required; three elective). After waivers and transfers, a minimum of twelve courses must be completed at the School of Management. For more details, see the waiver policy above. Students must complete at least eight of the core courses including HCM500 before taking any advanced course. Students must take all core courses within each category before taking an advanced course in that category. The capstone course (HCM 681) is typically the last course taken.

Full-time students take core courses in their first year and advanced courses in their second year. An internship or relevant business experience is required for the degree. An internship is not considered one of the twenty courses.

Required Courses (17 Courses)

Finance

MBA–HCM Core Courses: MBA 510, 512

MBA–HCM Advanced Required Course: HCM 617

Economics

MBA–HCM Core Courses: MBA 520

MBA–HCM Advanced Courses: HCM 620

Marketing and Operations

MBA–HCM Core Courses: HCM505, HCM 526

MBA–HCM Advanced Courses: None

Management Science

MBA–HCM Core Courses: MBA 501/2, 506
MBA–HCM Advanced Required Courses: None

Management

MBA–HCM Core Courses: MBA 500, HCM 501
MBA–HCM Advanced Required Courses: HCM 650

Health Environment

MBA–HCM Core Courses: HCM 500
MBA–HCM Advanced Required Courses: HCM 674, 680

Information Technology

MBA–HCM Advanced Required Courses: HCM648

Capstone

MBA–HCM Core Courses: None
MBA–HCM Advanced Required Courses: HCM 681

Elective Courses (Three)

HCM 656
PHL 574
HCM 601
Any advanced elective offered in the MBA Program

Please note that HCM 500 is a prerequisite for all advanced courses.

Internship HCM 683

Internship or relevant business experience is required for the degree. An internship is not considered one of the twenty courses.

Joint Degree and Other Programs

Accelerated BA or BS and MBA Program

Union College students considering entrance into the accelerated Bachelor's/MBA program should consult with an MBA program advisor and apply for admission during the sophomore, junior, or first term of the senior year. Joint degree students must complete twenty graduate courses, three of which may count toward Bachelor's degree requirements. Graduate courses may not be taken until the junior year and are typically completed during the senior and fifth years. Students may choose either the MBA or the MBA in Healthcare Management degree. There is a limit of five undergrads in each graduate level course.

Four-Year JD/MBA Program (with Albany Law School)

This program is designed to meet the management development needs of students enrolled at Albany Law School. Students spend their first year in law studies, their second year in management studies, and their third and fourth years in law and

management studies. Four designated law courses transfer into the MBA degree. Students are required to complete their MBA the winter term of the year they petition to graduate at ALS. Students may choose either the MBA or the MBA in Healthcare Management degree.

Joint Pharm D or Pharm BS /MBA in Healthcare Management (with Albany College of Pharmacy)

This program, in cooperation with the Albany College of Pharmacy, allows Pharm D and/or BS Pharmaceutical Science students to complete the MBA Healthcare Management program in an accelerated period of time. The program is designed to give future pharmacists an understanding of the complex business environment in which they will ultimately practice. *For more information, contact sheehanr@uniongraduatecollege.edu*

Leadership in Medicine (LIM) / MBA in Healthcare Management

Students in the Eight-year LIM program jointly offered by Union College, Albany Medical College and Union Graduate College may earn an MBA in Healthcare Management from UGC. Students choosing this option take additional courses while fulfilling all other requirements of the program. The MBA/H degree consists of eight additional courses; six are taken at Union Graduate College during the four years of undergraduate study, and two are taken during the first year at Albany Medical College, and transferred back to UGC to complete the degree requirements. **There is an additional charge for the LIM MBA degree. Students pay for the six additional courses they take at Union Graduate College at the graduate tuition rate in effect in the student's spring term of senior year of undergraduate study and the summer after their senior year.**

For more information on the Leadership in Medicine Program, and the LIM MBA in Healthcare Management see the entry under the Center for Bioethics and Clinical Leadership.

Articulation Agreements

These agreements normally allow students to complete their MBA degrees at Union Graduate College in one additional year after graduation from the undergraduate programs listed below. Qualified students may take courses the summer prior to their senior year. For details, visit www.uniongraduatecollege.edu, or call (518) 388-6642.

The School of Management has established articulation agreements with:

- Alfred University
- Cazenovia College
- Elmira College
- Hartwick College
- Hilbert College
- Keystone College, PA
- New England College

- Randolph Macon, VA
- Siena College
- Skidmore College
- Southern Vermont College
- St. Lawrence University
- SUNY Brockport
- SUNY Geneseo
- SUNY Oneonta
- SUNY Potsdam
- Virginia Union University

Certificate Programs

Certificate Programs are designed for professionals currently in the field or wanting to enter the field who have an undergraduate degree. The student will take six courses and receive a certificate that is approved by the NYS Education Department. This is intended to prepare the individual for a professional position in the field. The admissions requirements are the same as for the MBA except the GMAT is not required and you can take up to two non-matriculated courses. If the student wishes to expand their management skills they may apply up to four of the courses taken in the certificate program toward the MBA.

Students who earn two “C’s” in the certificate program will not be permitted to continue in the certificated program. No appeals for reinstatement will be considered.

Certificate in Human Resource Management

The Certificate Program in Human Resource Management will provide the educational background necessary to make informed decisions in management as related to human resource issues. The certificate holder will have the resources for strategic critical thinking necessary to optimize the human resources of an organization.

Certificate in Management and Leadership

The Certificate in Management and Leadership is designed to give entry and middle level managers the core business skills in organizational processes, change management, resource management and leadership. It is focused on assisting managers and executives in enhancing their management and leadership skills in order to positively impact their current organization and provide them career advancement potential.

CENTER FOR BIOETHICS AND CLINICAL LEADERSHIP

Location 80 Nott Terrace, Graduation Center
Telephone (518) 631-9860
Fax (518) 631-9903
E-mail bioethics@uniongraduatecollege.edu
Website www.bioethics.uniongraduatecollege.edu

Director Robert Baker
Assistant Director Ann Nolte

GENERAL INFORMATION

Degrees Offered

- Master of Science in Bioethics: Clinical Ethics or Research Ethics
- Master of Science Clinical Leadership in Health Management

DEGREES

Master of Science in Bioethics

This distance and campus-based MS in Bioethics is offered jointly by the Center for Bioethics and Clinical Leadership of Union Graduate College, and Mount Sinai School of Medicine. Two focus areas are offered: Clinical Ethics or Research Ethics. There are twelve course programs.

The MS in Bioethics provides advanced bioethics and clinical and research ethics education for doctors, healthcare administrators, lawyers, nurses, pharmacists, philosophers, researchers, IRB members, and students enrolled in professional and graduate degree programs. The hybrid format of short on-campus sessions and distance learning courses has been specially designed to meet the needs of working healthcare professionals. Students will choose to specialize in Ethics or Research Ethics. Students who do not have previous clinical/research experience may be required to enroll in an approved residency.

Mission

Our mission is to provide quality master's level education for professionals who are unable to participate in conventional graduate programs because of the demands of work or obstacles of distance.

Program Requirements

Master of Science in Bioethics: Specialization in Clinical Ethics (MSB: Clinical)

The MSB: Clinical degree program provides individuals with the skills, credentials, and specialized expertise demanded of bioethics professionals. It prepares graduates to face increasingly complex bioethics issues—and to respond professionally, competently, and compassionately.

Courses are taught by professional bioethicists who provide a historical, theoretical, and practical perspective on bioethics. Students also gain essential experience in ethical decision-making and in certifying practical competence in bioethics policymaking and clinical ethics. Clinical ethics segments are based on the American Society of Bioethics and Humanities (ASBH) core competencies.

The combination of on-line courses and on-site practica makes this the program of choice for many doctors, healthcare administrators, lawyers, nurses, pharmacists, and philosophers, as well as for students enrolled in or heading to professional and graduate degree programs.

Required courses:

- BIE 500: Proseminar in Health & Human Values (on-site)
- BIE 510: Biomedical Ethics
- BIE 520: Health Care Policy
- BIE 530: Bioethics and the Law
- BIE 590: Clinical Ethics
- BIE 610C: On-Line Clinical Practicum: Clinical
- BIE 620C: On-Site Clinical Practicum: Clinical
- BIE 630: Master's Project I
- BIE 640: Master's Project II
- BIE 650: Capstone Practicum (on-site)

Students also take **two** of the following elective courses:

- BIE 545: Reproductive Ethics
- BIE 555: Research Ethics I
- BIE 565: Empirical Research Methods in Bioethics

Master of Science in Bioethics: Specialization in Research Ethics (MSB: Research)

The first program of its kind in the United States, the MSB: Research degree program gives research professionals the knowledge and skills necessary to bridge the gap between theory and practice. Graduates of the program are uniquely positioned to advance ethical research, educate their peers, and inform and influence the national debate on research design, review, and oversight.

Through a combination of on-line courses and on-site practica, students gain an in-depth understanding of the ethical issues behind the rules and regulations that govern research, as well as hands-on experience in applying that knowledge to real-world situations. As a result, students graduate with background and skills they can draw on throughout their careers, whether they design and conduct research studies, develop policies and standards, or administer or oversee large research programs.

Required courses:

- BIE 500: Proseminar in Health & Human Values (on-site)
- BIE 510: Biomedical Ethics
- BIE 520: Health Care Policy
- BIE 530: Bioethics and the Law
- BIE 555: Research Ethics I
- BIE 580: Research Ethics II
- BIE 610R: On-Line Practicum in Research Ethics
- BIE 620R: On-Site Practicum in Research Ethics
- BIE 630: Master's Project I
- BIE 640: Master's Project II
- BIE 650: Capstone Practicum (on-site)

Students also take **one** of the following elective courses:

- BIE 545: Reproductive Ethics
- BIE 565: Empirical Research Methods in Bioethics
- BIE 590: Clinical Ethics

Transfer/Waiver Policy

Course Waivers and Transfers:

Relevant course work previously taken at the graduate level may be used to reduce the number of courses required to complete the MS in Bioethics programs. These reductions can come in the form of either course waivers or course transfers. The combined number of course reductions through waivers and transfers may not exceed three for an MS student. All course waivers and course transfers must be approved by the Transfer and Waiver Review Committee. This committee conducts a review of each student's transcript and the student is notified two weeks after all required paperwork is received.

Course work generally must be within previous five years. A grade of B- or better is required to be considered for waiver, transfer or waiver/transfer with replacement.

Requests should be made in writing and accompanied (at minimum) with a copy of the transcript showing relevant courses and course syllabi. Students are encouraged to attach catalog descriptions and any other materials that may aid in the decision. The request should be consistent with the waiver and transfer policies described below. All requests must be submitted by the end of the fall term prior to graduation.

Course Waivers:

Course waivers may be granted for most core courses. Core courses are specific courses required to complete the MS degree. Previous course work to be used for course waivers must have been done at the graduate level and may have been used to earn another degree. To have a course count towards a core course it must be deemed as an exact replication of that core course.

Course Transfers:

Generally most course transfers are counted towards the elective(s) needed in the MS degree. Course transfers refer to graduate courses only that have been previously taken that do not correspond to a specific core course. Courses that qualify will be transferred in as electives. They do not have to correspond to a specific advanced elective in the MS program as long as they are deemed relevant to the MS degree by the Transfer and Waiver Review Committee. Courses considered for transfer may have been used to earn a previous degree.

Course Waiver/Transfers with Replacement

The combined number of course reductions through waivers and transfers may not exceed three for an MS student. Should the number of qualified courses exceed the three – students are granted a waiver/transfer with replacement which does not reduce the number of courses required. If these are granted the student must take additional electives.

Dual & Joint degree Agreements

Albany Law School
SUNY Albany School of Social Welfare
SUNY Albany School of Public Health
SUNY Albany Philosophy Department (PhD)
Mount Sinai School of Medicine

Note: For Union College undergraduate students, no more than three UGC courses may double count for both graduate and undergraduate degrees.

The Leadership in Medicine Program

The Leadership in Medicine program is an eight-year program jointly offered by Albany Medical College, Union Graduate College, and Union College.

Upon completion of the program, students will receive:

1. a BS from Union College;
2. an MS in Healthcare Management **OR** an MBA in Healthcare Management from Union Graduate College*; and,
3. an MD from Albany Medical College.

The application process is administered by the Admissions Office of Union College.

Making the Decision to Earn an MS or MBA

In their sophomore year of undergraduate study, LIM students choose which degree they wish to earn (MS or MBA). This decision is conveyed to the LIM Graduate Program Coordinator as part of the student's Sophomore Portfolio.

Students who choose the MS option complete their coursework the summer following the senior year of undergraduate study. Course fees are included in the undergraduate fee structure.

Students who choose the MBA option must take additional courses while fulfilling all other requirements of the program. The MBA degree consists of 8 additional courses and an internship; six are taken at Union Graduate College during the four years of undergraduate study, and two are taken during the first year at Albany Medical College, and transferred back to UGC to complete the degree requirements.

Additional Cost

Students who elect to take the additional courses to achieve an MBA will be charged additional tuition by Union Graduate College

3 course tuitions- Spring of Senior Year

3 course tuitions- Summer following Senior year

*The MS Leadership in Medicine-Health Management is outlined below as one of UGC's MS Degrees in Clinical Leadership. The LIM MBA in Healthcare Management follows:

All LIM students will pay a graduation fee of \$100. This replaces the \$350 resource fee.

MBA in Healthcare Management (LIM)

The LIM MBA in Healthcare Management requires 20 courses plus an internship, as listed below:

- MBA 506 Statistical Models of Management
- MBA 510 Financial Accounting
- MBA 512 Managerial Accounting and Finance
- MBA 520 Principles of Economics
- MBA 531 Operations Management
- HCM 526 Health Systems Marketing
- HCM 617 Healthcare Finance
- HCM 648 Health Informatics
- HCM 674 Legal Aspects of Healthcare
- HCM 680 Health Policy and Managerial Epidemiology
- LIM 500 Introduction to Health Systems
- LIM 503 Healthcare Leadership
- LIM 544 Health and Human Values I
- LIM 545 Health and Human Values II
- LIM 553* Economics of Health (*or HCM 620, Health Economics)
- HCM 684 Strategic Issues for Healthcare Organizations (Capstone)
- PHL 574 Biomedical Ethics
- EBHC Evidence-Based Healthcare (at Albany Medical College) #1
- EBHC Evidence-Based Healthcare (at Albany Medical College) #2
- Elective

An approved internship is required for the MBA in Healthcare Management, but is not one of the 20 required courses.

MS Degrees in Clinical Leadership

The Masters in Clinical Leadership degrees are designed for future physicians, clinicians, pharmacists, and other healthcare professionals who wish to better understand the health care industry and the environment in which it exists, or who aspire to clinically-related leadership roles. The goal of the program is to broaden the horizons of students by providing them with knowledge and skills in bioethics, health policy and health management as well as in the health sciences. Degrees are designed for three populations of students:

1. 8-year Leadership in Medicine students (BS/MS/MD Union/Union Graduate College/Albany Medical College);
2. students who are concurrently completing BS or PharmD degrees at the Albany College of Pharmacy;
3. students not in either of the previous programs who are considering medical or administrative healthcare careers.

Under certain circumstances, MS degrees may be “traded up” to MBA degrees. See section following the specific degrees entitled, “Trading up to the MBA”

MS in Healthcare Management (Leadership in Medicine)

Designed for 8-year Leadership in Medicine students (BS/MS/MD Union/Union Graduate College/Albany Medical College);

The goal of the Leadership in Medicine–Healthcare Management program is to prepare students for the challenge of medical leadership by combining an enriched undergraduate curriculum with graduate education in bioethics, health management, and medicine.

Program Requirements

The MS in Healthcare Management (LIM) requires 12 courses as listed below:

- MBA 510 Financial Accounting
- MBA 512 Managerial Accounting and Finance
- HCM 617 Healthcare Finance
- HCM 674 Legal Aspects of Healthcare
- HCM 684 Strategic Issues for Healthcare Organizations (Capstone)
- LIM 500 Introduction to Health Systems
- LIM 503 Healthcare Leadership
- LIM 544 Health and Human Values I
- LIM 545 Health and Human Values II
- LIM 553 Economics of Health
- LIM 571 Clinical Leadership Practicum
- PHL 574 Biomedical Ethics

MS Clinical Leadership in Health Management (ACP BS)

The BS Pharm Sciences and MS Clinical Leadership in Healthcare Management joint program is limited to students from Albany College of Pharmacy (ACP). The program is designed to give ACP students an understanding of the healthcare industry and the environment in which it exists. Students start coursework in the fall of their fourth year at ACP. Students must submit separate applications to Union Graduate College and Albany College of Pharmacy (*Students interested in the joint MBA Program should refer to the School of Management section of this catalog*).

Up to three courses may be waived for the MS degree; Students who elect to take the additional courses needed beyond the MS to earn the MBA must take the GMAT exam. Students may appeal this policy based upon strong performance in the UGC MS program.

Program Requirements

There are twelve required courses in the program. Students in the Pharmacy BS/MS Clinical Leadership in Health Management Program automatically waive three of these courses (LIM 553, HCM 656, and STA 501), utilizing ACP courses with a B- or better. In addition, UGC coursework may count for ACP electives. See program agreement or contact the Admissions office at 518-388-6148 for specifics.

