

University of Illinois at Chicago

Department of Mechanical and Industrial Engineering

Graduate Student Handbook

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1. Introduction

This is a handbook of information for graduate students in the Mechanical and Industrial Engineering department at UIC. It is intended for both MS and PhD students in both Mechanical Engineering and Industrial Engineering.

We hope that you will not encounter any problems during your stay in the department, but if you do, the most important thing to remember is not to panic. We are here to help and are able to resolve most problems eventually.

2. Where to Ask for Help

This handbook is intended to provide most of the information needed by MIE graduate students. This version of the handbook was last updated June 10, 2024. You may wish to check the department website for a more recent version. You may have questions even after reading the handbook. Here are some sources of additional information and help:

Wanda Flores is the Assistant Director of Graduate Program, and is the first person to ask administrative questions about your program. Wanda can also handle most questions about the academic program.

In particular, any forms that you need signed should be submitted to Wanda, even if they indicate that they need a signature from your advisor or the Director of Graduate Studies. Wanda's office and mailbox are both in 2039 ERF.

Other students often give the most relevant advice on many issues. Just remember that students may not have the most accurate information about administrative requirements – if a student says that they heard about people getting around some rule by doing this or that, be skeptical.

Your advisor is your first stop (after this handbook and the graduate catalog on the web) for information about academic matters. Note that faculty members are on nine-month contracts for teaching and advising. You should not worry if they cannot be reached during the summer.

The College of Engineering Career Office on the 8th floor of SEO has information about employment. The **Office of International Services (OIS)** is the only office that can give you definitive information about your own immigration status and related matters.

The Director of Graduate Studies (DGS) is Prof. Hatami-Marbini. The DGS is usually the person to ask all questions that are not answered elsewhere.

3. Course Advising for Coursework MS Students

Graduate students have a good deal of independence in selecting and registering for courses. You are responsible for making sure that the courses you take fulfill the requirements of your degree, all of which are published online. This section covers a number of details that are not always obvious just from reading the requirements.

3.1. Degree Requirements for Coursework MS Programs

The requirements for all degrees are published in the Catalog online; there is a link to the current catalog from the MIE department website. Almost all MS students must take the *Coursework Only* option (see the section on the MS Thesis Option below).

MS students take 400- and 500-level courses; 400-level courses are taken by both senior undergraduates and graduate students, while 500-level courses are intended for graduate students only. In order to graduate, ME students must take a total of nine classes. At least four of the nine must be 500-level courses, with at least three of them *in rubric* (this means that the course number must start with “ME”). IE students also need a total of four 500-level courses, of which two must be in rubric. In addition to these 500-level classes, MS students in both ME and IE must take five classes at the 400-level or 500-level, and at least two of these courses must be in rubric. Many classes are cross-listed and thus count for both ME and IE rubrics.

Graduate students who have taken any of the 400-level MIE courses during their undergraduate degree at UIC and counted them towards their degree, are not allowed to retake them during graduate studies and count them towards their graduate degree.

3.2. Finding and Registering for Classes

The catalog lists all courses that have been approved for each program. This does not mean that all of these courses are still offered regularly. You must determine which classes are actually available. The UIC Course Schedule Department View lists all courses being offered by a department in a given term. Offerings in the recent past are a good predictor of what may be offered in the near future, as many classes are taught in fall or in spring only. The MIE department maintains a course offering plan listing the graduate courses which we expect to offer over the next several years. That plan is published on the department website and is revised annually.

If you are unable to register for a course that you want to take, you should still attend the first two weeks of class. The last day to add or drop classes online is the Friday of the second week of classes, and often spaces open up in a class as students move around. Furthermore, if we decide to add capacity to a class after the start of term, you do not want to have missed the first class meetings.

3.3. Special Course Numbers: 494, 591, 594, 595, 596

Some course numbers are special. These are ones you should know about:

494 has two uses. There is a graduate-level math class called ME494. Also, 494 is the number that is given to any 400-level course that is taught without an official catalog number. These are called Special Topics courses and are often new courses. There could be different 494 courses, and you may take as many different ones as you like.

591 is the CPT course. Graduate students are allowed to register for a one credit hour at a time and could take the CPT course up to a maximum of 4 credit hours. Even though the first digit of 591 is a 5, the 591 course (regardless of the rubric) is counted as a 400-level course for degree credit. The 591 CPT course is graded pass-fail.

594 is similar to 494. There is a graduate-level math class called ME594, and 594 is the number for 500-level Special Topics courses. There are many different 594 courses, and you may take as many different ones as you like. ME594 and IE594 often cover the most current research topics in a particular field.

