

UNIVERSITY OF ILLINOIS AT CHICAGO

DEPARTMENT OF MECHANICAL AND INDUSTRIAL
ENGINEERING

Graduate Student Handbook

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Contents

1	Introduction	2
2	Where to Ask for Help	2
3	Course Advising for Coursework MS Students	3
3.1	Degree Requirements for Coursework MS Programs	3
3.2	Finding and Registering for Classes	3
3.3	Special Course Numbers: 494, 594, 595, 596	3
3.4	Out-of-Rubric Courses	4
3.5	Credit Hour Requirements	5
3.6	Students Without a BS Degree in the Field of Study	5
3.7	Advising	5
3.8	Some General Advice	6
4	The MS Thesis Option	6
5	Employment and Financial Assistance	7
6	CPT and OPT	7

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. It is under construction, and its first audience is coursework MS students.

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 July 18, 2017. 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 Graduate Program Coordinator, 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. Michael J. Scott. 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 crosslisted and thus count for both ME and IE rubrics.

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, 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 that is taught every fall. 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 are many different 494 courses, and you may take as many different ones as you like.**

594 is similar to 494. There is a graduate-level math class called ME594 that is taught every other spring, 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. You may enroll for zero credit hours or one credit hour. Students who enroll for one credit hour must submit four summaries of seminars to pass the class. Most students who enroll for one credit hour do so because they are two ordinary classes and need a total of nine credit hours to maintain their enrollment status for a visa. **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.

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. Your advisor or the Director of Graduate Studies (with Prof. Houshang Darabi advising the DGS for IE program decisions) signs off on all out-of-rubric courses. 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 details below.
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 crosslisted in the ME rubric may be taken under the ME rubric.

4. Up to two IDS classes may be used for the MS degrees. Most IDS classes are fine for both the MSIE and MSME degrees.
5. 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.
6. Almost all classes from other departments in the College of Engineering are potentially applicable to the MS degrees.
7. 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.

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; 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. In general, MSME students without a BSME degree

are expected to take at most one 400-level and one 500-level course out of rubric. As with all students, all out-of-rubric classes must be approved for the degree.

3.7 Advising

New students are assigned an academic advisor. Your academic advisor approves any out-of-rubric courses, and must also approve if you wish to register for more than three academic courses (not including ME595 or IE595). If you are a new student, you probably will not meet your advisor in person, but may communicate with them by email. MS students who are taking no more than three classes, all of them in rubric, are not required to meet with their advisor. Students who wish to take courses out of rubric 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:

1. You should seek advice from students who have taken the courses before. If you are a foreign national, the student association from your home country is a good place to start.
2. 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 always the Friday of the second week of classes. **Do not, however, register for more classes than you plan to take. This 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 hundreds of 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

There are several types of financial support available to graduate students:

- 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. I suggest that graduate students 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. 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.

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. Any forms for either program should be directed, as all forms should be, to Wanda.