Courses are listed below:

- HCM 500 Introduction to Health Systems
- HCM 501 Health Systems Management
- LIM 553 Economics of Health
- HCM 571 Clinical Leadership Practicum

- PHL 574 Biomedical Ethics
- MBA 510 Financial Accounting
- MBA 512 Managerial Accounting and Finance
- HCM 617 Healthcare Finance
- HCM 674 Legal Aspects of Healthcare
- HCM 680 Health Policy and Managerial Epidemiology
- HCM 656 Group Practice Management
- STA 501 Intro to Probability and Statistics or an approved Statistics course

MS Clinical Leadership in Health Management (ACP PharmD) (with Albany College of Pharmacy)

The Pharmacy Doctorate and Master of Science Clinical Leadership in Healthcare Management joint program is limited to students from Albany College of Pharmacy (ACP). The program is designed to give ACP students an understanding of the complex business environment in which they will ultimately practice. The program is typically completed on a part-time basis over three years. Students start coursework in the fall of their third year at ACP. Students must submit separate applications to Union Graduate College and Albany College of Pharmacy (*Students interested in the joint MBA Program should refer to the School of Management section of this catalog*).

Program Requirements

There are twelve required courses in the program. Students in the Pharmacy Doctorate/MS Clinical Leadership in Health Management Program automatically waive three of these courses (MBA 510, HCM 656, and STA 501), utilizing ACP courses with a B- or better. In addition, UGC coursework may count for ACP electives. See program agreement or contact the Admissions office at 518-388-6148 for specifics.

Courses are listed below:

- HCM 500 Introduction to Health Systems
- HCM 501 Health Systems Management
- HCM 620 Health Economics
- HCM 571 Clinical Leadership Practicum
- PHL 574 Biomedical Ethics
- MBA 510 Financial Accounting
- MBA 512 Managerial Accounting and Finance
- HCM 617 Healthcare Finance
- HCM 674 Legal Aspects of Healthcare
- HCM 680 Health Policy and Managerial Epidemiology
- HCM 656 Group Practice Management
- STA 501 Intro to Probability and Statistics or an approved Statistics course

MS Clinical Leadership in Health Management

The Master of Science Clinical Leadership in Health Management stand-alone program is designed for students who are not part of the ACP or LIM programs above, but who wish to better understand the health care industry and the environment in which it exists, or who aspire to clinically-related leadership roles. It provides future

physicians, clinicians, pharmacists and other healthcare professionals an understanding of the complex business environment in which they will ultimately practice, and the degree may enhance the academic record of those who plan to attend medical school. The program can be completed in one year full-time or over a three-year period part-time.

Program Requirements

There are twelve required courses:

- LIM 502 Introduction to Health Systems
- HCM 501 Health Systems Management
- LIM 553 Economics of Health
- LIM571 Clinical Leadership Practicum
- PHL 574* Biomedical Ethics (*or BIE 510)
- MBA 510 Financial Accounting
- MBA 512 Managerial Accounting and Finance
- HCM 617 Healthcare Finance
- LIM 674 Legal Aspects of Healthcare
- LIM 670 Health Policy and Managerial Epidemiology
- STA 501 Intro to Probability and Statistics
- Elective an approved elective

Certificate Programs

This Bioethics Certificate Program was designed to respond to the needs expressed by hospital administrators and hospital ethics committees. It was specifically designed for health professionals, lawyers, pharmacists and healthcare administrators seeking advanced training in bioethics.

Three certificates are offered. Each is a four-course program, and all courses may be applied toward the MS in Bioethics. Certificates take approximately one year to complete.

Certificate in Bioethics: Specialization in Health Policy & Law

An on-line distance learning program.

Certificate in Bioethics: Specialization in Clinical Ethics

A hybrid, on-line/on-site program which incorporates an intensive one week on-site practicum and one-week on-site capstone.

Certificate in Bioethics: Specialization in Research Ethics

A hybrid, on-line/on-site program which incorporates an intensive one week on-site practicum and one-week on-site capstone.

Program Requirements

Each certificate program requires four courses.

Specialization in Health Policy & Law

- BIE 520 Healthcare Policy
- BIE 510 Biomedical Ethics
- BIE 530 Bioethics & the Law

Plus one elective:

- BIE 500 Proseminar in Health & Human Values (on-site)
- BIE 545 Reproductive Ethics
- BIE 555 Research Ethics
- BIE 565 Empirical Research Methods
- BIE 590 Clinical Ethics (as an elective)

Specialization in Clinical Ethics

- BIE 590 Clinical Ethics (on-line)
- BIE 610C On-line Practicum
- BIE 620C On-site Practicum
- BIE 650 Capstone (on-site) **

**BIE 510 or BIE 520 may be substituted for BIE 650 if you absolutely cannot

do the

onsite capstone. (everyone needs day one of capstone)

Specialization in Research Ethics

- BIE 555 Research Ethics I (on-line)
- BIE 580 Research Ethics II (on-line)
- BIE 610R On-line Practicum
- BIE 620R On-site Practicum + day one of Capstone

COURSES OF INSTRUCTION

Key to Terminology

*= Advanced MBA or MBA-HSA Course

** = Course descriptions appear in Union College's Catalog

Prerequisite Discussion and Terminology:

“Pre” = Prerequisite. Student must have finished this course prior to beginning the listed course.

“Rec” = Recommended. It is recommended (but not required) that this course be completed prior to the course listed.

If “prerequisites” have not been fulfilled, then written permission forms, signed by the instructor or Dean, must accompany the registration form.

Additional prerequisite requirements may be found within each school / program section.

SCHOOL OF EDUCATION COURSES

The following courses are for students in the MAT or MS for T programs. Enrollment in these courses is by permission of School of Education Deans only.

Specific 2009-2010 course offerings are identified below and updated via www.uniongraduatecollege.edu or by contacting the School of Education.

To ensure that students meet appropriate prerequisites for all courses, all graduate students are required to have a plan of study on file that has been approved by School of Education advisors.

PSY 246. Educational Psychology (Pre-1)

Winter, Spring; Rasso

Principles of psychology applied to teaching, with emphasis on cognitive abilities of students, classroom management procedures, and motivational techniques. Visits to a variety of local schools. Prerequisite: PSY 010.

EDS 500A. Field Observations (Middle School)

Fall, Winter, Spring; Allen (No fee)

40 hours, observing classes and meeting with secondary school teachers in the discipline for which certification is sought. Five days are required at the middle school level. Specific observation activities outline the expected outcomes of the experiences as well as information regarding observational techniques and procedures. Typical experiences involve in-depth observation of one teacher and additional observations of other teachers and classes to see a range of grade/ability levels. Observers are asked to consider physical environment, classroom climate, learners and learning styles, the curriculum, and teacher planning/preparation. Students are also expected to become familiar with instructional materials and resources.

EDS 500 B. Field Observations (High School)

Fall, Winter, Spring; Allen (No fee)

40 hours, observing classes and meeting with secondary school teachers in the discipline for which certification is sought. Five days are required at the high school level. Either 500A or B must be conducted in a high needs school.

EDS 500C. Continuation of EDS 500A and 500B.

Field Observations (Internship School)

Spring; Allen (\$250 fee)

40 hours, observing classes and meeting with secondary school teachers in the discipline for which certification is sought. Specific observation activities outline the expected outcomes of the experiences as well as information regarding observational techniques and procedures. Typical experiences involve in-depth observation of one teacher and additional observations of other teachers and classes to see a range of grade/ability levels. Observers are asked to consider physical environment, classroom climate, learners and learning styles, the curriculum, and teacher planning/preparation. Students are also expected to become familiar with instructional materials and resources.

EDS 511. Curriculum and Methods of Teaching English

Summer; Moore

Curricular planning and instruction for the teaching of English at the secondary school level. The course will include an analysis of secondary language arts curricula including New York State Frameworks for language arts, instructional techniques and strategies, designing and locating instructional materials, planning, implementing, and evaluating lessons and units.

EDS 512. Curriculum and Methods in Teaching Mathematics

Summer; Monahan

Curricular planning and instruction for the teaching of mathematics at the secondary school level. The course will include an analysis of classic and current secondary mathematics curricula including New York State Frameworks for mathematics, instructional techniques and strategies, designing and locating instructional materials, planning, implementing, and evaluating lessons and units.

EDS 513. Curriculum and Methods in Teaching Languages

Summer; Alston

Curricular planning and instruction for the teaching of modern and classical languages at the secondary school level. The course will include an analysis of secondary language curricula including New York State Frameworks for languages; instructional techniques; the teaching of speaking, listening, reading, and writing; designing and locating instructional materials; planning, implementing, and evaluating lessons and units.

EDS 514. Curriculum and Methods in Teaching Sciences

Summer; Shiland

Curricular planning and instruction for the teaching of science at the secondary school level. The course will include an analysis of secondary science curricula including New York State Frameworks for sciences; instructional techniques and strategies for teaching

scientific concepts; laboratory methods and safety, designing and locating instructional materials; planning, implementing, and evaluating lessons and units.

EDS 515. Curriculum and Methods in Teaching Social Sciences

Summer; Reynolds

Curricular planning and instruction for the teaching of social sciences at the secondary school level. The course will include an analysis of secondary social studies curricula including the New York State Frameworks for social studies; models and techniques for teaching and integrating the various social sciences; designing and locating instructional materials; planning, implementing, and evaluating lessons and units.

EDS 540. Psychology of Teaching

Summer; Allen, O'Connell, Remis, Snyder, Tulloch

Theories of learning and memory applied to instruction; models and research on teaching in secondary schools. This course will include a laboratory component with micro-teaching experiences and will be taken in the summer preceding the teaching internship. (Co-requisite: EDS 240 Lab)

EDS 540L. Microteaching Laboratory

Summer; Eads, Lasselle, Moore, Gregory

Students prepare and present several 5-30 minute lessons using a variety of instructional models. Lessons are video-taped and critiqued by peer-coaches and laboratory faculty. This laboratory must be taken concurrently with EDS 240 and a course in Curriculum and Methods in Teaching (EDS 511-516).

EDS 541. Essential Reading Literacy

Summer; O'Connell, Staff

An examination of the reading approaches, both aesthetic and efferent, covers text features, vocabulary building, and strategies for meaning-making to support students' reading in the academic discipline content areas.

EDS 544. Literacy for the Content Classroom

Fall, Winter; Wojcik, Staff

The theory and instructional approaches which support students' acquisition of content knowledge through writing. Builds upon the reading essentials of EDS 541 to help teachers use writing processes and varied assignments and strategies for specific content learning objectives, writing to learn as well as display writing, includes instructional planning elements such as types of assignments, writing frequency and pacing, feedback, grading, and reflective analysis of writing products.

EDS 550A. Special Needs Seminar: Drug, Alcohol, Child Abuse

Fall; Hobday, O'Connell, Raso

This seminar is required of all MAT candidates and is to be taken concurrently with their internship. This course explores major aspects of special needs populations in schools including State mandates; laws dealing with the handicapped; gifted and talented students; the instruction required for teachers in drug, alcohol, and child abuse; and projects to increase teachers' competence in working with special needs populations. Only students engaged in an internship may enroll in this course.

EDS 550B. Seminar in Instruction and Evaluation

Winter; Snyder, Tulloch, Staff

This seminar is required of all MAT candidates and is to be taken concurrently with their internship. Topics include: application of instructional theory and research, reflective teaching and self-evaluation, traditional and alternate/performance assessments. Each student will produce a professional portfolio and a teaching video-tape in this course. Only students engaged in an internship may enroll in this course.

EDS 550C. Seminar in Instruction and Evaluation

Spring; Snyder, Tulloch, Vrtiak

This seminar is required of all MAT candidates and is to be taken concurrently with their internship. Topics include: application of instructional theory and research, reflective teaching and self-evaluation, exposure to major school reform movements/proposals, and the relationship of new teachers to the reform movement. Only students engaged in an internship may enroll in this course.

EDS 551, 552, 553. Teaching Internship (No Fee)

Fall, Winter, Spring; Allen

Graduate interns teach a minimum of two courses in a local secondary school under the direction of an experienced school mentor and a college supervisor. Students meet several times a trimester on campus in addition to their teaching responsibilities. Only matriculated MAT students may be enrolled in an internship.

EDS 570: Middle School: Students, Structures, and Standards

Summer, Winter; Reynolds

This course is designed to prepare students to teach 5th and 6th grade students effectively. Students will explore topics and teaching/learning methodology that are most appropriate for teaching students at the middle adolescence level, including team-teaching. Based on the theoretical and the practical, this course is designed to prepare teaching professionals to be competent, energetic, dedicated, and collegial practitioners at the middle adolescence level.

EDS 571: Middle Adolescence Literacy

Summer, Winter; Morley

This course is designed to prepare students to teach and develop literacy skills across the curriculum in grades 5 and 6. Students will review the latest research on the nature and development of reading writing, listening, speaking, viewing, and thinking as it applies to middle adolescence learners. Based on theoretical and practical aspects of teaching, it includes ways to support struggling readers in becoming strategic readers in all content areas. The overall goals of the course are to have teachers understand the effective elements of reading, writing, and expanded literacy instruction across the curriculum no matter what their area of content specialty.

580. MAT/MS for Teachers Project

Winter; Kennedy, Morley, Ryan, Vrtiak, Staff

Individual and group projects relating to the classroom teaching of a particular discipline. Typical projects are: systematic applications of an instructional model of a major segment

of curriculum in a teaching subject area; classroom action research; addressing curricular or instructional questions/issues within one's teaching subject area.

EDS 590. Independent Study in Education

598. 599. Research and Thesis in the Discipline

Fall, Winter

EDS 600. Status Continuation (\$100)

Graduate students who are degree candidates and are working on their thesis must pay a continuation fee for any term in which they are not formally enrolled in any other course counting toward the completion of their degree.

BIO 553. Plant Biology

Spring; Merriman, Hanchar

This course will focus on a survey of the land plant kingdom with an emphasis on phylogeny, anatomy, physiology, field identification, and ecology. Emphasis will be placed on the New York State curriculum for biology in secondary schools and ways to link plant study to the curriculum.

BIO 590. Biological Demonstrations

Fall; D. Williams

Focusing on specific biological laboratories taught in middle schools and high schools, this course not only explores the New York State mandated biological laboratories, but also the potential laboratories that can be taught in the discipline at the secondary school level. The emphasis is on the NYS standards-based skills that secondary students need to know and be able to perform. Each student leaves the course with a wide variety of laboratories that can be used in a wide variety of school settings.

CST 565. Introduction to Computers in the Classroom

Fall; Wilkinson

This core course is required of all students specializing in computers who have not had a similar course in their previous study. It is strongly recommended for all students in any education program who have had little or no exposure and/or knowledge of computers, computer systems, and their basic applications: word processing, databases, and spreadsheets. Emphasis will be placed on what computers do, how they can be used, an understanding of the various parts of the hardware, loading programs, running programs, the primary and secondary storage capabilities and their functions. All students will become familiar with word processing, spreadsheets, databases, and their applications. A basic introduction to E-mail, the Internet, and some of their basic uses in the classroom will also be included along with an elementary explanation of programming through the use of Quick Basic or another introductory programming language.

CST 570. Computers in the Language Arts Classroom

Fall, Winter; Reynolds

Investigates the potential of microcomputer technology to improve reading, writing, study, communication, and second language skills. During the first five weeks, many tools, techniques, and materials will be presented through demonstrations, readings,

lectures, and lab sections. Class members will further explore one or more of these areas and develop an implementation plan during the second portion of the course. Students should have an acquaintance with computers but do not need to be programmers. Some Logo or Carol the Robot is helpful.

CST 571. Computers in the Math and Science Classroom

Spring; Wilkinson

Investigates the potential of new technology for improving the teaching of math and science. Special attention is given to the advanced uses of spreadsheet and database software in the secondary curriculum. Course discussions will emphasize the educational applications of computer technology rather than development of software. Advanced use of E-mail, the Internet and World Wide Web will be taught as well.

EGL 581. Criticism

Fall; Danaher

This course focuses on gaining a broad familiarity with the major theoretical approaches to the study of literature and culture. The course will apply the insights gained about theory to the practical act of interpreting literary texts and narratives of various sorts. Strong links will be drawn between theory and practical application.

EGL 582. The Civil War Era

Winter; Allen

Focusing on the history and literature of the Civil War Era, this course selects materials from 1850-1870. Key concepts and their extensions into the 19th and 20th centuries will be emphasized including race, gender, immigration, industrialism, military tactics, individualism, Romanticism, Realism, Naturalism, and Patriotism. The course will emphasize several interdisciplinary approaches to the study of literature and history, including a wide variety of artifacts that can be used to teach the history and literature of the period. The course will be organized as a seminar emphasizing discussion and student presentations.

EGL 595. Reading Poetry

Spring; Danaher

Students will examine a broad range of poems in order to examine the sources and characteristics of the unique powers of poetry and poets claimed throughout history. Students will learn to formulate theories of how poetry operates in ways peculiar to itself and to develop personal, aesthetic, and critical approaches to reading poetry effectively.

ENG 598-599. Independent Study

(by arrangement)

HST 510. Comparative History

Spring; Sargent

History 510 takes a comparative and topical approach to the study of traditional global history. The goal is to provide teachers with several different framework within which to understand and teach global history. Five main approaches are examined. The course will be organized as a seminar focusing on class discussion rather than lecture. Grading will be based on short papers and a final exam.

HST 558. The Holocaust

Spring; Berk

A formal study of European and American Jewry in the period 1933-1945 focusing on modern anti-Semitism, the Nazi world view, German extermination policies, the response of Europe and the United States, and Jewish behavior in a time of crisis.

HST 582. The Civil War Era

Winter; Allen

Focusing on the history and literature of the Civil War Era, this course selects materials from 1850-1870. Key concepts and their extensions into the 19th and 20th centuries will be emphasized including race, gender, immigration, industrialism, military tactics, individualism, Romanticism, Realism, Naturalism, and Patriotism. The course will emphasize several interdisciplinary approaches to the study of literature and history, including a wide variety of artifacts that can be used to teach the history and literature of the period. The course will be organized as seminar emphasizing discussion and student presentations.

