

College of Engineering

The UIC College of Engineering also offers a program leading to a Master of Engineering (MEngr) degree. This professional program is not part of the Graduate College. Contact the College of Engineering for more information at (312) 996-9806.

BIOENGINEERING

Mailing Address: Department of Bioengineering
(MC 063)
851 South Morgan Street
Chicago, IL 60607-7052

Campus Location: 218 SEO

Program Codes: 20FS0408MS (MS);
20FS0408PHD (PhD)

Telephone: (312) 996-2331

E-mail: bioe@uic.edu

Web Site: <http://www.uic.edu/depts/bioe>

Head of the Department: Richard L. Magin

Director of Graduate Studies: Michael Cho

The Department of Bioengineering offers graduate programs leading to Master of Science and Doctor of Philosophy degrees in Bioengineering, and participates in the MD/PhD joint degree program (see *MD/PhD* in the *College of Medicine* section of the catalog for more information). The Interdepartmental Concentration in Neuroscience is also available to doctoral students. The departmental focus is molecular engineering at natural and synthetic interfaces. The areas of study are in Cell and Tissue Engineering, Neural Engineering, Bioinformatics and Genomics, and Nanobiomolecular Engineering. The Bioinformatics programs have been approved by the State of Illinois, and interested students may obtain MS or PhD degree in Bioinformatics. Biocompatibility, immunotolerance, drug discovery and delivery, molecular targeting and transport, biotransduction, imaging and inducible bioactivity, computational genomics, structural bioinformatics, and proteomics are collaborative disciplines found in the areas of study. The Bioengineering Bioinformatics Lab (BBI), established by the university within its Medical Center, coordinates and implements clinically based bioengineering activities. The departmental programs are directed toward applying advanced methods of interfacial molecular bioengineering to clinical problems of diagnosis and treatment. The curriculum provides students with an introduction to molecular modeling, targeting, transport, detection, and nanofabrication complemented by collaborative molecular bioengineering research with biologists, chemists, and clinicians. In addition, curricula in the traditional bioengineering areas of signal and image processing, biocontrol, biomaterials, medical visualization, biomechanics, pattern recognition, and rehabilitation engineering are available.

ADMISSION REQUIREMENTS

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

Baccalaureate Field Physical sciences, engineering, computer science, mathematics, biology, or medicine. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.

Grade Point Average At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.

Tests Required GRE General, minimum 1800 total.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

Doctor of Philosophy

Baccalaureate Field Physical sciences, engineering, computer science, mathematics, biology, or medicine. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.

Grade Point Average At least 3.00/4.00 for the final 60 semester (90 quarter) hours of undergraduate study.

Tests Required GRE General, minimum 1800 total.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least twelve hours must be at the 500-level, excluding BIOE 595 and 598. Limited credit hours in BIOE 596 are allowed upon departmental approval.

Required Courses: 1 hour of BIOE 595. Additional required courses vary by area; contact the department for the specific requirements of each area.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options *Thesis:* Required. No other options are available. Students must earn at least 8 hours in BIOE 598.

Other Requirements Each student must present at least one seminar prior to graduation.



Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work Students admitted with a prior master's degree in bioengineering or a related field must complete a minimum of 24 hours of course work, at least 12 hours of which must be bioengineering courses. At least 12 hours must be at the 500-level, excluding BIOE 595 or 599. Limited credit hours in BIOE 596 are allowed upon department approval. A maximum of 4 hours of BIOE 590 may be applied toward the degree, provided credit for BIOE 590 or a similar course was not applied toward the prior MS degree.

Students admitted with a bachelor's degree in bioengineering or a related field must complete a minimum of 48 hours of course work. At least 24 hours must be bioengineering courses. At least 20 hours must be at the 500-level, excluding BIOE 595, 596, and 599. A maximum of 4 hours of BIOE 590 may be applied toward the degree.

Required Courses: Two hours of BIOE 595. Additional required courses vary by area of study; contact the department for the specific requirements of each area.

Examinations *Departmental Qualifying Examination:* Required

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 60 semester hours in BIOE 599.

Other Requirements Each student is required to present at least two seminars prior to graduation. Students must be registered during the semester of intended graduation.

Interdepartmental Concentration in Neuroscience

Doctoral students may pursue the Interdepartmental Concentration in Neuroscience. Refer to *Interdepartmental Concentration in Neuroscience* in the *Graduate College* section for more information.