595 is the seminar course. Every graduate student must enroll in this class every semester for zero credit hours. Only international students who have taken 8 credit hours in a semester could register for the seminar course for one credit hour. International students enroll for one credit hour because they need a total of nine credit hours to maintain their enrollment status for a visa. Students who enroll for one credit hour must complete extra work, compared to those register for 0 credit hour, to pass the class. The 595 Seminar class is graded pass-fail and **cannot be used for graduation**.

596 is the number for Independent Study. This class is for students who are doing research with a professor but not writing a thesis. You can only enroll in 596 after you and a professor agree on a research project. Very few students take 596. Even though the first digit of 596 is a 5, the 596 course (regardless of the rubric) is counted as a 400-level course for degree credit.

Students who take the 596 course during their MSc studies and count it towards their degree at UIC, cannot take it again as a PhD student and count it towards their PhD degree.

3.4. Out-of-Rubric Courses

Any class outside of the program rubric must be approved by the department in order to be counted for your degree. The program rules state that MSME students may take as many as four courses outside the ME rubric, and MSIE students may take as many as five outside the IE rubric. However, this does not mean you may take any class whatsoever. Approval by the Director of Graduate Studies is required for all out-of-rubric courses. Unapproved out-of-rubric courses may not count toward the degree. Here are a number of guidelines we follow:

1. Students who do not have a BS degree in their MS field of study have special rules, and in general may take fewer out-of-rubric classes. See Section 3.6.
2. Online classes cannot be used for the MS degrees except in exceptional circumstances.
3. MS students may not take ENER classes for degree credit. ENER classes that are cross-listed in the ME rubric may be taken under the ME rubric.
4. Upto two IDS classes may be used for the MS degrees. Most IDS classes are fine for both the MSIE and MSME degrees
5. 500-level courses in other departments may be counted as 400-level for degree credit.
6. There are some classes that are taught in other departments but are counted as in-rubric classes. CME434 (Finite Element Analysis I), CME534 (Finite Element Analysis II), and ECE 452 (Robotics) all count as ME- rubric classes.

7. Almost all classes from other departments in the College of Engineering are potentially applicable to the MS degrees.

The decision about applying a particular course to your MS degree depends on the class, on your background, and on the other courses you use for the degree. A course may be allowed for one student's program but not be allowed for another.

3.5. Credit Hour Requirements

Graduate courses are four credit hours each. Most international students are required to take nine credit hours each semester in order to fulfill their visa requirements. International students who wish to take only two academic courses must register for one additional credit hour. The seminar class 595 may be taken pass-fail for one credit hour, see section 3.3. Students in their final semester are only required to take the number of credit hours that they need to graduate.

3.6. Students without a BS Degree in the Field of Study

We welcome students who do not have a BS degree in their field of study to pursue an MS degree. However, when we send you out with your MS diploma we are telling your employers and the rest of the world that you are qualified in that field. We therefore want to make sure that you have covered the essentials. Each student changing fields for their MS degree will complete a course plan detailing any special requirements in consultation with their advisor and/or the graduate director. The following are general guidelines.

IE students without a BS in IE are required to know the content of IE342 and IE471. Since IE grad students cannot take IE471 for degree credit, and IE342 is an undergraduate course, these courses cannot be applied to the MS degree. These students are also required to take IE446 and IE472 (these can be used for degree credit), and may apply no more than two courses outside the IE rubric to their degree.

ME students without a BS in ME must take two courses of ME401, ME408, and ME413 (can use ME 502 for ME 401); two courses of ME415, ME417, ME419, ME421; and one ME math class. Exceptions may be made on a case-by-case basis if the student has taken an equivalent class previously, or if the student takes a 500-level course in the same area.

3.7. Advising

New students are assigned an academic advisor. Before seeking the Approval by the Director of Graduate Studies (see Section 3.4), please discuss any out-of-rubric courses with your academic advisor. You must also first discuss with them if you wish to register for more than three academic courses (not including ME595 or IE595). If you are a new student, you may communicate with your advisor by email instead of meeting them in person. Furthermore, MS students who are taking no more than three classes, all of them in rubric, are not required, but are encouraged, to meet with their advisor. Students who wish to take courses out of rubric (within the guidelines given in Section 3.4) may register for classes first and meet with their advisor later – this is particularly important in summer, since faculty may not be available until the start of fall term. Students who wish to take more than three classes should obtain approval to do so in advance.