HST 584. Personality in History

Winter; Berk

This course deals with the impact upon history of a number of prominent personalities. The factors influencing their lives, the roles they played in the historical process and the interplay between their personalities and underlying forces of history constitute the subject matter of this course.

HST 589. Special Topics in Social Science

Fall; Sargent

This course is designed as a critical thinking course, analyzing the ways in which social scientists write, think, make arguments, and present evidence. The course provides future teachers with multiple ways to evaluate social science evidence in multiple disciplines. The course demands analytical thinking and the ability to articulate orally and in writing.

PHY 590. Physics Demonstrations

Fall; Malecki

Physics demonstrations are quick experiments that the physics teacher performs, in front of the class, in order to bring to light aspects of the lesson. Reasons for performing a classroom demonstration range from proving a concept, to helping with understanding of the physics, to visualization of an abstract phenomenon, to teaching about experimental physics, to entertainment. The purpose of this course is to help each future teacher to (a) select a collection of about ten experiments, (b) obtain the necessary parts/equipment required to build/create the demo, and (c) learn effective methods of performing the demonstration, both from a pathological and a theatrical perspective. This is an independent-study course that requires a weekly class meeting in addition to several hours per week spent outside the class for building the demos.

SCI 530. Analyzing Science Theories

Winter; Tulloch

Analyzing Scientific Theories from Philosophical and Historical Perspectives. Students in this course will explore the development of major ideas in the life, earth, and physical sciences by analyzing the scientific investigations and reasoning employed and how such developments were shaped by their technical, social and cultural contexts. Through such exploration, students will build a deeper and more contemporary understanding of how scientific knowledge is produced and structured and how scientific processes and thinking extend, revise, and reorganize such knowledge.

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE COURSES

Specific 2009-10 course offerings are identified via www.uniongraduatecollege.edu or by contacting the Dean of Engineering.

To ensure that students meet appropriate prerequisites for all courses, all graduate students are required to have a plan of study on file that has been approved by the graduate advisor.

MS IN COMPUTER SCIENCE COURSES

Non-Credit-Bearing Courses

CSc 599. Master of Science Graduate Seminar in Computer Science

This required, non-credit Seminar provides a capstone experience for graduate Computer Science candidates. Candidates select a topic for independent research during the Fall term. The candidate submits a final written report and presents the research during a seminar session the following Winter or Spring term. Each candidate is required to attend all seminar sessions. The candidate receives a pass/fail grade which appears on the official transcript. This is a no-fee course. This course is normally taken during the final year of the candidate's program. Prerequisite: approval of graduate advisor. (no credit)

Credit-Bearing Courses

CSc 510. Operating Systems

Batch, interactive, real-time, and distributed operating systems; multiprogramming, multiprocessing, multiplexing, multitasking; concurrent programming; elementary queuing theory; memory management; resource allocation, sharing and protection. This course is cross-listed in the Union College catalog as an undergraduate course (335). Graduate students will be expected to complete additional course work beyond the undergraduates in this class.

CSc 511. Algorithm Design and Analysis

Fundamental algorithms used in a variety of applications. Includes algorithms on list processing, string processing, geometric algorithms, and graph algorithms. This course is cross-listed in the Union College catalog as an undergraduate course (250). Graduate students will be expected to complete additional course work beyond the undergraduates in this class.

CSc 512. Theory of Computing

A discussion of the fundamental ideas and models underlying computing—properties of formal languages, finite automata, regular expressions, pushdown automata, context-free

languages, Turing machines, and undecidability. This course is cross-listed in the Union College catalog as an undergraduate course (350). Graduate students will be expected to complete additional course work beyond the undergraduates in this class.

CSc 513. Programming Languages

An introduction to issues in programming language design and implementation. Major programming language paradigms: functional, logic, and object-oriented, and their use. This course is cross-listed in the Union College catalog as an undergraduate course (370). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: CSc 511

CSc 514. Computer Graphics

Algorithms for handling two-dimensional and three-dimensional objects. Interactive graphics hardware and systems. X windows, engineering workstations. This course is cross-listed in the Union College catalog as an undergraduate course (385). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Calculus III: Differential Vector Calculus and Matrix Theory

CSc 515. Introduction to Databases

Introduction to data models and database design. Coverage of network, hierarchical, and relational architectures with emphasis on the latter. Study of relational algebra, entity-relationship modeling, and data normalization. Study of fourth generation query languages including SQL. Introduction to centralized, distributed, federated, and mediated systems. This course is cross-listed in the Union College catalog as an undergraduate course (340). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Data Structures

CSc 516. Software Engineering

Strategies for the specification, design, production, testing, and support of computer programs; software development models; programming team structures; documentation and maintenance. This course is cross-listed in the Union College catalog as an undergraduate course (360). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: CSc 511.

CSc 518 Digital Design

(Cross-listed as EER 518)

The design of digital hardware systems at the module level using modern approaches. Datapath and control unit design, hardware description languages, minimization, pipeline. Laboratory exercise and a design project are required. This course is cross-listed in the Union College catalog as an undergraduate course (318). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Digital Computers or equivalents.

CSc 529. Neural Networks

(Cross-listed as EER-529)

Topics include the biological basics of artificial neural networks, neuron models and architectures, back propagation, associative and competitive learning. Weekly computer laboratories and a final project required. This course is cross-listed in the Union College

catalog as an undergraduate course (329). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Linear Algebra and Differential Equations.

CSc 536. Computer Network Protocols

(Cross-listed as EER 536)

Design, analysis, and operation of communication protocols for computer networks; the Internet, TCP/IP, addressing, switching, routing, congestion control, application protocols. This course is cross-listed in the Union College Catalog as an undergraduate course (336). Graduate students will be expected to complete additional course work beyond the undergraduates in the class. Prerequisites: Introduction to Digital Computers or equivalent programming ability.

CSc 544. Artificial Intelligence

Fundamental concepts used in creating “intelligent” computer systems; semantic representation, logical deduction, natural language processing, and game playing; expert systems, knowledge-based systems, and elementary robotics. This course is cross-listed in the Union College Catalog as an undergraduate course (320). Graduate students will be expected to complete additional course work beyond the undergraduates in the class. Prerequisite: CSc 511.

CSc 547. Data Communications and Networks

An introduction to protocols, communication hardware, networks, error detection and handling, and software. This course is cross-listed in the Union College catalog as an undergraduate course (337). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Digital Computers or Topics in Computer Logic and Mathematics, or equivalents. A knowledge of statistics is helpful.

CSc 551. Large Scale Software Development

Strategies for the systemic design, implementation, and testing of large software systems. Design notations, tools, and techniques. Design patterns and implementation idioms. Implementation, debugging and testing. Includes team and individual software development projects. This course is cross-listed in the Union College catalog as an undergraduate course (260). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Logic & Set Theory.

CSc 552. Embedded Microcontroller Systems

Architecture, Programming, and Applications

(Cross-listed as EER 552)

Hardware and architecture with emphasis on 8051 microcontroller; programming in assembly and higher-level languages, microcomputer applications, and interfacing. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (352). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Knowledge of computer programming and introduction to Digital Computers or equivalent.

CSc 554. VLSI System Design

(Cross-listed as EER 554)

Design of very large scale integrated systems including structured design, stick diagrams, delay time estimation. Design from logic to physical levels; CAD tools for layout and simulation. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (354). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Introduction to Digital Computers and Introduction to Semi-conductor Devices and Circuits or equivalents.

CSc 571. System Modeling & Optimization

(ie Computational Intelligence)

(Cross-listed as EER 571, MER 571)

Topics include the theory, design, and application of biologically and linguistically motivated computational methods emphasizing neural networks, genetic algorithms, fuzzy logic, and hybrid intelligent systems in which these methods are employed. Special emphasis will be placed on applying these techniques to “real-world” problems, and examples from a broad range of industrial applications will be presented. Homework assignments and a final project are required. Prerequisites: undergraduate calculus and linear algebra.

CSc 572. Engineering Statistics

(Cross-listed as EER 572, MER 572)

Modern engineering practice makes extensive use of statistical methods for the efficient collection and analysis of engineering data, and to support data-based decision making. This course will introduce the statistical tools that are of greatest importance for practicing engineers. Core topics to be covered will include probability and distribution theory, the construction and interpretation of statistical intervals, statistical hypothesis testing, regression analysis and empirical modeling, statistical experimental design, and statistical quality/process control. Additional specialized topics may also be covered, depending upon the interests of the class; possible topics include system reliability analysis, measurement system analysis, process capability analysis (and “six-sigma”), accelerated life testing, and acceptance sampling.

CSc 573. Robotics

This course will provide an introduction to robotics. The course will cover basic algorithms necessary for motor control. Building on these methods we will discuss higher level navigation for mobile robots, as well as the sensing necessary for localization of the robot in its environment. Finally we will also examine the challenges of motion planning for jointed robots with many degrees of freedom.

CSc 583. Selected Topics in Computer Science

Prerequisite: Permission of the instructor.

CSc 590-593. Independent Study

(by arrangement)

Prerequisite: At least two CSc courses numbered between 530 and 589.

CSc 594-595. Two-Term Programming Project

(by arrangement)

Prerequisite: At least two CSc courses numbered between 530 and 589.

CSc 596-597. Research and Thesis

(by arrangement)

Prerequisite: At least two CSc courses numbered between 530 and 589.

MS IN ELECTRICAL ENGINEERING COURSES

Specific 2009-2010 course offerings are identified via www.uniongraduatecollege.edu or by contacting the Dean of Engineering.

To ensure that students meet appropriate prerequisites for all courses, all graduate students are required to have a plan of study on file that has been approved by the graduate advisor.

Non-Credit-Bearing Courses

EER 599. Master of Science Graduate Project in Electrical Engineering

This non-credit seminar project provides a capstone experience for graduate electrical engineering candidates not completing a thesis or independent study. The candidate and faculty advisor agree on project scope and evaluation process. The candidate receives a pass/fail grade which appears on the official transcript. This is a no-fee course.

Credit-Bearing Courses

EER 512. Application of Integrated Circuits

Electronic processing of signals; properties of linear and hybrid integrated circuits; design of linear, nonlinear and hybrid electronic systems, active filter networks. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (312). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Analysis and Design of Electronic Circuits, Control Systems or equivalents, or permission of instructor.

EER 518. Digital Design

(Cross-listed as CSC 518)

The design of digital hardware systems at the module level using modern approaches. Datapath and control unit design, hardware description languages, minimization, pipeline. Laboratory exercise and a design project are required. This course is cross-listed in the Union College catalog as an undergraduate course (318). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Digital Computers or equivalents.

EER 522. Linear Control Systems

This course addresses practical control system design primarily from a classical perspective. Beginning with transfer function modeling of dynamic systems, the course moves through transient, root locus, and frequency response analysis to end with frequency domain techniques for controller design.

EER 528. Digital Control Systems

The course begins with a brief review of continuous-time control methods before transitioning to the theory and implementation techniques for control of dynamic processes by digital computers. Topics covered include discrete system analysis, sampled data systems, quantization effects, state space representation of digital control systems, and the design of digital control algorithms.

EER 529. Neural Networks

(Cross-listed as CSc 529)

Topics include the biological basics of artificial neural networks, neuron models and architectures, back propagation, associative and competitive learning. Weekly computer laboratories and a final project required. This course is cross-listed in the Union College catalog as an undergraduate course (329). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Linear Algebra and Differential Equations, CSc Pre3 for computer science students.

EER 530. Fuzzy Logic

Topics include fuzzy sets and relations, membership functions, defuzzification, classical logic and fuzzy logic, fuzzy rule-based systems, nonlinear simulation, decision-making, pattern recognition and control systems. This course is cross-listed in the Union College catalog as an undergraduate course (330). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Calculus and Linear Algebra, CSc Pre3 for computer science students.

EER 531. Electronic Devices

Terminal characteristics and theory of electronic devices; band theory, photo and electronic effects, PN junctions; bipolar and field effect transistors, discrete and integrated electronics. This course is cross-listed in the Union College catalog as an undergraduate course (310). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Semiconductor Devices and Circuits or equivalent.

EER 533. Wireless Communication Circuits

Communication circuits, including coupling networks, electrical noise, high-frequency amplifiers, mixers, phaselock loops, high efficiency and broadband amplifiers, modulators and demodulators, pulse modulation techniques. Three lab hours each week. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (333). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Analog Communications, Analysis and Design of Electronic Circuits or equivalents, or permission of the instructor.

EER 536. Computer Network Protocols

(Cross-listed as CSc 536)

Design, analysis, and operation of communication protocols for computer networks; the Internet, TCP/IP, addressing, switching, routing, congestion control, application protocols. This course is cross-listed in the Union College catalog as an undergraduate course (336). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Introduction to Digital Computers or equivalent programming ability.

EER 537. Comparative Computer Architecture

(Cross-listed as CSc 537)

Study of computer architectures, with an emphasis on RISC processors, performance metrics, datapath and control, pipelines, cache design, and parallel instruction execution. Prerequisites: Operating Systems and either Introduction to Digital Computers or CSc Pre1 (Topics in Computer Logic and Mathematics) or equivalents.

EER 542. Electronic Power Conversion

This course examines the application of power semiconductor devices to the efficient conversion of electrical energy. Circuit analysis, signal analysis, and energy concepts are integrated to develop steady-state and dynamic models of generic power converters. Specific topics include AC/DC conversion, DC/DC conversion, DC/AC conversion, and AC/AC conversion. These generic converters are applied as controlled rectifiers, switching power supplies, motor drives, HVDC transmission, induction heating, and others. Ancillary circuits needed for the proper operation and control of power semiconductor devices are also discussed. Prerequisites: Courses in circuit analysis, signals and systems.

EER 542A. Modeling & Control of Energy Conversion

This course examines modeling and control techniques appropriate for application to power electronic and electric machine systems. The course will involve examination of the appropriate theory, followed by application through examples and small design projects. Simulation will be used to evaluate the merits of various techniques. Prerequisites: EER 242, Power Electronics I; some exposure to state-space models is desirable.

EER 542B. Electromechanical Energy Conversion

This course is designed to introduce the student to the inside of AC electric machinery. It begins with a review of computing inductance using the integral form of Maxwell's equations. Next, the energy method for computing the forces of electrical origin is introduced. These forces are then combined with circuit equations and the equations of mechanics to obtain dynamic models of electromechanical systems. The methodology developed is applied to simple electromechanical structures and then to various types of synchronous machines; induction machines are also considered. Consideration will be given to the electronic control of electric machines. Prerequisite: an undergraduate course in electromagnetics.

EER 543. Introduction to Antenna Theory

Propagation of electromagnetic waves, antenna parameters, arrays, wire antennas, aperture antennas, receiving antennas. Prerequisite: Introduction to Electromagnetic Engineering I or equivalent. This course is cross-listed in the Union College catalog as an undergraduate course (368). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Introduction to Electromagnetic Engineering or equivalent.

EER 547. Data Communications and Networks

(Cross-listed as CSc 547)

An introduction to protocols, communication hardware, networks, error detection and handling, and software. This course is cross-listed in the Union College catalog as an undergraduate course (337). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Digital Computers or CSc Pre1 (Topics in Computer Logic and Mathematics), or equivalents. A knowledge of statistics is helpful.

EER 548. Digital Circuits

Special circuitry of digital systems; transistors as switches, logic gate types (RTL, DTL, TPL, ECL, MOS, CMOS, etc.), digital ICs semiconductor memories. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (348). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Digital Computers, Introduction to Semiconductor Devices and Circuits or equivalents, or permission of the instructor.

EER 551. Superconductivity

Superconductivity is a complex physical phenomenon still at the forefront of research. This course is designed to provide a fundamental working knowledge of this technology, the importance and integration of material properties and a broad understanding/appreciation of the applications in the areas of power equipment and electronics. The course will also focus on active research and technological barriers for future applications.

EER 552. Embedded Microcontroller Systems

(Cross-listed as CSc 552)

Hardware and architecture with emphasis on 8051 Microcontrollers; programming in assembly and higher-level languages, microcomputer applications, and interfacing. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (352). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Knowledge of computer programming and Introduction to Digital Computers or equivalent.

EER 554. VLSI System Design

(Cross-listed as CSc554)

Design of very large scale integrated systems including structured design, stick diagrams, delay time estimation. Design from logic to physical levels; CAD tools for layout and simulation. Design projects required. This course is cross-listed in the Union College catalog as an undergraduate course (354). Graduate students will be expected to complete

additional course work beyond the undergraduates in this class. Prerequisites: Introduction to Digital Computers and Introduction to Semi-conductor Devices and Circuits or equivalents.

EER 557. Image Processing

The course covers the basic operations performed on digital images. These include digitization, image enhancement and restoration, color image processing, and image compression using the discrete cosine transform and wavelets. This course is cross-listed in the Union College Catalog as an undergraduate class (347). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Discrete Systems or equivalent.

EER 558. Waves in Communication

This course will cover the basic concepts needed to develop electromagnetic devices in wireless communication. These include transmission line theory and circuits, wave propagation and transmission, elements of guided waves and resonators, and basic antenna concepts. This course is cross listed in the Union College Catalog as an undergraduate class (358). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Intro to Electromagnetic Engineering or equivalent.

EER 560. Power System Analysis I

Power and energy in AC circuits. Single-phase, three-phase and polyphase circuits in balanced and unbalanced regimes. Measurement of three-phase power. Determination of three-phase sequence. Single-line diagrams. Per-unit method of representation and computations. Transformers and synchronous machines in power systems. Parameters of transmission lines. This course is cross-listed in the Union College catalog as an undergraduate course (360). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Electric Circuits or equivalent.