BIOINFORMATICS

Mailing Address: Department of Bioengineering
(MC 063)
851 South Morgan Street
Chicago, IL 60607-7052

Campus Location: 218 SEO

Program Codes: 20FS1909MS (MS);
20FS1909PHD PhD)

Telephone: (312) 996-2331

E-mail: bioe@uic.edu

Web Site: <http://www.uic.edu/depts/bioe>

Head of the Department: Richard L. Magin

Program Chairperson: Jie Liang

Director of Graduate Studies: Hui Lu

The Department of Bioengineering offers a program leading to degrees in Bioinformatics at both the master's and doctoral levels.

ADMISSION REQUIREMENTS

Applicants are considered on an individual basis. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science

Baccalaureate Field Physical sciences, engineering, computer science, mathematics, or biology. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.

Tests Required GRE General.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

Doctor of Philosophy

Baccalaureate Field Physical sciences, engineering, computer science, mathematics, or biology. Students from other areas are also encouraged to apply if their backgrounds indicate a reasonable chance of success in the program.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.

Tests Required GRE General.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

Deadlines The application deadline for applicants requiring funding is January 15.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least 12 hours must be at the 500-level, excluding BIOE 595, 596, or 598.

Required Courses: 1 hour of BIOE 595. Additional required courses vary by area; contact the department or program for the specific courses offered.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options Thesis required. No other options are available.



Thesis: Students must earn at least 8 hours in BIOE 598.

Other Requirements Each student must present at least one seminar prior to graduation.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work At least 32 hours must be at the 500-level, excluding BIOE 599.

Required Courses: Two hours of BIOE 595. Additional required courses vary by area; contact department or program for additional required courses in the elective areas.

Examinations *Departmental Qualifying Examination:* Required.

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 44 semester hours in BIOE 599.

Other Requirements Each student is required to present at least two seminars prior to graduation. Students must be registered during the semester of intended graduation.

CHEMICAL ENGINEERING

Mailing Address: Department of Chemical Engineering (MC 110)
810 South Clinton Street
Chicago, IL 60607-7000

Campus Location: 204 CEB

Program Codes: 20FS0300MS (MS);
20FS0300PHD (PhD)

Telephone: (312) 996-3425

E-mail: kmilla@uic.edu

Web Site: <http://www.uic.edu/depts/chme/>

Head of the Department: Sohail Murad

Director of Graduate Studies: Lewis Wedgewood

The Department of Chemical Engineering offers a program leading to degrees in Chemical Engineering at both the master's and doctoral levels. The primary areas on which this program is based are continuum and molecular fluid mechanics, heat and mass transfer, macroscopic and microscopic thermodynamics, chemical kinetics, and process analysis, microelectronic materials and processing, heterogeneous catalysis, process design, and pollution prevention.

ADMISSION REQUIREMENTS

The department reviews each applicant on an individual basis. Complete transcripts of all undergraduate and any graduate work must be submitted. In addition to meeting the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

Baccalaureate Field Engineering.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study for the master's

program, and at least 3.50 for the doctoral program. In exceptional cases, applicants with averages below 3.00 but above 2.75 may be admitted on limited standing if they show evidence of substantial ability to complete the program successfully.

Tests Required GRE General.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Not required.

DEGREE REQUIREMENTS

In addition to meeting the minimum requirements of the Graduate College, students must also meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least 12 semester hours must be at the 500-level.

Required Courses (5 courses, 20 hours): CHE 410; either 431 or 445; either 501 or 502; either 510 or 511 or 512; and 527.

Elective Courses: One course (4 hours) for the thesis option; 3 courses (12 hours) for project option.

Research Credit: 12 hours 598 for thesis option; 4 hours 597 for project option.

Comprehensive Examination Not required.

Thesis, Project, or Course-Work-Only Options: Thesis or project required. No other options available.

Doctor of Philosophy

Entering with BS in Chemical Engineering

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work At least 24 semester hours must be at the 500-level.

Required Core Courses (5 courses, 20 hours): CHE 410; either 431 or 445; either 501 or 502; either 510 or 511 or 512; and 527. Also math (2 courses, 8 hours), one at 500-level.

Elective Courses: (7 courses, 28 hours): at least 3 courses (12 hours) at the 500-level. Of these, at least 8 semester hours of advanced math, including at least one 500-level course from the Department of Mathematics, Statistics, and Computer Science. Students must register in CHE 595 for one semester hour each term, to a maximum of 4 hours.