Whether you meet with your advisor in person or communicate by email, you should read this handbook before you meet. You should also check the online schedule of

courses and decide which classes you think you might want to take. Your advisor will not select courses for you; you should have a list of courses you are considering before you contact your advisor.

3.8. Some General Advice

Here are some things to consider whenever you are selecting courses:

You can seek advice from students taken the courses before. If you are an international student, the student association from your home country is a good place to start.

You should shop around for courses – attend class in many courses the first week, then decide which you most want to take. Pay attention to the add/drop day, which is the Friday of the second week of classes. **Do not, however, register for more classes than you plan to take as this is not permitted and causes problems for everyone.**

4. The MS Thesis Option

There is an option to complete an MS degree with a thesis. Thesis students take fewer didactic courses so that they have time to complete a research project and defend a thesis. You may only choose the thesis option if there is a faculty member who wants to work with you on the project. There are a hundred MS students in the department and around ten MS thesis projects each year, so this is not a common option. Students who truly want to work on research with a faculty member are just as likely to transfer to the PhD program as to complete an MS thesis. Some students think they are interested in research because they know that research students have greater possibilities to obtain funding. This is usually a mistake! Research is demanding, and if you do not want to do it for its own sake you are probably better off just taking one more semester of regular courses.

If you want to conduct research with a particular professor, a good starting point is to take a class with the professor and impress them.

5. Employment and Financial Assistance (Excludes UIC Global Students Per UIC Global Rules)

There are several types of financial support available to graduate students who are not part of UIC Global:

Research assistantship (RA): An RA receives a stipend and works for a professor doing research. Tuition and some fees are waived.

Teaching assistantship (TA): A TA receives a stipend and has duties connected to a course, usually grading and office hours. Tuition and some fees are waived. A TA is supervised by the course instructor. However, the course instructor is often NOT the sponsoring professor. A TA usually also works for the sponsoring professor, doing research.

Tuition and fee waiver (TFW): A student can receive a waiver of tuition and certain fees but no stipend. Again, the student on a TFW usually works doing research for the sponsoring professor.

Graduate Assistantship (GA): This is the one form of financial assistantship that the student seeks directly. A GA student works for twenty hours a week, usually on

something that is not related to thesis research. There are GA's sponsored by many departments, but they are rare in Engineering. Graduate students could talk to their more senior student colleagues about seeking GA's. This is a more common kind of financial assistance for MS students than either TA or RA.

Information on some external fellowships can be obtained from the Graduate College website. Nominations for some of these fellowships are made by the department; for others, students apply directly to the programs.

The department does not accept applications for assistantships or tuition waivers directly from students. Students must be nominated for TA, RA, and TFW positions by individual professors to support those students while they conduct research. Please do not ask the Director of Graduate studies for financial support in the form of an RA, TA or GA. Almost all TA and RA positions are held by PhD students, not MS students. Your academic advisor is not expected to help you to obtain funding.

6. CPT and OPT

International students may have some employment opportunities through the Curricular Practical Training (CPT) program which allows for part-time internships while enrolled as a student. There are strict limits on the number of hours and the nature of the internship; these are federal regulations, not university or department policy, and we are in general not able to make any exceptions to the rules. Note that since the MS program does not require a full-time internship for graduation, we have no mechanism to enable our international students to take full-time internships during the academic year.

Please read the following for more information about CPT:

- Graduate students are allowed to register for a one credit hour at a time and could take the CPT course up to a maximum of 4 credit hours.
- MSc students are assigned to different sections of the CPT ME/IE 591 course. Students should contact Ms. Wanda Flores to know their CPT section.
- PhD students should register for the CPT section of their PhD advisor.
- Based on the CPT section assignment, students will contact their CPT section instructor to be allowed to register for the CPT course.
- Students will not be able to change CPT instructor.
- Only graduate students who have already taken at least two graduate courses in the MIE rubric with a minimum GPA of 3.0 can register for the course.
- Student must have an internship offer to be eligible to register for the course.
- Registration restriction will be removed by Stacie Scott once the assigned section instructor approves registration.
- CPT online forms need to be completed by the CPT section instructors once they confirmed the above requirements.

International students are also eligible for Optional Practical Training (OPT) after they graduate. Again, the rules that govern these programs are federal government regulations. Questions about eligibility for CPT and OPT are best directed to OIS or to the Career Counseling Center.

OPT online form for MSc coursework only students is completed by Wanda Flores. Online OPT for MSc Thesis option and PhD students will be completed by their MS Thesis Advisor or PhD Chairperson/Advisor.