EER 561. Power System Analysis II

Wave-propagation in transmission lines. Analysis of power networks, load-flow solutions and control. Three-phase faults and symmetrical components. Power system protection. Stability of power systems. This course is cross-listed in the Union College catalog as an undergraduate course (361). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisites: Electric Circuits or equivalent.

EER 563. Fundamentals of Wireless Electronics

RF components, transmission line theory, Smith chart, 2-port models, matching networks, RD transistor circuit design. This course is cross-listed in the Union College catalog as an undergraduate course (463). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Prerequisite: Introduction to Semiconductor Devices and Circuits or equivalent.

EER 570. Nuclear Engineering

(cross-listed as MER 560)

This course provides a working knowledge of nuclear engineering, reactor physics and reactor plant technologies including an overview of the required basic nuclear physics and mathematical principles. Emphasis will be on the reactor core. Course will culminate with the completion of a core design concept, which will be presented to the instructor and fellow students. Class participation will be highly encouraged.

**EER 571. System Modeling & Optimization
(ie Computational Intelligence)**

(Cross-listed as CSC 571)

Topics include the theory, design, and application of biologically and linguistically motivated computational methods emphasizing neural networks, genetic algorithms, fuzzy logic, and hybrid intelligent systems in which these methods are employed. Special emphasis will be placed on applying these techniques to “real-world” problems, and examples from a broad range of industrial applications will be presented. Homework assignments and a final project are required. Prerequisites: undergraduate calculus and linear algebra.

EER 572. Engineering Statistics

(Cross-listed as CSc 572, MER 572)

Modern engineering practice makes extensive use of statistical methods for the efficient collection and analysis of engineering data, and to support data-based decision making. This course will introduce the statistical tools that are of greatest importance for practicing engineers. Core topics to be covered will include probability and distribution theory, the construction and interpretation of statistical intervals, statistical hypothesis testing, regression analysis and empirical modeling, statistical experimental design, and statistical quality/process control. Additional specialized topics may also be covered, depending upon the interests of the class; possible topics include system reliability analysis, measurement system analysis, process capability analysis (and “six-sigma”), accelerated life testing, and acceptance sampling.

EER 573. Case Studies in Failure and Ethics in Engineering

(Cross-listed as MER 573)

This course provides a broad look at engineering failure and ethics in engineering. It will focus on engineering failure case studies and the principles of applied engineering ethics. To understand engineering disasters and to learn from these failures. To prepare engineers for the decisions they may face in their professional careers. Focus is on mechanical engineering.

EER 574. Solid State Electronics

Course reviews the physics and technology of semiconductor electronic devices and their dynamic behavior. Emphasis will be placed on semiconductor devices used in high-power and high frequency applications such as power electronic switching elements and microwave power amplifiers. Course emphasizes physical understanding of device operation and limitations through energy band diagrams, electron carrier statistics and transport, charge control equations, and equivalent circuit models. Derivation of electrical characteristics and dynamic limitations will be presented for (1) power diodes, (2) bipolar devices such as the power bipolar junction transistor and thyristors, (3)

unipolar devices such as the microwave field effect devices and (4) new classes of controlled power electronic devices such as the insulated gate bipolar transistor. Issues such as reduction of parasitic electrical losses, high bandgap semiconductor material development, and thermal management will be discussed.

EER 576. Motor Acoustics

(Cross-listed as MER 576)

Development of the fundamental principles and equations for motor noise and vibration. Focus on development of analytical methods for predicting the acoustic performance of motors, along with an overview of numerical methods. Develop an understanding of the key principles and governing equations of motor acoustics. This covers noise generation by the motor, its structural dynamics response, and its sound radiation. Apply those equations to the analytical prediction of the noise sources and acoustic responses of motors. Understand the bounds of applicability of the analytical formulas, and the numerical methods which are available to predict the response of complex motors.

EER 580. Fuel Cell Science and Hydrogen Engineering

Introduce the student to the science and engineering of fuel cell technology. Emphasis will be on developing an understanding of different types of fuel cells, their applications, and the engineering of complete fuel cell systems. Elements of the class will include: electrochemistry; polymer materials science for proton exchange membrane (PEM) based systems; ceramics for solid oxide fuel cells; liquid-electrolytes for phosphoric acid and alkaline fuel cells; and other methods of generating power directly from a fuel and an oxidant. They system requirements of the fuel cell stack will be introduced to provide a complete picture of the technology. Other elements addressed during the course will include thermochemistry; electrochemistry; fuel processing or reforming; electrical & power management; polymer science and systems engineering. Developing an understanding of the proton exchange membrane fuel cell will be the primary objective. After completing this course, the student is expected to have an understanding of the technical needs, challenges, and opportunities of fuel cell systems. The overall essence of the class will be to address the essentials of fuel cells and fuel cell systems and related electrochemical systems. Elements of the entrepreneurial aspects of the industry will also be covered. Hydrogen will be discussed throughout the semester as it relates to fuel cells and the emerging changes in power generation models.

EER 580A. Photo Voltaic Technology

(Cross-listed as MER 580A)

The course focuses on the physical principles, technology, and design of efficient semiconductor photovoltaics. Course goals equip students with the concepts and analytical skills to understand efficiency limitations, to assess the viability of various solar and thermophotovoltaic technologies, and to introduce the physics required for understanding photovoltaic energy conversion. The course will focus on three primary aspects of photovoltaic energy conversion, (i) the transfer and conversion of solar (i.e. thermal) radiation to electronic energy, (ii) the theory and design of the semiconductor photovoltaic cell and (iii) photovoltaic systems and applications.

Prerequisites: Advisor approval.

EER 580B. Turbine Technology

(Cross-listed as MER 580B)

Course on fundamentals of design, analysis, and technology of turbo machinery – jet engines, gas turbines, steam turbines, water turbines, and wind turbines. The course will provide an understanding of all aspects of system development: thermodynamic cycles, design-point and off-design performance; function and design of components (inlets, compressors, combustors, turbines, outlets), operational limits, and environmental concerns; structural analysis, lifting, and materials; rotor dynamics and blade aeromechanics; clearance analysis, sealing, and packing; heat transfer, blade and component cooling; starting and control; power and thrust generation; testing and instrumentation. The student is expected to develop a broad understanding of the state-of-the-art, challenges, and future of turbine systems.

EER 580D. Wind Energy Technology

(Cross-listed as MER 580F)

The course focuses on “Wind Farm Project Design and Development” (1/2) and “Wind Turbine Technology” (1/2). Part I: Teams will demonstrate understanding of complete wind farm design/development process inclusive of site selection, wind resource evaluating target land area, turbine choice, location, energy projection, cost, transmission. Part 2: Focuses on technical understanding of Wind Turbine attributes such as structural, blade system, Nacelle system, electrical system, performance, and future opportunities.

EER 580E. Solar Energy Technology

(Cross-listed as MER 580E)

This course is designed to enable the student to effectively grasp the complex and quickly changing solar industry. The course will cover such topics as the economy of solar, photovoltaic devices, systems and applications. In order to cover this broad range of technical topics, the course will utilize multiple instructors. Each instructor has significant expertise and depth in the given field and the student will be able to draw from their experience. Students completing this course will develop knowledge of the solar industry, looking at the past, present and future of this technology area. Students will gain key technical background in every aspect of the industry and will be able to assess new technologies as they are developed. Understanding of the economics of solar and its future will also be obtained.

EER 581, 582, 583. Special Topics in Electrical Engineering.

Topics chosen from the current literature according to faculty and student interest. Possible topics include new developments in the major areas of electrical engineering such as electromagnetic fields, communications, controls, circuits, power, devices, electronics, and computer design. Topics may include but not be limited to image processing, machine vision, speech synthesis, integrated optics, antenna systems, adaptive filtering, variational methods, stochastic processes, optical communications, space and satellite communications, and computer networks. Each of these special topics courses has a variable content addressing specific current areas of interest to students. They will be offered whenever the need arises.

EER 590-595. Independent Study

(by arrangement)

EER 596-597. Research and Thesis

(by arrangement)

Credit-Bearing Non Technical Electives**EER 600. Disruptive Technology**

This course is designed to prepare the student to be able to efficiently evaluate potential disruptive technologies and their potential for application/commercialization. The course will cover such topics as the CO₂ Mitigation, Solid state Energy Systems, Bio Energy and Fusion that have potential to impact the future. In order to cover this broad range of technical topics, the course will utilize multiple instructors that have technical depths as well as experience in the field.

EER 601. Sustainability

The focus of this course is to build an understanding of what is meant by Sustainable Energy and to be able to analyze a range of different opportunities. The intent is to perform a value analysis on each opportunity in order to determine which are practical, on a variety of scales, while considering all aspects of the opportunity. Attention will be placed on efficiencies, scale, and impact of each opportunity as well as what limitations may exist.

EER 602. Energy and The Law

Energy production and use are in a period of dramatic change as the world reacts to the need for a response to climate change, energy security and scarcity of resources. Yet energy production and the use are necessary drivers of the global economy and necessary for growth and prosperity. This course will introduce students to the legal, financial and structural issues that shape energy production, use and development in the United States, and particularly in New York. Students will learn about oil, natural gas, coal and nuclear energy production and use. The course will also cover cleaner alternatives such as energy conservation, hydro, wind, solar, and geothermal. The course will cover basic principles of rate regulation and public utilities, and division of jurisdiction between federal and state governments, and the key federal statutes and regulatory regimes, with a focus on energy law in New York State. The course will discuss new challenges confronting electricity regulation (and energy law generally) as a result of emerging mandates for renewable energy and greenhouse gas emissions. This course will discuss the unique nature of energy and energy storage, the importance of reliability and the impact of intermittency on the grid. Finally, we will discuss how energy is financed and the impact of the production tax credit, the investment tax credits and other stimulus related incentives on energy production.

MS IN MECHANICAL ENGINEERING COURSES

Specific 2010 -11 scheduled course offerings are identified via www.uniongraduatecollege.edu or by contacting the Dean of Engineering.

To ensure that students meet appropriate prerequisites for all courses, all graduate students are required to have a plan of study on file that has been approved by the graduate advisor.

Non-Credit-Bearing Courses

MER 599. Master of Science Graduate Project in Mechanical Engineering

This non-credit Seminar project provides a capstone experience for graduate mechanical engineering candidates not completing a thesis or independent study (i.e. all course work). The candidate and faculty advisor agree on project scope and evaluation process. The candidate receives a pass/fail grade which appears on the official transcript. This is a no-fee course.

Credit-Bearing Courses

MER 500. Elasticity

Winter; Pollack

The behavior of substances which possess the property of recovering their size and shape when forces producing deformation are removed. Review of stress and strain; study of two-dimensional problems in rectangular, polar, and curvilinear coordinates; introduction to three-dimensional problems; torsion and bending. Prerequisites: Calculus IV: Integral Vector Calculus, Topics in Analysis, Linear Algebra and Differential Equations, Advanced Mechanics or equivalents.

MER 501. Transport Phenomena

Spring; Bessler

The fundamentals of momentum, energy, and mass transfer and their analogous transport mechanisms. One-dimensional transport, transport properties, transport with internal generation, transfer coefficients, convective and turbulent transport. Prerequisites: Linear Algebra and Differential Equations, Heat Transfer Analysis and Design or equivalents.

MER 502. Engineering Analysis

Fall; Pollack

Topics in applied mathematics needed to analyze and model engineering problems by constructing mathematical models for a physical situation and the reduction of the ensuing mathematical problems to numerical procedures. Matrices, linear algebra, vector and tensor calculus, partial differential equations, calculus of variations, finite element and difference techniques, Fourier series and integrals. Prerequisites: Calculus IV: Integral Vector Calculus, Topics in Analysis, Linear Algebra and Differential Equations, or equivalents.

MER 506. Mechanical Behavior of Materials

Strain relationships in elastic and plastic behavior. Metallurgical fundamentals of plastic deformation. Dislocation theory. Materials testing. Creep and metal fatigue. Prerequisites: MER 500, MER 502 or equivalents.

MER 507. Design for Manufacturing

Relationships among mechanical design considerations, material properties and selection, and manufacturing techniques are developed to enhance manufacturing productivity and quality. Prerequisites: Dynamics and Kinematics, MER 502 or equivalent.

MER 508. Fracture Mechanics

Modern theory of fracture in design. Subjects treated include occurrence of fracture, fracture toughness, fracture resistance, and fatigue. Offered alternate years. Prerequisites: MER 500, MER 502 or equivalent.

MER 509. Current Approach to Fatigue in Design

Current approach to the mechanisms of fatigue nucleation, crack growth, and fracture; high and low cycle fatigue; temperature effects; predictive equations for design in pressure vessels. Prerequisites: MER 500, MER 502 or equivalent.

MER 510. Advanced Dynamics

Analytical dynamics with engineering applications to particles and rigid bodies. Topics include three-dimensional kinematics and dynamics, Lagrangian dynamics. This course is cross-listed in the Union College catalog as an undergraduate course (451). Graduate students will be expected to complete additional course work beyond the undergraduates in this class. Offered alternate years. Prerequisites: Advanced Mechanics, Rigid Body Mechanics or equivalent.

MER 512. Vibrations of Discrete Systems

Response of single and multi-degree-of-freedom systems to harmonic, periodic and impulsive excitation. Fourier series and transforms; ideal impulse and impulse response; convolution in the time and frequency domains; matrix and modal methods; system eigenvalues and vectors; impulse testing with a spectrum analyzer. Prerequisites: Dynamics and Kinematics, MER 502 or equivalent.

MER 515. Processing and Selection of Engineering Materials

A comprehensive examination of processing technologies for engineering materials, and the effects of selected processing routes and materials to meet and satisfy design and applications criteria. Prerequisites: Mechanics II: Materials Science or equivalent.

MER 516. Finite Element Methods in Engineering

Introduction to the use of finite element methods in various engineering applications. Prerequisites: MER 500, MER 502, or equivalent.

MER 522. Linear Control Systems

This course addresses practical control system design primarily from a classical perspective. Beginning with transfer function modeling of dynamic systems, the course

moves through transient, root locus, and frequency response analysis to end with frequency domain techniques for controller design.

MER 525. Engineering Optimization

Introduction to development and application of mathematical and numerical methods used to analyze engineering problems including mathematical model building, unconstrained optimization, linear programming, constrained optimization, transformation and linear programming. Prerequisites: MER 502 or equivalent.

MER 532. Composites

A comprehensive introduction to composite materials and motivation for their use in modern applications. Topics include selection and availability of composite materials, manufacturing processes, useable theoretical concepts, testing and characterization of composites, and strength theories. Prerequisites: Materials Science, Strength of Materials, or equivalent.

MER 534. Dynamics of a Viscous Fluid

Analysis of Laminar and turbulent flow fields. Approximate solutions of the Navier-Stokes equations according to boundary layer theory. Prerequisites: Fluid Mechanics, Topics in Analysis or equivalent.

MER 536. Compressible Fluid Flow

Analysis of internal and external compressible flow fields. Supersonic airfoil analysis according to shock-expansion theory. Prerequisites: MER 501, MER 502, or equivalent.

MER 537 Combustion Fundamentals

The study of the chemical and physical processes in combustion. Analysis of thermochemistry and fuel oxidation, premixed and diffusion flame phenomena, combustion of condensed phases, detonation, combustion in practical systems, and combustion generated air pollution. Prerequisites: MER 501, MER 502, or equivalent.

MER 538. Fluid Dynamics of Turbomachinery

Analysis of the energy exchange between a continuously-flowing fluid and a turbomachinery rotor. Study of the design and operating principles of axial and radial-flow turbines, compressors, and pumps. Prerequisites: MER 501, MER 502, or equivalent.

MER 540. Thermodynamic Analysis

Consideration of various particulate and continuum bases for structuring thermodynamic principles and their application to the solution of current and prospective engineering problems. Prerequisites: MER 501, MER 502, or equivalent.

MER 541. Thermal Energy Processes

This course focuses on the analysis of thermal processes relevant to the renewable energy priorities of today's green economy. The underlying engineering principles of thermal processes which make the best use of sustainable energy sources through proper acquisition, storage and conversion will be considered. The course incorporates the

fundamentals of thermodynamics and heat exchange necessary to understand the components and cycles that enable these thermal energy processes.

MER 550. Conduction Heat Transfer

Study of the equations for steady state and transient heat conduction using analytical and numerical techniques. Prerequisites: MER 501, MER 502, or equivalent.

MER 551. Superconductivity

Superconductivity is a complex physical phenomenon still at the forefront of research. This course is designed to provide a fundamental working knowledge of this technology, the importance and integration of material properties, and a broad understanding/appreciation of the applications in the areas of power equipment and electronics. The course will also focus on active research and technological barriers for future applications.

MER 552. Convection Heat Transfer

Analysis of laminar and turbulent heat transfer processes. Approximate solutions of the energy equation according to boundary layer theory. Prerequisites: MER 501, MER 502, or equivalent.

MER 554. Flow and Heat Transfer in Multiphase Systems

Analytical and empirical methods for evaluation of flow characteristics, particularly in liquid vapor systems and boiling and condensing of heat transfer. Prerequisites: MER 501, MER 502, or equivalent.

MER 560 Nuclear Engineering and Technology

(Cross-listed as EER 570)

This course provides a working knowledge of nuclear engineering, reactor physics and reactor plant technologies including an overview of the required basic nuclear physics and mathematical principles. Emphasis will be on the reactor core. Course will culminate with the completion of a core design concept, which will be presented to the instructor and fellow students. Class participation will be highly encouraged.