Research Credit: 60 semester hours of CHE 599.

Entering with MS in Chemical Engineering

Minimum Semester Hours Required 108 from the baccalaureate. 32 semester hours are given for the MS.



Course Work *Courses* (6 courses, 24 hours): Courses in the core requirement above, not completed in the prior degree, must be taken. No course from prior degree may be repeated. At least 24 semester hours must be taken (or given credit from prior degree) at the 500-level. At least 8 semester hours of advanced math, including at least one 500-level course from the Department of Mathematics, Statistics, and Computer Science must be taken. Students must register in CHE 595 for one semester hour each term, to a maximum of 4 hours.

Research Credit: 52 semester hours of CHE 599.

Examinations *Qualifying Examination* Not required.

Preliminary (Research) Examination: Required; oral.

Dissertation Required.

Other Requirements Each student must present a seminar based on his or her research in CHE 595 at least once.

CIVIL ENGINEERING

Mailing Address: Department of Civil and Materials Engineering (MC 246)
842 West Taylor Street
Chicago, IL 60607-7023

Campus Location: 2067 ERF

Program Codes: 20FS0106MS (MS);
20FS0106PHD (PhD)

Telephone: (312) 996-3411

E-mail cmegrad@uic.edu

Head of the Department: Farhad Ansari

Director of Graduate Studies: Michael McNallan

The Department of Civil and Materials Engineering (CME) offers programs leading to the Master of Science and Doctor of Philosophy degrees in Civil Engineering. Study and research leading to a degree in Civil Engineering is available in the areas of geotechnical and geoenvironmental engineering, environmental engineering, water resources engineering, structural engineering, structural mechanics, structural health monitoring, sensors and nondestructive testing, earthquake engineering, concrete materials, reinforced and prestressed concrete, steel structures, and transportation engineering.

The department also offers programs leading to degrees in Materials Engineering at both the master's and doctoral levels. Updated information about the faculty, staff, curriculum and courses is found on the CME home page at the following address <http://www.uic.edu/depts/cme/cme.html>.

ADMISSION REQUIREMENTS

Applicants are considered on an individual basis. Complete transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

Baccalaureate Field Civil engineering or a related field.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.

Tests Required GRE General.

Minimum TOEFL Score 600 (paper-based); 250 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required for PhD applicants.

Personal Statement Required for PhD applicants.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least 24 semester hours must be in courses chosen from major courses listed on the department Web page. At least 12 hours must be at the 500-level, and at least 8 hours must be in 500-level courses in the department, excluding CME 598.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options Thesis or course work only. No other options are available.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work *Required Courses:* Minimum requirement of 56 hours of postbaccalaureate course work, excluding CME 599.

Specific Course Requirements: At least 28 hours must be at the 500-level, of which 16 hours must be in the department, excluding CME 596 and 599.

Credit for MS Degree: Those having an MS degree from an accredited institution may be awarded 32 hours of credit towards the PhD degree requirement with 12 hours towards the 28-hour 500-level requirement.

Examinations *Departmental Qualifying Review:* Required.

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 52 hours in CME 599.

Other Requirements Students must be registered during the semester of intended graduation.



COMPUTER SCIENCE

Mailing Address: Department of Computer Science
(MC 152)
851 South Morgan Street
Chicago, IL 60607-7053

Campus Location: Department Office 1120 SEO;
Student Affairs Office 905 SEO

Program Codes: 20FSO112MS (MS);
20FSO112PHD (PhD)

Telephone: (312) 996-2290 or (312) 413-4950

E-mail: grad@cs.uic.edu

Web Site: <http://www.cs.uic.edu>

Head of the Department: Peter Nelson

Director of Graduate Studies: Robert Sloan

The Department of Computer Science offers graduate programs leading to Computer Science degrees at the master's and doctoral levels. The department offers a comprehensive range of courses in the field of computer science. Special emphases lie in the areas of artificial intelligence, computational biology, databases, graphics and human-computer interaction, networks, security, software engineering, and theoretical computer science. Consult the CS Graduate Student Manual for current requirements, policies, and regulations. Updated information about the faculty, staff, curriculum, and courses is found on the CS Web site <http://www.cs.uic.edu>.