MER 571. System Modeling & Optimization (ie Computational Intelligence)

(Cross-listed as EER 571, CSc 571)

Topics include the theory, design, and application of biologically and linguistically motivated computational methods emphasizing neural networks, genetic algorithms, fuzzy logic, and hybrid intelligent systems in which these methods are employed. Special emphasis will be placed on applying these techniques to “real-world” problems, and examples from a broad range of industrial applications will be presented. Homework assignments and a final project are required. Prerequisites: undergraduate calculus and linear algebra.

MER 572. Engineering Statistics

(Cross-listed as EER 572, CSc 572)

Modern engineering practice makes extensive use of statistical methods for the efficient collection and analysis of engineering data, and to support data-based decision making. This course will introduce the statistical tools that are of greatest importance for

practicing engineers. Core topics to be covered will include probability and distribution theory, the construction and interpretation of statistical intervals, statistical hypothesis testing, regression analysis and empirical modeling, statistical experimental design, and statistical quality/process control. Additional specialized topics may also be covered, depending upon the interests of the class; possible topics include system reliability analysis, measurement system analysis, process capability analysis (and “six-sigma”), accelerated life testing, and acceptance sampling.

MER 573. Case Studies in Failure and Ethics in Engineering

(Cross-listed as EER 573)

This course provides a broad look at engineering failure and ethics in engineering. It will focus on engineering failure case studies and the principles of applied engineering ethics. To understand engineering disasters and to learn from these failures. To prepare engineers for the decisions they may face in their professional careers. Focus is on mechanical engineering.

MER 576 Motor Acoustics

(Cross-Listed as EER 576)

Development of the fundamental principles and equations for motor noise and vibration. Focus on development of analytical methods for predicting the acoustic performance of motors, along with an overview of numerical methods. Develop an understanding of the key principles and governing equations of motor acoustics. This covers noise generation by the motor, its structural dynamics response, and its sound radiation. Apply those equations to the analytical prediction of the noise sources and acoustic responses of motors. Understand the bounds of applicability of the analytical formulas, and the numerical methods which are available to predict the response of complex motors.

MER 580 Fuel Cell Science and Hydrogen Engineering

Introduce the student to the science and engineering of fuel cell technology. Emphasis will be on developing an understanding of different types of fuel cells, their applications, and the engineering of complete fuel cell systems. Elements of that class will include: electrochemistry; polymer materials science for proton exchange membrane (PEM) based systems; ceramics for solid oxide fuel cells; liquid-electrolytes for phosphoric acid and alkaline fuel cells; and other methods of generating power directly from a fuel and an oxidant. The system requirements of the fuel cell stack will be introduced to provide a complete picture of the technology. Other elements addressed during the course will include thermochemistry; electrochemistry; fuel processing or reforming; electrical & power management; and polymer science and systems engineering. Developing an understanding of the proton exchange membrane fuel cell will be the primary objective. After completing this course, the student is expected to have an understanding of the technical needs, challenges, and opportunities of fuel cell systems. The overall essence of the class will be to address the essentials of fuel cells and fuel cell systems and related electrochemical systems. Elements of the entrepreneurial aspects of the industry will also be covered. Hydrogen will be discussed throughout the semester as it relates to fuel cells and the emerging changes in power generation models.

MER 580A Photo Voltaic Technology

(Cross-listed as EER 580A)

The course focuses on the physical principles, technology, and design of efficient semiconductor photovoltaics. Course goals equip students with the concepts and analytical skills to understand efficiency limitations, to assess the viability of various solar and thermophotovoltaic technologies, and to introduce the physics required for understanding photovoltaic energy conversion. The course will focus on three primary aspects of photovoltaic energy conversion, (i) the transfer and conversion of solar (i.e. thermal) radiation to electronic energy, (ii) the theory and design of the semiconductor photovoltaic cell and (iii) photovoltaic systems and applications.

Prerequisites: Advisor approval.

MER 580B Turbine Technology

(Cross-listed as EER 580B)

Course on fundamentals of design, analysis, and technology of turbo machinery – jet engines, gas turbines, steam turbines, water turbines, and wind turbines. The course will provide an understanding of all aspects of system development: thermodynamic cycles, design-point and off-design performance; function and design of components (inlets, compressors, combustors, turbines, outlets), operational limits, and environmental concerns; structural analysis, lifting, and materials; rotor dynamics and blade aeromechanics; clearance analysis, sealing, and packing; heat transfer, blade and component cooling; starting and control; power and thrust generation; testing and instrumentation. The student is expected to develop a broad understanding of the state-of-the-art, challenges, and future of turbine systems.

MER 580C Principles of Thermal Systems

This course will focus on the analysis and modeling of thermal systems as applied particularly to the energy and environmental demands of today. The underlying common principles of thermal systems as related to energy conversion, utilization and storage will be considered. The course incorporates the fundamentals of heat engine and refrigeration cycle analysis, moist air psychometrics, and the dynamic behavior of traditional and renewable energy systems. Prerequisites: MER 502 (Engineering Analysis), MER501 Transport Phenomena) or equivalent understanding of thermal systems and analytical capability.

MER 580D. Welding

Welding metallurgy is a technologically important field that covers a wide range of scientific disciplines. This course uses welding metallurgy as a vehicle to introduce basic and broadly applicable concepts in solid state physics, chemistry, materials science, fluid mechanics, and solid mechanics. Topics covered include welding processes, heat and fluid flow, chemical reactions, residual stresses, solidification phenomena, phase transformations, and welding defects. Special emphasis will be placed on applied engineering problems and on the behavior of structural engineering materials. Real life examples will be used to illustrate the fundamental concepts of the course. Homework assignments and a final project are required.

MER 580F. Wind Energy Technology

(Cross-listed as EER 580D)

The course focuses on “Wind Farm Project Design and Development” (1/2) and “Wind Turbine Technology” (1/2). Part I: Teams will demonstrate understanding of complete wind farm design/development process inclusive of site selection, wind resource evaluating target land area, turbine choice, location, energy projection, cost, transmission. Part 2: Focuses on technical understanding of Wind Turbine attributes such as structural, blade system, Uacelle system, electrical system, performance, and future opportunities.

MER 580E. Solar Energy Technology

(Cross-listed as EER 580E)

This course is designed to enable the student to effectively grasp the complex and quickly changing solar industry. The course will cover such topics as the economy of solar, photovoltaic devices, systems and applications. In order to cover this broad range of technical topics, the course will utilize multiple instructors. Each instructor has significant expertise and depth in the given field and the student will be able to draw from their experience. Students completing this course will develop knowledge of the solar industry, looking at the past, present and future of this technology area. Students will gain key technical background in every aspect of the industry and will be able to assess new technologies as they are developed. Understanding of the economics of solar and its future will also be obtained.

MER 590-591. Independent Study

(by arrangement)

MER 592A. Masters Project

(by arrangement)

The preparation and writing of an extensive report on a topic of interest between the student and a department faculty member. A single course presented over two terms; one grade will be given for two terms of work only. Enrollment recommended no earlier than the last year of study. See MER 592B.

MER 592B. Masters Project

(by arrangement)

Continuation from MER 292A. Completed writing of the report and its oral presentation. Students must register for MER 592B even though they have previously registered for MER 592A.

MER 596-597. Research and Thesis

(As arranged by department).

Credit-Bearing Non Technical Electives

MER 600. Disruptive Technology

This course is designed to prepare the student to be able to efficiently evaluate potential disruptive technologies and their potential for application/commercialization. The course will cover such topics as the CO2 Mitigation, Solid state Energy Systems, Bio Energy and Fusion that have potential to impact the future. In order to cover this broad range of technical topics, the course will utilize multiple instructors that have technical depths as well as experience in the field.

MER 601. Sustainability

The focus of this course is to build an understanding of what is meant by Sustainable Energy and to be able to analyze a range of different opportunities. The intent is to perform a value analysis on each opportunity in order to determine which are practical, on a variety of scales, while considering all aspects of the opportunity. Attention will be placed on efficiencies, scale, and impact of each opportunity as well as what limitations may exist.

MER 602. Energy and The Law

Energy production and use are in a period of dramatic change as the world reacts to the need for a response to climate change, energy security and scarcity of resources. Yet energy production and the use are necessary drivers of the global economy and necessary for growth and prosperity. This course will introduce students to the legal, financial and structural issues that shape energy production, use and development in the United States, and particularly in New York. Students will learn about oil, natural gas, coal and nuclear energy production and use. The course will also cover cleaner alternatives such as energy conservation, hydro, wind, solar, and geothermal. The course will cover basic principles of rate regulation and public utilities, and division of jurisdiction between federal and state governments, and the key federal statutes and regulatory regimes, with a focus on energy law in New York State. The course will discuss new challenges confronting electricity regulation (and energy law generally) as a result of emerging mandates for renewable energy and greenhouse gas emissions. This course will discuss the unique nature of energy and energy storage, the importance of reliability and the impact of intermittency on the grid. Finally, we will discuss how energy is financed and the impact of the production tax credit, the investment tax credits and other stimulus related incentives on energy production.

SCHOOL OF MANAGEMENT COURSES

MBA students should generally take at least eight (8) core courses, including MBA 510/512 and MBA 506, prior to taking any advanced course.

With the exception of MBA 570, MBA students must take all core courses in each subject category prior to taking any advanced course in that category.

Health students must take HCM 500 and HCM 501 before taking any advanced course.

MBA COURSES

Specific 2009-10 course offerings are identified below and updated via www.uniongraduatecollege.edu or by contacting the Dean of The School of Management.

To ensure that students meet appropriate prerequisites for all courses, all graduate students are required to have a plan of study on file that has been approved by the graduate advisor.

*600 Series Indicates Advanced Course

MBA 500. Managing Ethically in a Global Environment

Fall, Winter, Spring; Clark / Summer; Belasen

This course examines issues of team functioning, ethics, and managing differences all in an increasingly global business environment. Students work individually and in groups to improve written and verbal communication skills.

MBA 501 (Half Course). Mathematics of Management

Fall, Summer; Bowman

This course focuses on mathematics useful in modeling management processes. Fundamental concepts of differential and integral calculus and their applications to management are addressed. Students must register separately for MBA 501 and MBA 502.

MBA 502 (Half Course). Introduction to Probability

Fall, Summer; Bowman

This course covers marginal, joint and conditional probability; random variables, expected value and variance; selected probability distributions and their uses in management; and sampling distributions and the Central Limit Theorem. Students must register separately for MBA 501 and MBA 502.

Prerequisite: MBA 501.

MBA 506. Statistical Models for Management

Fall; Foley, Burnes / Winter; Oppenlander / Spring; Evanoff / Summer; Poeth

This course emphasizes statistical approaches (confidence intervals, hypothesis testing, regression analysis, chi-square tables) that support managerial decision-making.

Examples of such decisions include determining the best of several suppliers or appropriate salary levels based on education and required skill. Examples from quality management, such as capability analysis and control charting will also be included. Emphasis will be placed on problem statement formation, translation of problem statements into quantitative terms, and finding appropriate data to reach supportable conclusions. Analysis will be performed using statistical and other software. Prerequisites: MBA 501, and MBA 502.

MBA 510. Financial Accounting

Fall; Arnold / Winter, Spring, Summer; TBA

An introduction to the “generally accepted accounting principles” of financial accounting as applied to publicly reported financial statements. Emphasis is to be placed on understanding the application of “generally accepted accounting principles” to financial statements. This course is designed for individuals with no prior academic or professional education on the topic of financial accounting.

MBA 512. Managerial Accounting

Fall, Summer; TBA / Winter; Lewis / Spring; Lippitt

An introduction to the tools and techniques of financial analysis and decision-making. Topics covered include financial statement analysis, cost classification and behavior, cost-volume-profit analysis, incremental cost analysis, time value of money, capital budgeting, and financial planning. Spreadsheet programs are used in this course. Prerequisite: MBA 510. Students are expected to be proficient in the use of Microsoft Excel®.

MBA 517. Advanced Corporate Finance

Fall, Winter, Spring; Feng

This course covers advanced topics in corporate financial management. The analytical skills necessary to evaluate complex financial problems are developed through case studies. Topics covered include: advanced capital budgeting, agency theory, option theory and applications, measuring and hedging financial risk, merger and acquisition analysis, corporate financial analysis and planning models, and short-term financial management.

Prerequisites: MBA 506, 510 and 512.

MBA 520. Principles of Economics

Fall (Hybrid), Spring (On-line); Lambrinos

This course covers the basic microeconomic model of price determination; the impact of market structure on price and output decisions by firms; the role of the public sector in an economy; the basic macroeconomic model of national income determination; the impact of fiscal and monetary policies on employment levels, price stability and economic growth; and international economic relationships.

MBA 525. Marketing Management and Strategy

Fall, Winter, Spring; Carlson

In this course, marketing-related considerations for organizations, both generally and specifically, are discussed in a manner that is designed to provide students with a basic-

level understanding of issues organizations face which have strategic importance from a marketing perspective.

MBA 531. Operations Management

Fall, Winter; Kauffman / Spring, Summer; Phillips

This course starts with a look at total quality management with an emphasis on the Six Sigma approach to process improvement. Next the fundamentals of inventory management are discussed with the primary objective being to understand the causes of inventory and how to effectively reduce inventory levels. This topic is expanded into the important topics of lean supply chain design and management, and lean production management. A balanced approach is taken with coverage of tools but also an emphasis on the impact of strategic and managerial decisions on the effectiveness of various approaches to operations management.

MBA 545. Achieving Business Value from Information Technology

Fall (Hybrid), Winter (Hybrid), Spring (Hybrid), Summer (On-line); Otto

Information Technology is pervasive in today's organizations. For many firms IT is the single largest capital investment, often exceeding 50% of capital expenditures. As a result, in this course we take the strategic perspective of the general manager and study how organizations can get more value from their IT investments. Thus, the course focuses on the business value that can be achieved rather than the details of the technology. The issues covered include planning an IT application portfolio, enabling business processes with IT, and implementing IT systems. The applications covered include transaction processing systems, decision support systems, and knowledge-based systems. Participants will work in a group environment on cases, presentations, and a project report.

An IT background is not required and this is not a "technical" course. This is, however, an integrative course, including issues of business strategy, finance, and the study of organizations and people for the creation of business value requires the successful integration of these issues with potential of information systems.

MBA 551. Managing People and Teams in Organizations

Fall, Spring,; Nydegger / Winter; Belasen

This course approaches management issues from the "human" side. It provides individuals with the opportunity to learn management skills and concepts through hands-on experiences in the class. Particular attention is paid to relevant Organizational Behavior Psychology concepts such as Motivation, Leadership, Communication, Performance Appraisal, Job Satisfaction and others. Additional course outcomes include ability to interact more effectively in groups and how to express oneself convincingly both verbally and in writing. The course provides students with experiences and knowledge that can be applied immediately when they finish the course.

MBA 570. Legal Principles of Business

Fall; Hogan / Winter; Valle

The objectives of the course are to enable the business manager to identify situations with legal implications and to interact effectively with professional legal counsel. Particular areas of the law examined during the course are contracts, sales, negotiable instruments, negligence, product liability, secured transactions, and ethical considerations. Not open to JD/MBA students.

MBA 610 Contemporary Topics in Financial Reporting

Spring; Lewis

This course will allow students to investigate and discuss current and emerging topics in Financial Reporting. Current topics include the implementation of International Financial Reporting Standards, the SEC requirement for reporting in XBRL, the FASB-IASB convergence project and developments in Fair Value Accounting.

Prerequisites: Undergraduate Accounting Degree or permission of Instructor

MBA 611. Personal Financial Planning

(Not offered 2010-11)

This two-part course first presents an examination of personal financial planning in a global environment encompassing topics such as personal budgeting, insurance coverage, investment planning, managing credit, retirement planning and estate planning. The course then extends the topics to related domestic and international tax issues of income tax considerations for individuals, corporations and partnerships. Knowledge of the current business environment (tracked through the Wall Street Journal, Business Week, online at CNNFN.com, etc.) will be expected.

Prerequisites: MBA 510 and 512.

MBA 612 Advanced Management Accounting

Winter; Lippitt

This course is designed for students who have completed an initial course in Cost Accounting at the undergraduate level, or Management Accounting at the graduate level. Topics include advanced costing environment, statistical forecasting and resource optimization using linear algebra and calculus.

Prerequisites: MBA510, MBA512

MBA613 Advanced Auditing and Research

Fall; Lewis

This course is an advanced case and research-oriented study of topics in Auditing. Through a series of cases and related research, students will engage in the practice of auditing using real-world situations as the foundation for technical and theoretical discussions of issues facing the contemporary auditor. Cases will be chosen to reflect current and emerging topics in the practice of public accounting, financial auditing, fraud investigation, and forensic accounting. Auditing communications tools and software-based audit techniques will also be emphasized.

Prerequisites: Undergraduate Accounting Degree or Permission of Instructor

MBA 619. Investments

Fall, Spring; Feng

This course provides an in-depth analysis of modern investment analysis and portfolio management techniques. Current theory, empirical evidence, and institutional practices

are considered. Topics covered include portfolio theory and asset pricing models, market efficiency, fixed-income portfolio management and immunization, equity valuation models, the valuation of options, futures and other derivative securities, portfolio management and performance evaluation, and international diversification. Recommended: MBA 517. Prerequisites: MBA 510 and 512.

MBA 620. Investment Management

Not offered 2010-11

The preliminary goal of this course is to provide students with an opportunity to gain valuable hands-on experience in fiduciary management of investment assets, such as security research, valuation of risky assets, asset allocation, and portfolio management. Investment is a field of business where intuition often plays a more important role than theoretical knowledge. In this course, we discuss the rapid development in investment theory that helps us identify the factors that are responsible for price movements. We focus on how to apply theory into practice. Students will work on challenging, integrated, analytical projects using real time capital market data. This course will increase the student's knowledge in industries such as equity research, investment banking, commercial banking, and corporate finance. This course runs for three terms starting in the fall term. This course is run in conjunction with the Investment Club; therefore participation in the Investment Club is required.