The department maintains and provides full-time technical staff for several specialized research laboratories, many housed in the Engineering Research Facility. The laboratories contain over 300 workstations and servers and an extensive array of computer-based multimedia equipment. All departmental computing facilities are networked to general university computing resources and national networks, which permits high-speed access to specialized computing facilities.

ADMISSION REQUIREMENTS

Applications are considered on an individual basis by the Graduate Admissions Committee. A complete set of transcripts of all undergraduate and graduate work is required before an applicant is considered. In addition to the application requirements of the Office of Admissions and Records and the policies set by the Graduate College, applicants must meet the following program requirements:

Master of Science

Baccalaureate Field Computer science or computer engineering. Outstanding candidates from other related fields will also be considered.

Grade Point Average At least 3.50/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.

Tests Required GRE General scores are required for financial aid applicants and all students with degrees from outside the U.S. All international students are required to submit Test of English as a Foreign Language (TOEFL) scores as well. Subject GRE in Computer Science and TSE scores are not required.

Minimum TOEFL Score 570 (paper-based); 230 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Not required for admission unless specifically requested by the Graduate Admissions Committee after reviewing academic and other credentials. Applicants for financial assistance must provide three letters of recommendation.

Personal Statement Not required.

Deadlines The application deadline is the same as the Graduate College deadline. University fellowship nominations are due in the first week of February and department financial aid decisions (TA/TFW) are made about the middle of March.

Doctor of Philosophy

Prior Degrees Computer science or computer engineering. Outstanding candidates from other related fields will also be considered. Outstanding candidates holding a bachelor's degree in computer science can be considered for admission.

Grade Point Average At least 3.50/4.00.

Tests Required GRE General scores are required for financial aid applicants and all students with degrees from outside the U.S. All international students are required to submit Test of English as a Foreign Language (TOEFL) scores as well. Subject GRE in Computer Science and TSE scores are not required.

Minimum TOEFL Score 570 (paper-based); 230 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Not required.

Deadlines The application deadline is the same as the Graduate College deadline. University fellowship nominations are due in the first week of February and department financial aid decisions (TA/TFW) are made about the middle of March.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least 28 hours (with thesis)/32 hours (with project), 12 of which must be CS course offerings at the 500-level (excluding CS 595–599). No more than one special topics course (CS 594) may be counted toward the 500-level CS requirement. At most 8 hours of non-CS graduate courses may be counted toward the overall requirement.

Comprehensive Examination None.





Thesis, Project, or Course-Work-Only Options Thesis or project required. No other options are available.

Thesis: Thesis students must earn 8 hours in CS 598; no more than 8 hours of CS 598 may be applied toward the degree.

Project: Project students must earn 4 hours in CS 597; no more than 4 hours of CS 597 may be applied toward the degree.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work Students Admitted with Prior Master's Degree in CS or a Related Field: Must complete a minimum of 28 hours of credit in CS or non-CS graduate course work. Credit for non-CS course work must have prior department approval. Of the 28 hours, at least 16 hours must be CS course work at the 500-level, excluding CS 595, 596, 597, 598, 599. Any course that is nearly equivalent to one taken in the bachelor's or master's program earlier will not earn PhD credit. Credit earned in CS 596 may not be applied toward the PhD degree.

Students Admitted Directly after Bachelor's Degree in CS or a Related Field: Must complete a minimum of 48 hours of credit in CS or non-CS graduate course work. Credit for non-CS course work must have prior department approval. Of the 48 hours, at least 28 hours must be CS course work at the 500-level, excluding CS 595–599.

Examinations Departmental Qualifying Competency Examination: Required; written.

Preliminary Examination: Required; oral.

Dissertation Required. Candidates must earn CS 599 credit of at least 48 hours beyond a master's degree and at least 60 hours beyond a bachelor's degree.

Support

The department offers guarantees of multiple-year teaching and/or research assistantships each year to highly qualified, new PhD students. These assistantships will provide a stipend of at least \$14,000 per academic year, plus tuition and fee waivers.