Prerequisites: MBA 510 and 512.

MBA 624. Sports Economics

Spring; Lambrinos

Topics covered in this course include the measurement of competitive balance and its impact on sports leagues; discrimination in sports; efficiency of sports teams and individual athletes; labor unions and labor relations in professional sports; the efficiency of sports wagering markets; and the estimation of marginal product for professional athletes.

Prerequisites: MBA 506 and 520.

MBA 625. Marketing Communications

Winter; Huppertz

Given today's rapidly changing media environment, it is essential for managers to understand how marketing communications operate in the marketing mix of contemporary firms. In this course, we will spend the majority of the time talking about what lies behind the marketing messages people see every day. When most people think about advertising, they think about the creative side—the clever slogans and attention getting pictures and illustrations. However, it requires a lot of research, strategic thinking, and a thorough understanding of the consumer behavior for these clever slogans and graphics to be effective. In addition, we will learn about analytical methods and data sources to allow managers to choose media for reaching customers in the most cost-effective manner. Finally, the marketing applications of new media, internet communications, and social networking will be explored.

Prerequisites: MBA 525 or HCM 526. The course is open to UGC alums who wish to learn about marketing communications.

MBA 626. Marketing Research Techniques

Fall, Spring; Carlson

The objective of this course is to provide comprehensive exposure to marketing research methods. The course is designed for the manager with ultimate responsibility for identifying the scope of and implementing particular market research activities. The course explores the application of scientific investigation to the identification and solution of marketing problems.

Prerequisites: MBA 506 and 525.

MBA 627. Marketing High Technology Products

Summer; Boskin

The study of marketing high technology products will develop an understanding of strategies and practices involved in marketing technologically oriented products and services. To see if and where these strategies differ from marketing of non-technical products/services, and to determine how and why they vary. The objective of this course is to follow a more broad-based strategy by exposing the student to different schools of thought in this area along with their respective advantages and limitations. In general, this course will focus on honing our market analysis skills to leverage decision-making in the high-tech context. This course will enhance your skills in analyzing industry trends, identifying threats and opportunities, designing suitable products and marketing strategies to best suit market/environmental conditions, customer segmentation and analysis, and in assessing/monitoring a firm's relative advantage via competitive intelligence.

Prerequisite: MBA525

MBA 628. Consumer Behavior

Winter; Carlson

This course is designed to enhance your understanding of consumers like you and me. To that end, we will explore the current state of knowledge regarding consumer behavior through discussion of several theories and marketplace exemplars. This exploration will identify many, many influences that may shape an individual's behaviors in the marketplace, with subsequent discussions regarding the impact of these influences on various managerial decision-making situations.

Prerequisite: MBA 525.

MBA 629. Money, Markets and Banking

Winter, Summer; Murtaugh

The course covers the nature and functions of money and finance in the economy. Commercial and central banking, monetary theory, and monetary policy are also considered.

Recommended: MBA 517.

Prerequisites: MBA 510 and 512.

MBA 632. Quality Systems Management

Spring; Doganaksoy

This course examines quality improvement approaches in the context of overall organizational objectives. Topics include: the contents and impact of important government and industry standards such as ISO 9000; Six Sigma, including the Measure-Analyze-Improve-Control model (MAIC) and Design for Six Sigma (DFSS); extensions

to benchmarking and quality functional deployment; advanced tools, such as systems reliability and maintainability and life data analysis.

Prerequisites: MBA 506 and either MBA531 or HCM505.

MBA 635, Project Management

Spring; Kauffman

A project is a one-time or infrequently occurring operation with a unique goal, a limited lifespan, and limited resources. This course will focus on the basic components of project management, including statements of work, project selection, leadership and team building, communication, budgeting, resource scheduling, metrics and closure. Students will have the opportunity to develop a project plan of their own choosing using MS Project as well as explore current issues in project management through case discussions.

Prerequisites: MBA 531 or HCM 505

MBA 640. Integrating eSystems into Global Businesses

Not offered 2010-11

The objective of this course is to introduce participants to web-enabled commerce, strategies, critical issues and applications. The issues we will cover include business planning and strategy development for E-Commerce processes, identification of critical success factors, security threats, and the implementation of EC application to facilitate global business processes. The applications we will discuss in class include front- and backend systems, transaction processing systems, and collaboration technologies such as customer relationship management, supply systems, and collaboration technologies such as customer relationship management, supply chain, and web-enabled decision support systems.

While the course is focused on managerial issues of E-Commerce, participants need to have a good understanding for the underlying technology, which facilitates the data exchange. Participants will work in a group environment on cases, presentations, and a project report.

Prerequisites: MBA 545 or HCM 648

MBA 641. Business Process Simulation

Winter; Bowman

In this course students build and utilize computer simulation models to analyze a wide range of systems. Applications include restaurants, doctors' offices, customer call centers, and many others. Models are built using specialized simulation software as well as Microsoft Excel.

Prerequisites: MBA 506 and MBA 531.

MBA 642. Business Analysis Using Information Systems:

Not offered 2010-11

This course examines a set of information systems which specifically support managerial decision makers: Decision Support Systems, Group Decision Support Systems, Executive Information Systems, Data Warehouses, Expert Systems, and Neural Networks. Over the semester, we will explore and discuss the development, implementation, and application of these systems, how these systems can be applied to current business problems, as well as how organization issues impact the implementation and usage of these systems. This

will involve developing conceptual knowledge for such systems as well as gaining practical experience with the structural dimension for decision support applications. The focus in this course is on how techniques for managing knowledge can be applied, enhanced, extended, and integrated in the development of computer based DSSs. Each student will work on a project to identify the value proposition for a decision support systems and how such a system or application can be deployed within an organization. Prerequisites: MBA 545 or HCM 648

MBA 643. Systems Analysis & Design for Managers

Spring; Otto

Information Technology is pervasive in today's organizations. For many firms IT is the single largest capital investment, often exceeding 50% of capital expenditures. As a result, in this course we take the strategic perspective of the general manager and study how organizations can get more value from their IT investments by the successful design, development, and implementation of a Computer Information System. Through the use of a semester-long, hands-on project, the students will have the opportunity to put the concepts learned into practice. Participants will learn the Unified Modeling Language and be introduced to the Unified Process Methodology. Both of these tools represent current industry standards for software engineering practice. During the course you will practice your skills through both individual and team assignments. The course will culminate with the development of an integrated systems project to demonstrate acquired knowledge.

Prerequisite: MBA 545 or HCM 648

MBA 650. Competing by Design

Summer; Belasen

Design often signals a shift in strategic emphasis and patterns of organizational performance. Design can also be used to shape an organization's tone or operating style. Dramatic and lasting restructuring or reengineering plans often fail without the mindset of change architects who share the new strategic vision and corporate values. The ultimate goal of design is to use organizational structures, systems, and processes creatively as a sustainable source of competitive advantage. This course focuses on examining how successful corporations leverage competitive advantages through restructuring and external alliances. Students will apply theoretical knowledge and conceptual models to analyze organizational structures, diagnose organizational design, and evaluate a range of design options and implementation strategies available for transitioning organizations.

Prerequisite: MBA 551 or HCM 501.

MBA 652. High Performance Leadership

Spring; Belasen

This course emphasizes cognitive skills and experiential practicum learning applied to ongoing leadership and organizational problems. Students learn about leadership roles and competencies essential for building and supporting organizational capabilities and business strategies in global markets. The course also enables students to learn a method to diagnose their strengths and weaknesses in leadership capacities and measure their proficiencies against benchmarked models of high performance leadership.

Prerequisite: MBA 551 or HCM 501.

MBA 653. Organizational Development and Transformation

Not offered 2010-11

This course considers the theory and practice of planned organizational change. Students are exposed to a variety of intervention techniques applicable in a wide range of organizational settings. Lectures are complemented with participatory exercises and interactive discussions.

Prerequisite: MBA 551 or HCM 501.

MBA 654. Labor Relations

Summer (on-line); Ari Belasen

This comprehensive course ties together the history of modern labor movements in the United States with issues facing workers in the Twenty-First Century, including the impact of globalization and international outsourcing. Subtopics include negotiation, conflict resolution, and workforce diversity. In addition, a comparative study on international unions will be examined. Each week, current events and their implications to labor relations will be discussed.

Prerequisite: MBA 551 recommended.

MBA 656. Ethical Issues in Management

Not offered 2010-11

The purpose of this course is to develop a general management perspective that includes the abilities to: 1) identify ethical issues in management, 2) analyze these issues in terms of several important frameworks for ethical reasoning and 3) appreciate the central role of ethics in managerial decision-making. Issues from a variety of the functional areas of business – including accounting, marketing and advertising, financial services, human resources, and information technology – will be considered. The course will rely heavily upon the case analysis method, group discussion, and group presentations.

MBA658 Women in Management

Winter; Paludi/Schweitzer

Several scholars on organizational behavior have acknowledged that organizational cultures are “gendered.” For example, although women and men have reached numerical parity in management overall, fewer women than men lead organizations, including the powerful Fortune 500 organizations. This course will examine the status of women in management and discuss issues which women managers face, including differences in leadership styles, obstacles to advancement, and pay, benefit and resource inequity. This course also addresses themes of ethical decision making, authority, power and leadership and conflict in organizational life. We also discuss interconnections among equality issues: sex, race, class, age, sexual orientation and disability. Women managers in the Capital District will discuss their personal experiences with gendered organizations and apply the theories and empirical research presented in the readings to their personal experiences.

Prerequisites: MBA551 or HCM 501

MBA 660. Executive Decision Processes in Global Environments

Fall; Belasen

Along with information technology, international management is the major challenge facing organizations in the hypercompetitive global marketplace. Companies that once served a specific geographic area or serviced a specific need have learned to compete with anybody, anywhere, anytime. Needing to diversify in order to compete effectively, an increasing number of multinational companies are finding it essential to anticipate changes and innovate continually to become world-class organizations. Global management requires visionary leaders and strategic thinkers who are driven by a customer focus and continuous improvement, supported by a fluid virtual organization and sustained by creative human capital and extensive information technology. These leaders must also recognize the existence of cognitive barriers to decision-making and how to overcome decision traps and make better choices for their multinational companies. Using Internet-based search engines, cases, and small group projects, students will have hands-on experiences and acquire the skills necessary to become successful decision makers for their multinational companies.

Prerequisite: MBA 551 or HCM 501

MBA 661. International Finance

Winter; Feng

An analysis of international financial markets and the special problems and opportunities associated with the financial management of multinational firms. The international monetary and banking system, balance of payments, and economic parity relationships are also examined. Foreign exchange risk management, international financing activities, multinational capital budgeting, political risk, international taxation issues and diversity of financial reporting are considered.

Prerequisites: MBA 506, 510 512 and 517.

MBA 662. International Business

Fall; Shaye

This course examines international business management as influenced by the important economic, political and cultural environment within which businesses must conduct international trade and investment. The problems and issues confronting international managers are evaluated related to a firm's strategy, organizational structure, manufacturing, material management, marketing, R&D, human resources and finance. Competitive strategies are examined that have been successful in leading international companies. Case studies are used extensively to illustrate the relevance of these topics in the practice of international business.

MBA 664. Entrepreneurship

Winter; Musits

The primary objective of this course is to develop an awareness of the process of new venture creation, whether it is an intrapreneurial or entrepreneurial event. The skills, knowledge and attitudes important for creating new ventures, and the complex tasks faced by individuals who start and manage new and growing businesses as well as corporate ventures and franchises will be addressed. The course is designed to provide a broad overview of management and financial issues. We will pay particular attention to: entrepreneurial decision-making, techniques entrepreneurs and investors use for evaluating and testing the feasibility of business opportunities, understanding the impact

of market and industry forces on start up, performance and survival of new ventures, financing a business opportunity, etc.

Prerequisite: MBA 551 or HCM 501.

MBA 665. International Marketing Management

Spring; Shaye

This course examines development of international marketing strategies, from determining objectives and evaluating international market opportunities through coordinating strategies in world markets. Particular emphasis is placed on application of marketing principles in the multinational environment.

Prerequisite: MBA 525.

MBA 667. Leaders on Leadership

Fall; Huppertz/Robb

Through a series of interviews/presentations by highly regarded Tech Valley leaders, this elective MBA course will provide students with an understanding of what it takes to be a dynamic organizational leader. In addition to learning about the current challenges faced and strategies employed by these outstanding professionals, the course will focus on strategies new managers can pursue on the job to bootstrap their way to success.

Building upon a base of classic academic literature, current books and articles on the topic of leadership will be explored.

Teams of students will be tasked with preparing supporting materials for the speakers featured during each class session. This will require reading material focused on the assigned topic, formulating interview questions for the speakers, meeting in advance with the speakers to prepare for the session, and then helping to facilitate the speakers' presentations during class. Each team will be expected to write a paper addressing its assigned topical area. Other course assignments will include preparation of case studies related to the various topical areas addressed during the course. Several company visits will also be included.

Prerequisites: MBA 551 or HCM 501

MBA 668. MBA China Study

Fall, Winter; Chudzik

This study tour will give the Union Graduate College MBA students a better understanding of "How to do business in China". The combination of seminars on business related topics; visits to Chinese, foreign and joint venture companies; and some exposure to the history and culture of China will provide that. The course will include a ten day visit to Shanghai in the month of December. Each student is required to conduct a research project, write a research paper and present their findings. The research paper will be completed in draft form before the trip. In addition a case analysis will be done on a case related to the research project. The intent is that the trip will confirm or supplement the findings of the research. This will be a course for UGC MBA credit and will be considered a Management advanced elective course designated as global.

Approximately 10 to 15 students will be taken on this study tour. Mel Chudzik will be the professor and will accompany the students to Chian.

MBA 675. Foundations of Human Resource Management

Winter; Paludi

An introduction to the theory and practice of human resource management that examines the psychological, economic, political, legal and managerial aspects of the following functions: recruitment and selection, job analysis, human resource planning, training and development, foundations of selection, employee rights and ethics, and equal employment opportunity. The focus of this course includes profit, non-profit and governmental organizations with particular emphasis on health care delivery firms.

Prerequisite: MBA 551 or HCM 501.

MBA 676. Managing Human Resources

Spring; Paludi

An introduction to the theory and practice of the following human resource management functions: performance appraisals, establishing rewards, pay plans and benefits, health and safety in the workplace, workplace violence, effective workplace communications, discipline and corrective action, labor relations and collective bargaining. Three perspectives will be addressed in each function: management, psychological and legal. The focus of this course includes profit, non-profit and governmental organizations with particular emphasis on health care delivery firms.

Prerequisite: MBA 551 or HCM 501.

MBA 677. International Human Resource Management

Summer; Paludi

International Human Resource Management will focus on how effective human resource policy and practice contributes to a global company's competitiveness. This course will be considered within the context of strategic business objectives, culture, and resource management constraints given by the various national entities. Special focus will be placed on understanding the unifying human resource policies that support the strategic objectives of a global organization. This course will draw on practical examples from companies that have experienced challenges of international human resource management.

Prerequisite: MBA 551 or HCM 501.

MBA 681. Strategic Management and Leadership (MBA Capstone)

Winter, Spring; Chudzik and Frederick

The goal of this course is to integrate all of the MBA course work to prepare the students to address the full scope of business they will face as leaders in the business world. This is done by having student teams work with real start-up companies to develop a complete business plan for the company. The plans are developed in phases over the term with the teams working closely with their companies and culminating in a presentation of the plan to a simulated investor panel made up of the company CEOs. Students must have three or fewer courses left to complete the degree requirements after taking MBA 681.

MBA 682. Management Science

Winter; Bowman

Management science refers to the use of mathematical/computer models to solve managerial problems or help make managerial decisions. This course covers the management science tools most widely used in industry (mathematical

programming, queuing theory, decision analysis, network models of project management, and an introduction to simulation). Students will learn the solution procedures associated with each approach, utilize software to implement the procedures, and conduct case studies using the computer models.

Prerequisites: MBA 506 and 531.

MBA 683. Management Internship

No fee; Fall, Winter, Spring, Summer

MBA 690. Independent Study

Written permission of the Dean is required.

MBA IN HEALTHCARE MANAGEMENT COURSES

HCM 500. Introduction to Health Systems

Fall; Strosberg

(Cross-listed as LIM 502)

This course examines the determinants of health, illness, and medical care utilization, institutional arrangements and settings for the delivery of acute and chronic care, the doctor-patient relationship, resource allocation and financing, and measuring and evaluating system performance. This is a prerequisite to all advanced health courses.

HCM 501. Health Systems Management

Winter; Nydegger

This course examines the various aspects of managing in the modern health care environment. A variety of methods including lectures, case studies, in-class exercises, and student presentations will be used. Topics covered include quality improvement, ethical management, managing diversity, communications, leadership, motivation, team building, and conflict resolution.

Prerequisite: HCM 500.

HCM 505. Health Operations Management

Spring; Foley

This course instructs the students in quantitative methods useful for analysis, improvement, and design of efficient and effective organizational processes within a health-care organization. Operations management (OM) is concerned with evaluating the performance of operating units, understanding why they perform as they do, designing new or improved operating procedures and systems for competitive advantage, making short-run and long-run decisions that affect operations, and managing the work force. Health systems OM is the analysis, design, planning, and control of all steps necessary to provide a service for a client. The course will involve readings from a selected text, review of published studies, exercises in internal and external benchmarking, and exploration of the tools and methods promoted at the national level.

HCM 526. Health Systems Marketing

Winter; Huppertz

This course introduces students to the principles of marketing and their application to Healthcare settings. At the end of this course, students should a.) Understand what marketing can do for the healthcare organization in terms of contribution to strategic planning, building business, strengthening relationships between the organization and its constituents, and achieving competitive advantage. b.) Clearly understand how to use health data in marketing planning and implementation. c.) Appreciate the challenges of evaluating the effectiveness of marketing communications investments made by healthcare organizations. d.) Understand the relationship between patient/customer satisfaction and service quality in health organizations. e.) Understand how to judge marketing communications quality, both qualitatively and quantitatively. f.) Demonstrate effective communications skills through in-class participation, writing assignments, and class presentations. g.) Analyze marketing problems and select effective strategies for solving them. h.) Understand key marketing concepts and their applications to business and healthcare organizations.

HCM 571. Clinical Leadership Practicum

(Cross-listed as LIM 571 - *Spring; Strosberg*)

Students will work in the field with a preceptor in a clinical leadership role. Students may be placed in a variety of health care settings including: hospitals, physician offices, health maintenance organizations, etc. Classes meet every other week to discuss students' field experiences and selected readings.

HCM601 Swiss Health Care Delivery System

Fall, Winter; Otto

This Study tour, from Nov 27 – Dec 6, 2010, will give our Healthcare MBA students a better understanding of the healthcare delivery system in Switzerland. Students will have an opportunity to visit research hospitals, R&D centers, pharmaceutical companies and learn firsthand about the unique characteristics of the system. We will also have seminars where experts in the field will discuss current issues in terms of healthcare delivery.

HCM 617. Healthcare Finance

Winter, Spring; Gavin

This course covers financial management in a regulated health care environment. Topics include cost-finding and third-party reimbursement, contemporary issues in health care financing, sources of capital, capital budgeting, financial planning and analysis, cost accounting, and managed care issues.

Prerequisites: MBA 510 & 512.

HCM 620. Health Economics

Fall; Lambrinos

This course is intended for students entering the health field and investigates economic approaches to problems and solutions. Students obtain an understanding of how economics contributes to public and private decision-making in health care, and learn to properly interpret economic research results and apply them to work performed by health planners and administrators.

Prerequisites: HCM 500, MBA 506 and 520.

HCM 648. Health Informatics

Winter; Otto

The Health Informatics course will introduce students to the concepts and practices of health informatics. Topics include: a) an introduction to information systems and specifically to the health informatics field; b) major applications and commercial vendors; c) decision support methods and technologies; d) system analysis, design, implementation, and evaluation of healthcare information systems; and e) new opportunities and emerging trends.

HCM 650. Structural Dynamics in Healthcare Systems

Fall; Strosberg

Application of organization theory to health care organizations and systems for the purpose of improving performance. Topics include: organizational structure and design, coordination and control, power and politics, organizational culture, organizational ethics, organizational change.

Prerequisites: HCM 500 and 501.

HCM 656. Group Practice Administration

Seminar and Practicum

Winter; Kleinbauer

The objective of this course is to introduce students to the organization and management of private group practice through seminar and practical experience. It is intended that this course will prepare students for employment in private group practices and/or other ambulatory care organizations.

Prerequisites: HCM 500 and 501.

HCM 674. Legal Aspects of Healthcare

Fall, Summer; Zambri

(Cross-listed as LIM 674)

This course is designed to familiarize students with basic legal issues involved in managing health care systems. Antitrust, consent, labor law, malpractice, professional rights and other problems are explored using actual and hypothetical case studies. Not open to JD/MBA students.

HCM 680. Health Policy

Spring; Strosberg

(Cross-listed as LIM 670)

This course covers health public policy formulation and implementation and is designed to provide an understanding of the political and regulatory environment of health care organizations.

Prerequisites: HCM 500 and 501.

Prerequisites for LIM program: LIM 500 & LIM 503

HCM 681. Strategic Issues for Healthcare Organizations (Health MBA Capstone)

Spring; Huppertz and Smith

This course is designed to integrate the concepts and skills associated with managerial problem-solving learned throughout the MBA in Health Systems Administration program. Students analyze case studies addressing the strategic realignment of health

service organizations in today's turbulent environment. A variety of expert practitioners present their views on this topic. Students must have three or fewer courses left to complete after taking HCM 681.

HCM 683. Health Internship

No fee; Fall, Winter, Spring, Summer

HCM 684. Strategic Issues for Healthcare Organizations (Capstone)

Summer; Kleinbauer

This course is designed to integrate the concepts and skills associated with managerial problem-solving learned throughout the MBA in Health Systems Administration program. Students analyze case studies addressing the strategic realignment of health service organizations in today's turbulent environment. A variety of expert practitioners present their views on this topic.

HCM 690. Independent Study in Health Systems

Students pursue programs of independent study in a particular area of health systems under the supervision of a faculty member. Written permission of the Dean is required.

STA 501. Introduction to Probability and Statistics

Winter; Eno

This course studies the fundamentals of applied probability, most important distributions, acceptance sampling, confidence intervals, point estimation, and tests of hypotheses.

CENTER FOR BIOETHICS AND CLINICAL LEADERSHIP COURSES

MS IN BIOETHICS COURSES

BIE 500. Proseminar in Health and Human Values

Summer (two weeks in August), On-site, D, Union Graduate College w/ Clinical Visit to Mount Sinai School of Medicine (NYC); Baker, Rhodes

An intensive two-week introduction to current topics in clinical ethics and bioethics, taught seminar style at Union Graduate College, with a clinical visit to Mount Sinai School of Medicine in New York City. This overview of current issues in bioethics humanities involves four special pro-seminars, case conferences and ethics rounds. There will also be training in the computer skills (demonstrations, workshops) essential to mastering distance learning. Must be taken in the first fifteen months of enrollment.

BIE 510. Biomedical Ethics

Fall, Distance Learning; Baker

An advanced historically-based introduction to bioethics and clinical ethics focusing on such formalizations of medical morality as the Hippocratic Oath, the AMA codes, the Belmont Report and Beauchamp and Childress Principles, and the idea of casuistry. Major cases in bioethics will also be reviewed and the evolution of the core concepts and infrastructure of medical ethics and bioethics will be examined.

BIE 520. Healthcare Policy

Winter, Distance Learning; Strosberg

This course provides an understanding of the public policy-making process and the political and regulatory environment in which health care organizations function. It also provides an understanding of managerial processes, politics, and structure of the health care organizations where ethical policies and practices are implemented and carried out on an ongoing basis. Policies for consideration include resource allocation, end-of-life decision-making, accountability and performance measurement, and conflict-of-interest.

BIE 530. Bioethics and the Law

Spring, Distance Learning; Greenlaw, Ouellette

This course is designed to familiarize students with major legal issues and legal concepts relevant to bioethics.

BIE 545. Reproductive Ethics

(elective)

Summer, Distance Learning; Steinbock

An investigation of the ethical and legal problems associated with new reproductive technologies and genetics.

BIE 555. Research Ethics

(elective)

Fall: On-line: Gligorov & Philpott (Elective for Clinical Ethics track, Required for Research Ethics track)

Analyze individual cases, make informed and reasoned judgments about the proper conduct of research, develop the skills and knowledge base essential to designing and developing education in, and professional awareness of, research ethics.

BIE 565. Empirical Research Methods in Bioethics

(elective)

Distance Learning; Oppenlander

A course in empirical research methodology designed to teach how to conduct empirical research in the field, and how to analyze the empirical bioethics literature.

BIE 580. Research Ethics II

Winter, Distance Learning, Philpott

Teaches students about the ethics and policies governing scientific research, particularly research involving human participants or animal subjects. This course builds upon the knowledge and themes introduced in BIE-555 (Research Ethics I). Research Ethics II covers these topics in greater depth and explores the key U. S. and international laws and policies that regulate the design, conduct, and oversight of trials involving human participants or animal subjects. In addition, students examine in-depth specific areas or types of biomedical research that are potentially controversial or ethically problematic.

Prerequisites: BIE 555

BIE 590. Clinical Ethics

Winter, Distance Learning; Gligorov, MSSM staff

This course deals with the practical applications of clinical ethics, including clinical ethics consulting and its recording and documentation, the work of ethics committees and IRBs, and other practical ethics of clinical ethics.

BIE 610C. On-Line Practicum (Clinical)

Spring, Distance Learning; Orr, Bliss

A supervised practical experience in clinical ethics designed to teach skills of clinical ethics consultation.

Prerequisite: BIE 590.

BIE610-R. On-Line Practicum (Research)

Spring, Distance Learning; Philpott

A supervised practical experience in research ethics designed to teach specific skills. Exposes students to the process of ethical review of research involving human volunteers or animal subjects, and helps students develop some of the basic skills that a working research ethics professional needs. Through on-line discussion and participatory exercises, students gain a practical understanding of: (a) research ethics committee structure and function, (b) applicable state and federal regulations regarding the conduct of research involving human volunteers or animal subjects, and (c) relevant organizational and management skills needed to lead a research ethics committee. In addition, students are taught practical skills in qualitative and quantitative research, report and grant writing, and bioethical training and education.

Prerequisite: BIE 580.

BIE 620C. On-Site Practicum (Clinical)

Spring, On-site, Mount Sinai School of Medicine

A supervised practical experience in clinical ethics designed to teach skills in clinical ethics consultation. (One week during Spring Term)

Prerequisite: BIE 590. Co-Req with BIE 610C

BIE 620R. On-Site Practicum (Research)

Spring, On-site, Mount Sinai School of Medicine

A supervised practical experience. Helps students develop and refine the practical skills introduced in BIE 610R (On-Line Research Ethics Practicum) through hands-on experience. These skills include: teaching and education, review and oversight of institutional research projects involving human volunteers or animal subjects, and sound management of the research endeavor, including organizational management and policy analysis, arbitration, and mediation(One week during Spring Term)

Prerequisite: BIE 580. Co-Req with BIE 610R

BIE 630 & BIE 640. Masters Project I & II

Winter and Spring, Distance Learning , individual faculty advisors

The masters project in bioethics or clinical ethics, will involve two terms of research culminating in a written document addressing some aspect of clinical ethics or bioethical policy, such as a proposal to revise or reform practices at a medical institution or managed care organization, or a proposal to change bioethical policy.

BIE 650. Capstone

Spring, On-site, Union Graduate College

Capstone practicum in which students demonstrate their mastery of clinical ethics, research ethics, or health policy. Each student presents their Masters Project. (One week during Spring Term))

MS IN CLINICAL LEADERSHIP COURSES

PHL 574. Biomedical Ethics

Spring E; Baker

An advanced historically based introduction to bioethics and clinical ethics focusing on such formalizations of medical morality as the Hippocratic Oath, the AMA codes, the Belmont Report and Beauchamp and Childress Principles, and the idea of casuistry. Major cases in bioethics will also be reviewed and the evolution of the core concepts and infrastructure of medical ethics and bioethics will be examined.

LIM 500. Introduction to Health Systems

Fall D; TBD

This course examines the determinants of health, illness, and medical care utilization, institutional arrangements and settings for the delivery of acute and chronic care, the doctor-patient relationship, resource allocation, and the measuring and evaluating system performance.

LIM 503. Healthcare Leadership

Winter D; Strosberg

This course examines managerial roles and processes within health service organizations - organization design, managerial epidemiology, governance, total quality management, human resource management, labor relations, and ethics.
Prerequisite: LIM 500.

LIM 544/545. Health and Human Values

Summer (two weeks in August), On-site, D, Union Graduate College w/ Clinical Visit to Mount Sinai School of Medicine (NYC); Baker, Rhodes

The seminar in Health & Human Values I & II (LIM 544 & LIM 545) is an intensive two-week introduction to current topics in clinical ethics and bioethics. The courses are taught seminar style, at Union Graduate College and the Mount Sinai School of Medicine. Students are immersed in clinical case conferences, attend ethics rounds and are given an overview of current issues in bioethics.

Leading scholars from around the US conduct special pro-seminars for the Leadership in Medicine students and students in the Bioethics Program; a joint program between Union Graduate College and the Mount Sinai School of Medicine. Students in the two programs work in teams to prepare case analyses guided by professional clinical ethicists.

LIM 553. Economics of Health

Spring; Chang

Examination of demand and supply for medical personnel; analysis of hospital cost, inflation, and health insurance. Discussion of issues in cost benefit analysis of public health and regulation of health care markets.

LIM 571. Clinical Leadership Practicum

Spring; Strosberg

(Cross-listed as HCM 571)

Students will work in the field with a preceptor in a clinical leadership role. Students may be placed in a variety of health care settings including: hospitals, physician offices, health maintenance organizations, etc. Classes meet every other week to discuss students' field experiences and selected readings.

LIM 674. Legal Aspects of Healthcare

(Cross-listed as HCM 674)

This course is designed to familiarize students with basic legal issues involved in managing health care systems. Antitrust, consent, labor law, malpractice, professional rights and other problems are explored using actual and hypothetical case studies. Not open to JD/MBA students.

LIM 670. Health Policy and Managerial Epidemiology

(Cross-listed as HCM 680)

This course covers two main topics. The first (focusing on public policy formulation and implementation) is designed to provide an understanding of the political and regulatory environment of health care organizations. The second focuses on understanding and applying basic epidemiological methodologies to the health care management arena.
Prerequisites: HCM 500 and 501.

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Michael Newell, BS, CEO, Ener-G-Rotors, Inc.

Walter Robb, BS, MS, Ph.D., President, Vantage Management

Jeff Sperry, BA, Managing Partner, CB Richard Ellis

Kathlene Thiel, BA, MBA, Thiel Group, LLC

Vincent Verdile, MD, Dean, Albany Medical College

Administration

Laura Schweitzer, President; BA, 1974, University of Miami; PhD, 1979 Washington University.

Dan Christopher, Vice President, Institutional Advancement; BBA 1996, Siena; MBA 2005 Union Graduate College

Joanne Fitzgerald, Vice President, Enrollment Management & Student Services; BS 1979, University of Delaware; MBA 2001, Union Graduate College

Joseph M. McDonald, Vice President, Finance & Operations; BS 1987, State University of New York at Albany; MBA 1997, Union Graduate College

Patrick F. Allen, Dean of the School of Education; BA 1963, University of California; MA 1967, PhD 1974, Indiana University

Eric Lewis, Dean of the School of Management; BS 1989, Siena College; MBA 1991, PhD 1995, Union College.

Robert J. Kozik, Dean of the School Engineering and Computer Science; BSCE 1966, University of Massachusetts; MSCE 1968, Kansas State University

Robert B. Baker, Director of the Center for Bioethics and Clinical Leadership; Professor of Bioethics; BA 1959, City College of New York; PhD 1967, University of Minnesota

Nikki Gallucci, Director of Financial Aid; BS 1997 SUNY Oneonta

Robert Keenan, Director of Information Technology; BS 1986, Clarkson University

Rhonda Sheehan, Director of Admissions and Registrar

Erin Wheeler, Director of Student Recruitment; BA 2000, Susquehanna University; MS 2004, Rivier College

FACULTY

SCHOOL OF EDUCATION FACULTY

FULL TIME

Patrick F. Allen, Dean of the School of Education and Professor of Education and English; BA 1963, University of California at Berkeley; MA 1967, PhD 1974, Indiana University

Catherine Snyder, Associate Dean, School of Education and Clinical Assistant Professor of Education; BA 1988, Smith College; MBA 1993, MAT 1996, Union College; 2003 National Board Certified Teacher; PhD 2010 University at Albany

Bruce Tulloch, Associate Dean, School of Education and Clinical Assistant Professor of Education; BS 1968, Cornell University; MS 1972, University at Albany; MST 1973 Union College; EdD 1981, University at Albany

PART TIME

Ed Alston, Adjunct Associate Clinical Professor of Education; BA 1977, MA 1979, CAS 2006, University at Albany

Charles Batson, Associate Professor of French; BA 1987, Furman University; MA 1989, University of Virginia; PhD 1997, University of Illinois

Stephen M. Berk, Henry and Sally Schaffer Professor of Holocaust and Jewish Studies; BA 1962, University of Pennsylvania; MA 1964, University of Chicago; PhD 1971, Columbia University

Ken Blom, Clinical Associate Emeritus Professor of Education, BS 1968, PhD 1988, State University of New York at Albany

John Danaher, Adjunct Associate Clinical Professor of Education; BA 1971, State University of New York College at Oneonta; MA 1974, DA 1992, State University of New York at Albany

Mary Eads, Adjunct Clinical Associate Professor of Education; BA 1983, MA 1992, State University of New York at Albany; 2003, National Board Certified Teacher

Kristin Fox, Associate Professor of Chemistry; BS 1988, Lafayette College; PhD 1994, Cornell University

William Garcia, Professor of Spanish and Chair of the Department of Modern Languages; BA 1986, University of Puerto Rico; MA 1988, PhD 1995, Rutgers University

Karen Gregory, Adjunct Associate Clinical Professor of Education; BA 1996, Union College; MAT 2000, Union Graduate College.