ELECTRICAL AND COMPUTER ENGINEERING

Mailing Address: Department of Electrical and Computer Engineering (MC 154)
851 South Morgan Street
Chicago, IL 60607-7053

Campus Location: Department Office 1020 SEO;
Student Affairs Office 900 SEO

Program Codes: 20FS1200MS (MS);
20FS1200PHD (PhD)

Telephone: (312) 413-2291 or (312) 996-4325

E-mail: grad-info@ece.uic.edu

Web Site: <http://www.ece.uic.edu/>

Head of the Department: Mitra Dutta

Director of Graduate Studies: Derong Liu

The Department of Electrical and Computer Engineering offers graduate programs leading to

the electrical and computer engineering degree at the master's and doctoral levels. Updated information about the curriculum, requirements, policies, courses, faculty, and staff is found on the ECE home page <http://www.ece.uic.edu>. The department offers a comprehensive range of courses in the field of electrical engineering and computer engineering. Major research areas include microelectromechanical systems (MEMS) and nanotechnology, microelectronics, RF electronics, electromagnetics and optics, power electronics, VLSI technology and CAD, robotics and control, parallel computing, fault-tolerant computing and systems, networking, communications, signal and image processing, adaptive and learning systems, machine vision, multimedia processing and retrieval, medical imaging, and biomedical applications. Research facilities in the ECE include a Microfabrication Applications Laboratory (MAL) with a 3,000 square-foot class 100/1000 clean room that enables a broad spectrum of innovative multidisciplinary research; Microsystems Research Center; the endowed Andrews Electromagnetics Laboratory; an industry-sponsored Power Electronics Reliability Group that supports research in increasing the reliability and lowering the costs of power electronic systems; Communication and Sensing Laboratory; Machine Vision and Neural Networks Laboratory; Computational Intelligence Laboratory; Computer Vision and Robotics Laboratory; Signal and Image Research Laboratory; Multimedia Systems Laboratory; and Biomedical Functional Imaging and Computation Laboratory.

ADMISSION REQUIREMENTS

Applications for admission are individually evaluated by the Graduate Admissions Committee. A complete set of transcripts of all undergraduate and graduate work is required before an application is evaluated for admission. In addition to the application requirements of the Office of Admissions and Records and the policies set by the Graduate College, applicants should meet program requirements for admission. Meeting minimum requirements does not, however, guarantee admission. Program requirements are given below:

Master of Science

Baccalaureate Field Electrical or computer engineering, or other closely related curriculum.

Grade Point Average At least 3.20/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study is expected.

Tests Required All international applicants should report general test scores of GRE. Applicants with a bachelor's degree from an accredited U.S. institution are not required to provide GRE scores; however, GRE scores may improve prospects for financial aid. Graduates of non-English-speaking countries who seek appointment as Teaching Assistants must submit a TSE score (minimum acceptable score is 50).

Minimum TOEFL Score 590 (paper-based); 243 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Not required for admission unless specifically requested by the Graduate Admissions Committee after reviewing academic and other credentials.

Applicants for financial assistance must provide three letters of recommendation.

Personal Statement Not required.

Deadlines The application deadline is the same as the Graduate College deadline. It is recommended that all application materials should be submitted by January 1 for admission in fall semester of that year in order to get full consideration for financial aid. University fellowship nominations are due in the first week of February and department financial aid decisions (RA/TA/TFW) are made about the middle of March.

Doctor of Philosophy

Prior Degrees Applicants must have a bachelor's or master's degree in electrical engineering or computer engineering or a related field. Applicants with a bachelor's degree and an outstanding academic record are encouraged to seek admission directly to the PhD program.

Grade Point Average At least 3.50/4.00.

Tests Required All international applicants should report general test scores of GRE. Applicants with a bachelor's degree from an accredited U.S. institution are not required to provide GRE scores; however, GRE scores may improve prospects for financial aid. Graduates of non-English-speaking countries who seek appointment as Teaching Assistants must submit a TSE score (minimum acceptable score is 50).

Minimum TOEFL Score 590 (paper-based); 243 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Not required.

Other Requirements No limited-status admissions.

Deadlines The application deadline is the same as the Graduate College deadline. It is recommended that all application materials should be submitted by January 1 for admission in fall semester of that year in order to get full consideration for financial aid. University fellowship nominations are due in the first week of February and department financial aid decisions (RA/TA/TFW) are made about the middle of March.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36 for thesis option. 40 for course-work-only option.

Course Work *Thesis Option:* 28 hours of graduate course work required. At least 24 hours must be in ECE graduate courses, 12 of which

must be 500-level ECE courses, excluding ECE 595, 596, 597, 598, and 599. Up to 4 hours of non-ECE graduate course work, completed with prior department approval, may be applied toward the MS degree. A Computer Engineering (CE) student may fulfill part of the 500-level ECE course requirement by completing up to 4 hours of graduate course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, and 599.

Course-Work-Only Option: 40 hours of graduate course work required. At least 32 hours must be in ECE graduate courses, 16 of which must be 500-level ECE courses, excluding ECE 595, 596, 597, 598, and 599. Up to 8 hours of non-ECE graduate course work, completed with prior department approval, may be applied toward the MS degree. A Computer Engineering (CE) student may substitute up to 4 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, and 599.

Additional Course Work Requirement: No more than one special topics course (ECE 594) may be counted toward the 500-level requirement. Credit earned in ECE 596 may not be applied toward the MS degree.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options Thesis or course-work-only option. No other options are available.

Thesis: Thesis students must earn 8 hours in ECE 598; no more than 8 hours of ECE 598 may be applied toward the degree.

Doctor of Philosophy

Minimum Semester Hours Required 108 beyond the baccalaureate.

Course Work *Students Admitted with Prior Master's Degree in EE, CE, or a Related Field:* Must complete a minimum of 28 hours of credit in graduate course work, 16 hours of which must be ECE course work at the 500-level, excluding ECE 595, 596, 597, 598, and 599. A Computer Engineering (CE) student may replace up to 4 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS department, excluding CS 595, 596, 597, 598, 599. Any course that is nearly equivalent to one taken in master's program earlier will not earn PhD credit. Credit earned in ECE 596 may not be applied toward the PhD degree.

Students Admitted Directly after Bachelor's Degree in EE, CE, or a Related Field: Must complete a minimum of 52 hours of graduate course work, 36 hours of which must be ECE course work with at least 24 hours at the 500-level, excluding ECE 595, 596, 597, 598, and 599. A CE student may substitute up to 8 hours of 500-level ECE course work with 400-level ECE course work if the student completes the same number of hours of non-ECE course work at 500-level in the CS depart-



ment, excluding CS 595, 596, 597, 598, 599. A student may apply to receive an MS degree upon passing the preliminary examination, provided course work required for MS degree under course-work-only option is completed. If any one of the PhD degree requirements of passing the qualifying examination or passing the preliminary exam is not successfully completed, student may apply for transfer to the MS program for an opportunity to complete the MS degree requirements under the thesis option. Credit earned in ECE 596 may not be applied toward the PhD degree.

Examinations *Departmental Qualifying Examination:* Required; written.

Preliminary Examination: Required; oral.

Dissertation Required. Candidates must earn ECE 599 credit of at least 44 hours beyond master's degree and at least 52 hours beyond bachelor's degree.

Financial Aid

There are several different forms of financial aid available to incoming graduate students: University Fellowship, Teaching Assistantships, Research Assistantships, and Tuition and Fee Waivers. Applicants may seek financial aid by completing the downloadable Application for Graduate Appointment and mailing it to the ECE Department at UIC. They will automatically be considered for all four forms of financial aid listed above. Additional information and the procedure to apply for financial aid can be found on the ECE home page <http://www.ece.uic.edu> by clicking on the Financial Aid link.

INDUSTRIAL ENGINEERING

Mailing Address: Department of Mechanical and Industrial Engineering (MC 251)
842 West Taylor Street
Chicago, IL 60607-7022

Campus Location: 2041 ERF

Program Codes: 20FS0127MS (MS);
20FS1338PHD (PhD)

Telephone: (312) 996-6122

E-mail: megrad@uic.edu

Web Site: <http://www.me.uic.edu/>

Head of the Department: William Worek

Director of Graduate Studies: Farzad Mashayek

The Department of Mechanical and Industrial Engineering offers work leading to the Master of Science in Industrial Engineering and the Doctor of Philosophy in Industrial Engineering and Operations Research. Course work and research is available in such topics as computer-aided design and manufacturing, supply chain, logistics, optimization, quality control, virtual reality, industrial automation, safety engineering, diagnostics, prognostics, controls and statistical modeling. The department also offers a program leading to degrees in Mechanical Engineering at both the master's and doctoral levels; consult the appropriate section of the catalog for more information on this program.

ADMISSION REQUIREMENTS

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

Baccalaureate Field Industrial engineering or a related curriculum. The degree must be from an American Board of Engineering Technology (ABET) accredited college or university or the equivalent.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. A grade point average of at least 3.50 is preferred for applicants to the PhD program.