Mary E. Hanschar, Adjunct Associate Clinical Professor of Education; BS 1988, Siena College; MS 1990, State University of New York at Albany; 2004, National Board Certified Teacher

James Hedrick, Adjunct Lecturer of Electrical and Computer Science; BS 1992, MS 1996 Union College

Julie Heller, Adjunct Associate Clinical Professor of Education; BA 1991, Cameron University; MAT 1996, Union College; MFA 1999, Bennington College; SDA 2005, SUNY Plattsburgh; 2002, National Board Certified Teacher

Carol Hobday, Adjunct Associate Clinical Professor of Education; BS 1972, MS 1974, SAS 1981, State University of New York at Albany

Patricia Kennedy, Adjunct Associate Clinical Professor of Education; AB, State University of New York at Albany; MA 1980, College of Saint Rose

Richard C. Lasselle, Adjunct Associate Clinical Professor of Education; BS 1985, Clarkson University; MA 1992, State University of New York at Potsdam; 2003, National Board Certified Teacher

Seyfollah Maleki, Associate Professor of Physics; BS 1974, University of New Orleans; MS 1978, PhD 1981, Rensselaer Polytechnic Institute

Victoria Martinez, Associate Professor of Spanish; BA 1971, MA 1986 University of Kentucky; PhD 1992, Arizona State University

Catey Merriman, Adjunct Associate Clinical Professor of Education; BS 1978, College of Saint Rose; MAT 1991, Union Graduate College; 2001, National Board Certified Teacher

Kelly Moore, Adjunct Associate Clinical Professor of Education; BA 1989, Hamilton College; MAT 1991, Union College; PhD 2007, University at Albany

Judy Morley, Adjunct Associate Clinical Professor of Education; BA 1964, Marymount Manhattan College; MS 1980, College of St. Rose; 1998, National Board Certified Teacher

Cheikh Ndiaye, Assistant Professor of French; BS 1991, MA 1993, University of Dakar; PhD 2001, University of Connecticut

Sean P. O'Connell, Adjunct Clinical Associate Professor of Education; BPS 1987, State University of New York at Albany; MS 1989, Russell Sage College; MS 1991, College of St. Rose, National Board Certified Teacher

Matthew A. Raso, Adjunct Clinical Associate Professor of Education, BS 2000, Union College; MS 2002, State University of New York at Albany; CAS 2004, University at Albany, PhD 2009, University of Albany

Rebecca Remis, Adjunct Associate Clinical Professor of Education; BS 1991, Cornell University; MAT 1994, Union Graduate College; 2001, National Board Certified Teacher

Richard Reynolds, Adjunct Associate Clinical Professor of Education; BA 1972, MS 1975, State University of New York at Oneonta; SAS and SDA 1992, State University of New York at Albany

Alexia G. Ryan, Adjunct Associate Clinical Professor of Education; BA Education, 1969 Mt. St. Mary College

Steve Sargent, Professor of History, B.S. 1968, Purdue University; MS 1970, New York University; BA 1973, M.A. 1975, University of Massachusetts; PhD 1982 University of Pennsylvania

Thomas Shiland, Adjunct Associate Clinical Professor of Education; BS 1973, Dartmouth; MS 1974, Drexel University; MS 1987 & 1993, State University of New York at Albany; 2006, National Board Certified Teacher

Kate Vrtiak, Adjunct Associate Clinical Professor of Education; BA 1965, MA 1970, State University of New York at Albany

Diane Wilkinson, Adjunct Associate Clinical Professor of Education; BS 1988, State University of New York at Oswego; MS 1993, State University of New York at Cortland; SAS 2002, Massachusetts College of Liberal Arts

Dave Williams, Adjunct Associate Clinical Professor of Education; BS and graduate courses in education, SUNY Oswego, graduate work in Anatomy & Physiology, Union College, graduate work in educational administration, State University of New York at Albany

Bill Wojcik, Adjunct Associate Clinical Professor of Education; BA, 1992, State University of New York at New Paltz; MAT, 1993, Union Graduate College

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE FACULTY

PART TIME

Valerie Barr, Adjunct Professor of Computer Science and Chair of the Department; BA, 1977, Mount Holyoke College; MS, 1979 New York University; Ph.D. 1996, Rutgers University.

Dan Bernadette, Adjunct Faculty of Wind Energy, BS 1987; MS 1991, University of California-Davis.

Warren Bessler, Adjunct Faculty of Mechanical Engineering; BS 1974, MS 1975, PhD 1980, Rensselaer Polytechnic Institute.

Michael Bowman, Adjunct Professor of Mechanical Engineering; BS 1995, MS 1996, Union College

James Bray, Adjunct Professor of Electrical Engineering; BS 1970, Georgia Institute of Technology; MS 1971, PhD 1974, University of Illinois.

Howard Brilliant, Adjunct Faculty of Mechanical Engineering; BS 1966, University of Pittsburgh; MS 1967, PhD 1971, University of Michigan

Bradford Bruno, Adjunct Assistant Professor of Mechanical Engineering; BS 1990, Pennsylvania State University at University Park; MS 1992, University of Michigan at Ann Arbor; PhD 2000, Pennsylvania State University at University Park

Ronald Bucinell, Adjunct Associate Professor of Mechanical Engineering; BS 1981, Rochester Institute of Technology; MS 1983, PhD 1987, Drexel University

William Carter, Adjunct Associate Professor of Mechanical Engineering; BS 1981, Rochester Institute of Technology; MS 1983, Massachusetts Institute of Technology; PhD 1990, Rensselaer Polytechnic Institute

Aaron Cass, Adjunct Instructor of Computer Science; BS 1993, MCS 1996, University of Virginia

Palma Catravas, Adjunct Assistant Professor of Electrical and Computer Engineering; BM, BS 1991, University of Maryland at College Park; SM 1994, PhD 1998, Massachusetts Institute of Technology

Yu Chang, Adjunct Professor of Electrical and Computer Engineering; BS 1961, Cheng Kung University; MS 1971, University of Wisconsin; PhD 1974, Syracuse University

Shane Cotter, Adjunct Assistant Professor of Electrical and Computer Engineering; BS 1994, University College Dublin; MS 1998, PhD 2001, University of California at San Diego

Mike Dashiel, Adjunct Faculty of Mechanical Engineering; BS 1992, MS 1998, PhD 2001, University of Delaware

Neil Eklund, Adjunct Faculty of Electrical Engineering and Computer Science; BS 1991, MS 1998, PhD 2002, Rensselaer Polytechnic Institute

Daniel R. Eno, Adjunct Professor of Management; BA 1991, Alfred University; MS, Mathematics 1993, MS, Statistics 1996, PhD 1999, Virginia Polytechnic Institute and State University

Chris S.T. Fernandes, Adjunct Assistant Professor of Computer Science; BA 1991, MS 1993, PhD 2000, Northwestern University

David G. Hannay, Adjunct Professor of Computer Science; BS 1966, Wheaton College; MA 1967, State University of New York at Stony Brook; MS 1970, State University of New York at Albany; PhD 1973, Rensselaer Polytechnic Institute

Ekram I. Hassib, Adjunct Associate Professor of Electrical and Computer Engineering and Chair of the Department; BSc 1964, University of Cairo; MSc 1968, Al-Azhar; PhD 1971, Warsaw Politechnics

James Hedrick, Adjunct Lecturer of Electrical and Computer Engineering; BS 1992, MS 1996, Union College

Cathy Hill, Adjunct Professor of Energy and The Law; BS 1984, State University of New York-Albany; JD 1988, Albany Law School of Union University.

Erik Kathe, Adjunct Faculty of Mechanical Engineering; BS 1988, MS 1991, PhD 2002, Rensselaer Polytechnic Institute

William D. Keat, Adjunct Associate Professor of Mechanical Engineering; BS 1976, MS 1983, Worcester Polytechnic Institute; PhD 1989, Massachusetts Institute of Technology

Pat McLaughlin, Adjunct Faculty of Mechanical Engineering; BS 1984, University of Connecticut; MS 1988, PhD 2004, Rensselaer Polytechnic Institute.

Constantinos Minas, Adjunct Faculty of Mechanical Engineering; BS 1989 Imperial College; MS 1988, PhD 1989, State University of New York at Buffalo

Nick Panayotou, Adjunct Faculty of Mechanical Engineering; BS 1972, MS 1974, PhD, 1978, Henry Columbia University

Dean Poethe, Adjunct Faculty of Mechanical Engineering; BS 1972, MS 1973, PhD 1975, Polytechnic Institute of Brooklyn

Martin Pollack, Adjunct Faculty of Mechanical Engineering; BX 1972, MS 1973, PhD 1975, Polytechnic Institute of Brooklyn

Michael Rudko, Adjunct Professor of Electrical and Computer Engineering; BSEE 1965, MSEE 1969, PhD 1974, Syracuse University

Sheppard Salon, Adjunct Professor of Electrical Engineering; BS 1970, SUNY at StonyBrook; MS 1973, Carnegie Mellon; PhD 1976, University of Pittsburgh.

John M. Spinelli, Adjunct Associate Professor of Electrical and Computer Engineering and Computer Science; BE (EE) 1983, The Cooper Union; MSEE 1985, PhD 1989, Massachusetts Institute of Technology

Dart Strayer, Adjunct Faculty of Mechanical Engineering; BS 1981, Bucknell University; MS 1989, PhD 1994, Rensselaer Polytechnic Institute

Todd Tolliver, Adjunct Faculty of Solar Energy, BS 1995; MS 1998, University of Massachusetts.

David Torrey, Adjunct Faculty of Electrical Engineering; BS 1981, Worcester Polytechnic Institute; SM 1985, EE 1986, PhD 1988, Massachusetts Institute of Technology

Cherrice Traver, Adjunct Professor of Electrical and Computer Engineering; BS 1982, State University of New York at Albany; PhD 1986, University of Virginia

Eric White, Adjunct Faculty of Wind Energy; BS 1984; MS 1984, Rensselaer Polytechnic Institute.

George Young, Adjunct Faculty of Mechanical Engineering; BS 1990, Rensselaer Polytechnic Institute; MS 1993, PhD 1999, University of Virginia

SCHOOL OF MANAGEMENT FACULTY

FULL TIME

R. Alan Bowman, Professor of Management; BS 1980, MBA 1986, Arizona State University; MS 1989, PhD 1990, Cornell University

Jay P. Carlson, Associate Professor of Management; BS 1992, Ferris State University; MBA 1997, Minnesota State University at Moorhead; PhD 2001, University of South Carolina

Zhilan Feng, Associate Professor of Management; BS 1989, Fudan University; MBA 2001, PhD 2003, University of Connecticut

John W. Huppertz, Associate Professor of Management, BA 1973, Xavier University; MA 1976, PhD 1978, Syracuse University

James Lambrinos, Professor of Management; BA 1975, Fairleigh Dickinson University; MA 1977, PhD 1979, Rutgers University

Eric Lewis, Dean; BS 1989 Siena College, MBA 1991, PhD 1995 Union College

Rudy V. Nydegger, Professor of Management; BA 1969, Wichita State University; PhD 1970, Washington University

Peter Otto, Associate Professor of Management, BA 1985, MS 1989, SAWI, Biel Switzerland; MBA 1995, Zurich/State University at Albany; PhD 2002, Rockefeller College, Albany, NY.

Martin Strosberg, Professor of Management and Bioethics; BA 1968, Union College; MA 1969, MPH 1971, University of California, Berkeley; PhD 1976, Syracuse University

PART TIME

Donald F. Arnold, Professor Emeritus of Management and Participating Faculty; BS 1966, State University of New York at Albany; MBA 1968, PhD 1972, State University of New York at Buffalo

Alan T. Belasen, Adjunct Professor of Management; BA 1979, MA 1981, Hebrew University; PhD 1987, State University of New York at Albany

Ariel Belasen, Adjunct Professor of Management; BS 2001, MA 2001 PhD 2007, State University of New York at Binghamton

Michael Boskin, Adjunct Professor of Management; AS 1980, Jamestown Community College; BS 1977, St. Lawrence University; MBA 1987 RPI.

Marie Bosman, Adjunct Professor of Management; BA 1988, Rand Afrikaans University; MBA 2002, Union College.

Jim Burnes, Adjunct Professor of Management; BS 1983, RPI; MBA 1999, Union College; MS 2003, PhD 2008, RPI

Frederic J. Buse, Adjunct Professor of Management; BS Columbia University, NY

Ju-Ming T. Chang, Adjunct Professor of Management; BA 1963, National Taiwan University; MA 1967, University of Missouri

Melvin W. Chudzik, Participating Faculty, Adjunct Professor of Management; BS 1957, University of Buffalo; MS 1970, Long Island University

Chalmers Clark, Adjunct Professor of Management; BS Union College; MA and PhD CUNY

Daniel Colacino, Adjunct Professor of Management; BS 1973, SUNY Brockport; MS 1980, Union College

Necip Doganaskoy, Adjunct Professor of Management; BS 1983, MBA 1985, METU; MS 1987, PhD 1989, Union Graduate College

Daniel R. Eno, Adjunct Professor of Management; BA 1991, Alfred University; MS, Mathematics 1993, MS, Statistics 1996, PhD 1999, Virginia Polytechnic Institute and State University

Kelly Evanoff, Adjunct Professor of Management; BS 1982, Univ. of Missouri Rolla; MS 1999, RPI; MBA 1989 RPI.

Bill Foley, Adjunct Professor of Management; BS 1972, Univ. of Connecticut; ME 1974, RPI; MS 1974 RPI; PhD 1983 RPI.

Richard Frederick, Adjunct Professor of Management, BA 1971, MBA 1973, State University at Buffalo

Carla Hogan, Adjunct Professor of Management; BA 1976, Hobart & William Smith Colleges; JD 1988, Albany Law School

Bret Kauffman, Adjunct Professor of Management, BS 1984, State University of New York at Buffalo; MBA 1991, Union College

Robert Kleinbauer, Adjunct Professor of Management; Associates in Applied Science 1974, Broome Community College; Bachelors of Professional Studies 1978, State

University of New York College of Technology; MBA 1983, Rensselaer Polytechnic Institute; Masters of Public Health (in process), State University of New York at Albany

Jeffrey Lippitt, Adjunct Professor of Management, BS, Lehigh; MS, SUNY Albany; PhD 1982, Penn State University

Edmund L. Luzine, Adjunct Professor of Management, BS 1986, Syracuse University; MBA 1989, University of Rochester

Peter McCorkle, Adjunct Professor of Management; BA 1991, Bucknell University; MS 1997, Carnegie Mellon University

James P. Murtagh, Adjunct Professor of Management, BS 1982, United States Military Academy; MBA, 1987 University of Northern Colorado; PhD 1998, Rensselaer Polytechnic Institute

Bela Musits, Adjunct Professor of Management; AS 1973, Dutchess Comm. College; BS 1975, RPI; MS 1976, RPI; MBA 1979, RPI.

Jane E. Oppenlander, Adjunct Professor of Management; BA 1979, BS 1979, MS 1981, University of Vermont; PhD 1986, Union College

Michele A. Paludi, Participating Faculty of Management; BS 1976, Union College; MA 1978, PhD 1980, University of Cincinnati.

Maria Phillips, Adjunct Professor of Management; BS 1977, Northeastern University; MBA 1979, Boston University

Dean Poeth, Adjunct Professor of Management; BS 1972, MS 1973, PhD, 1975, Polytechnic Institute of Brooklyn.

Walt Robb, B.S. 1948, Pennsylvania State University; MS 1950, University of Illinois; PhD 1951, University of Illinois.

Gerald R. Shaye, Adjunct Professor of Management; BA 1964, Dartmouth College; MBA 1966, Columbia University

Robert Smith, Adjunct Professor of Management; BS 1973, Brooklyn College; Masters in Medical Technology 1980, C.W. Post College; Masters in Health Care Administration 1987, New School for Social Research New York

Michael Tentnowski, Adjunct Professor of Management; BS 1992, Univ. of Montana; MBA 1993, Univ. of Montana.

Karen Martino Valle, Adjunct Professor of Management; BS 1973, JD 1976, St. John's University; LLM 1980, New York University

Melissa M. Zambri, Adjunct Professor of Management; BS 1994 Siena College, MBA 1998, Union College, JD 1998, Albany Law School

CENTER FOR BIOETHICS AND CLINICAL LEADERSHIP FACULTY

PART TIME

Robert B. Baker, Director of the Center for Bioethics and Clinical Leadership, Professor of Bioethics; BA 1959, City College of New York; PhD 1967, University of Minnesota

Ju-Ming T. Chang, Adjunct Professor of Management; BA 1963, National Taiwan University; MA 1967, University of Missouri

Rosamond Rhodes, Associate Director of Bioethics Program and Professor of Bioethics; BA 1966, The City College, CUNY; MA 1975, Lehman College, CUNY; PhD 1990, The Graduate Center, CUNY

Nada Gligorov, Assistant Professor of Bioethics; BS 1977, University of Toronto; MS 2000, New School for Social Research; PhD 2007, CUNY

Jane Greenlaw, Professor of Bioethics; BS 1965, Boston College; MS 1975, Boston College Graduate School of Arts and Sciences; JD 1976, Boston College Law School

Jane E. Oppenlander, Adjunct Professor of Management and Bioethics; BA 1979, BS 1979, MS 1981, University of Vermont; PhD 1986, Union College

Robert D. Orr, Professor of Bioethics; BS 1962, Houghton College; MD 1966, McGill University; Fellow 1990, University of Chicago

Alicia Ouellette, Adjunct Associate Professor of Bioethics; AB 1988, Hamilton College; JD 1994, Albany Law School

Sean Philpott, Assistant Professor of Bioethics; BA 1992, BS 1992, University of California, San Diego; PhD 1996, University of California, Berkeley; MSB 2006, Union Graduate College.

Bonnie Steinbock, Adjunct Professor of Bioethics; BA 1967, Tufts University; PhD 1974, University of California, Berkeley

Martin Strosberg, Professor of Management and Bioethics; BA 1968, Union College; MA 1969, MPH 1971, University of California, Berkeley; PhD 1976, Syracuse University

Terry S. Weiner, Chauncey H. Winters Professor of Comparative Social Analysis (1974); BA 1970, University of Illinois; MA 1972, PhD 1975, University of North Carolina