Tests Required International applicants are required to take the GRE. Applicants seeking a teaching or research assistantship are strongly encouraged to take the GRE General.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

Other Requirements Admission to the PhD program is not automatic for students completing their MS degree in the department. Master's students who desire to continue on to the PhD must see the department's graduate coordinator for forms to apply to the PhD program.

Nondegree Applicants Nondegree applicants may be admitted for no more than 8 semester hours.

Deadlines The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work *Course Work Option:* At least 36 hours must be in didactic courses. Twenty semester hours must be in courses in the department, of which at least 12 hours must be at the 500-level, excluding IE 596. IE 596 may be used to fulfill a 400-level course requirement. No more than 4 hours of IE 596 can be applied to the degree. A 400- or 500-level course may be taken in place of IE 596.

Thesis Option: At least 24 hours must be in didactic courses. Twenty semester hours must be in courses in the department, of which at least 12 hours must be at the 500-level, excluding IE 596 and IE 598. Twelve hours must be in IE 598.



Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options: Thesis or course work only. No other options are available.

Thesis: No more than 12 hours of IE 598 can be applied to the degree.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work Minimum requirement of 56 semester hours of postbaccalaureate course work, excluding IE 599.

Specific Course Requirements: At least 28 semester hours must be at the 500-level, of which 16 hours must be in the department, excluding IE 596 and 599. Eight hours must be in graduate courses offered by the Department of Mathematics. IE 471/472 may be counted as part of the math requirement.

Credit for MS Degree: Those having an MS degree from an accredited institution may be awarded 32 semester hours of credit towards the PhD degree requirement. Twenty-four hours may be applied toward the course work requirement with 12 hours towards the 28-hour 500-level requirement. The remaining 8 hours may be applied towards the PhD dissertation hours (IE 599).

Examinations *Departmental Qualifying Examination:* Required.

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 52 semester hours in IE 599.

Other Requirements Students must be registered during the semester of intended graduation.

MATERIALS ENGINEERING

Mailing Address: Department of Civil and
Materials Engineering (MC 246)
842 West Taylor Street
Chicago, IL 60607-7023

Campus Location: 2095 ERF

Program Codes: 20FS1434MS (MS);
20FS1434PHD (PhD)

Telephone: (312) 996-3428

E-mail: cmegrad@uic.edu

Web Site: <http://www.uic.edu/depts/cme/cme.html>

Head of the Department: Farhad Ansari

Director of Graduate Studies: Michael McNallan

The Department of Civil and Materials Engineering (CME) offers programs leading to the Master of Science and Doctor of Philosophy degrees in Materials Engineering. Study and research is available in the areas of ceramics, polymers, electronic materials, composites, welding and joining, solidification, corrosion, tribology, and processing. The department also offers programs leading to degrees in Civil Engineering at both the master's and doctoral levels. Consult the appropriate sections of the catalog for more information. Updated information about the faculty, staff, cur-

riculum, and courses is found on the CME home page <http://www.uic.edu/depts/cme/cme.html>.

ADMISSION REQUIREMENTS

Applicants are considered on an individual basis. Complete transcripts for all undergraduate and any graduate work must be submitted. In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

Baccalaureate Field Engineering or a related field.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study.

Tests Required GRE General.

Minimum TOEFL Score 600 (paper-based); 250 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required for PhD applicants.

Personal Statement Required for PhD applicants.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36.

Course Work At least 24 hours must be in courses chosen from major courses listed on the department Web page. At least 12 hours must be at the 500-level, and at least 8 hours must be in 500-level didactic courses in the department. No more than 4 hours of CME 598 can be used to satisfy the 500-level course requirement.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options Thesis required. No other options are available.

Thesis: No more than 12 hours of CME 598 can be applied to the degree.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work Required Courses: Minimum requirement of 56 hours of course work post-baccalaureate (not including CME 599).

Specific Course Requirements: At least 28 hours must be at the 500-level, of which 16 hours must be in the department (excluding CME 596 and 599).

Credit for MS Degree: Those having an MS degree from an accredited institution may be



awarded 32 hours of credit towards the PhD degree requirement (with 12 hours towards the 28-hour 500-level requirement).

Examinations *Departmental Qualifying Review:* Required.

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 52 semester hours in CME 599.

Other Requirements Students must be registered during the semester of intended graduation.

MECHANICAL ENGINEERING

Mailing Address: Department of Mechanical and Industrial Engineering (MC 251)
842 West Taylor Street
Chicago, IL 60607-7022

Campus Location: 2041 ERF

Program Codes: 20FS0133MS (MS);
20FS0133PHD (PhD)

Telephone: (312) 996-6122

E-mail: megrad@uic.edu

Web Site: <http://www.me.uic.edu/>

Head of the Department: William Worek

Director of Graduate Studies: Farzad Mashayek

The Department of Mechanical and Industrial Engineering offers work leading to degrees in Mechanical Engineering at both the master's and doctoral levels. In addition, the department offers a program leading to the Master of Science in Industrial Engineering and the Doctor of Philosophy in Industrial Engineering and Operations Research; consult the appropriate section of the catalog for more information. Course work and research is available in such topics as fluid mechanics, stress analysis, mechanisms, dynamics and vibration, mechanical design, computer-aided design and manufacturing, heat transfer, mass transfer, combustion, multiphase flow and heat transfer, automatic control, industrial automation, and energy conversion. Interdisciplinary and interdepartmental work is encouraged, especially in the biological, environmental, electrical engineering, and computer science areas.

ADMISSION REQUIREMENTS

In addition to the Graduate College minimum requirements, applicants must meet the following program requirements:

Master of Science and Doctor of Philosophy

Baccalaureate Field Mechanical engineering. The degree must be from an American Board of Engineering Technology (ABET) accredited college or university or equivalent.

Grade Point Average At least 3.00/4.00 for the final 60 semester hours (90 quarter hours) of undergraduate study. A grade point average of at least 3.50 is preferred for applicants to the PhD program.

Tests Required International applicants are required to take the GRE. Applicants seeking a teaching or research assistantship are strongly encouraged to take the GRE General.

Minimum TOEFL Score 550 (paper-based); 213 (computer-based); 80, with subscores of Reading 19, Listening 17, Speaking 20, and Writing 21 (new Internet-based TOEFL).

Letters of Recommendation Three required.

Personal Statement Required.

Other Requirements Admission to the PhD program is not automatic for students completing their MS degree in the department. Master's students who desire to continue on to the PhD must see the department's graduate coordinator for forms to apply to the PhD program.

Nondegree Applicants Nondegree applicants may be admitted for no more than 8 semester hours.

Deadlines The application deadline for this program is earlier than the Graduate College deadline; contact the program for information on current deadlines.

DEGREE REQUIREMENTS

In addition to the Graduate College minimum requirements, students must meet the following program requirements:

Master of Science

Minimum Semester Hours Required 36. Students may elect one of two options: course work only or thesis.

Course Work *Course-Work-Only Option:* At least 36 hours must be in didactic courses. Twenty semester hours must be in courses in the department, of which at least 12 hours must be at the 500-level, excluding ME 596. ME 596 may be used to fulfill a 400-level course requirement. No more than 4 hours of ME 596 can be applied to the degree. A 400- or 500-level course may be taken in place of ME 596.

Thesis Option: At least 24 hours must be in didactic courses. Twenty semester hours must be in courses in the department, of which at least 12 hours must be at the 500-level, excluding ME 596 and ME 598. Twelve hours must be in ME 598.

Comprehensive Examination None.

Thesis, Project, or Course-Work-Only Options Thesis or course work only. No other options are available.

Thesis: No more than 12 hours of ME 598 can be applied to the degree.

Doctor of Philosophy

Minimum Semester Hours Required 108 from the baccalaureate.

Course Work *Required Courses:* Minimum requirement of 56 semester hours of postbaccalaureate course work, excluding ME 599.

Specific Course Requirements: At least 28 hours must be in 500-level courses, of which at least 16 hours must be in the department, excluding ME 596 and 599. Eight semester hours must be in graduate courses offered by the Department of Mathematics. ME 494 and 594 may count as part of the math requirement.



Credit for MS Degree: Those having an MS degree from an accredited institution may be awarded 32 hours of credit towards the PhD degree requirement. Twenty-four hours may be applied toward the course work requirement with 12 hours towards the 28-hour 500-level requirement. The remaining 8 hours may be applied towards the PhD dissertation hours (ME 599).

Examinations *Departmental Qualifying Examination:* Required.

Preliminary Examination: Required.

Dissertation Required. Students must earn at least 52 hours in ME 599.

Other Requirements Students must be registered during the semester of intended graduation.



