

MME Graduate Student Handbook

If you are a masters' degree student, you must choose between the thesis option and the non-thesis option by the time you choose a major professor, which is within the first six months. If you are supported by the department or a faculty member's grant, then you must do a thesis.

See the following website for course listings for the MS degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](http://www.fiu.edu/~mme/graduate/Graduate-Mechanical_and_Materials_Engineering-2020-2021-catalog.pdf)

1. MECHANICAL ENGINEERING MS STUDENT

THESIS OPTION

2 math/numerical methods courses (6 credits)

4 courses in your major (12 credits)

2 courses outside your major (6 credits)

Thesis credits (a minimum of 6 credits)

Graduate seminar EML6935 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend

Minimum of 6 credits of 6xxx coursework not including thesis. Suggestion --register in your second year and do not take all thesis credits at once. Theses tend to take at least two semesters to complete.

Can take one EML6908 outside your area of expertise

- Must turn in M-forms to meet UGS requirements (see <http://gradschool.fiu.edu/StudentForms.html> for dates)
- Must turn in thesis completion form and exit survey before graduating
- Must be registered for at least one thesis credit once you begin to register for thesis credits.
- Must be registered for a minimum of one credit in the semester you plan to graduate.
- At least one semester before you graduate, see GPD to insure graduation goes according to your plan.
- Must graduate with a minimum of 3.0 GPA; no course with C-

NON-THESIS OPTION

2 math/numerical methods courses (6 credits)

4 courses in your major (12 credits)

2 courses outside your major (6 credits)

One EML6908 course for project (3 credits)

One Elective course (3 credits)

Graduate seminar EML6935 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend

Minimum of 9 credits of 6xxx coursework

Can take EML6908 a second time but not in your area of expertise

- Must turn in thesis completion form and exit survey before graduating
- Must be registered for a minimum of one credit in the semester you plan to graduate.
- At least one semester before you graduate, see GPD to insure graduation goes according to your plan.
- Must graduate with a minimum of 3.0 GPA; no course with C-

BS/MS OPTION

This option follows the two options listed on page 1, except:

- 6 credits of the MS program act as electives for the BS program; must score a B or better per course and be at the 5xxx level or higher
- You are not considered a grad student for the MS program until you complete all courses for the BS program and apply for graduation from the BS degree.
- You have 3 major semesters (Spring/Fall) to complete your degree
- If you do not complete the BS/MS degree, the 6 credits will count to one degree only.

2. MATERIALS SCIENCE AND ENGINEERING MS STUDENT

See the following website for course listings for the MS degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](http://www.fiu.edu/graduate/mechanical-and-materials-engineering-2020-2021-catalog.pdf)

THESIS OPTION

3 required core courses (9 credits)

5 courses in your major (15 credits)

Thesis credits (a minimum of 6 credits)

Graduate seminar EML6935 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend

Minimum of 6 credits of 6xxx coursework not including thesis. Suggestion-- register in your second year and do not take all thesis credits at once. Theses tend to take at least two semesters to complete.

Can take one EML6908 course

May take up to 6 credits outside the department

- Must turn in M-forms to meet UGS requirements (see <http://gradschool.fiu.edu/StudentForms.html> for dates)
- Must turn in thesis completion form and exit survey before graduating
- Must be registered for at least one thesis credit once you begin to register for thesis credits.
- Must be registered for a minimum of one credit in the semester you plan to graduate.
- At least one semester before you graduate, see GPD to insure graduation goes according to your plan.
- Must graduate with a minimum of 3.0 GPA; no course with C-

NON-THESIS OPTION

3 required core courses (9 credits)

6 courses in your major (18 credits)

One EML6908 course for project (3 credits)

Graduate seminar EML6935 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend

Minimum of 9 credits of 6xxx coursework

May take up to 9 credits outside the department

- Must turn in thesis completion form and exit survey before graduating
- Must be registered for a minimum of one credit in the semester you plan to graduate.
- At least one semester before you graduate, see GPD to insure graduation goes according to your plan.
- Must graduate with a minimum of 3.0 GPA; no course with C-

3. MECHANICAL ENGINEERING PHD STUDENT

If you are a **doctoral** degree student and have come into the program with a completed MASTERS' DEGREE, must choose a major professor within the first semester. If you have come into the program with a BACHELORS' DEGREE, must choose a major professor within the first year.

A student entering with only a BACHELORS' DEGREE or an incomplete MASTERS' DEGREE:

- Must complete at least 45 credits of coursework or the equivalent coursework if transfer credits are awarded with approval of your major professor
- Must complete at least 24 credits of dissertation work, EML7979.
- Must choose a dissertation committee of 5 faculty, one outside the department but within FIU and submit D-1 form.
- Must pass the qualifying examination within one year of entering the PhD program
- Must submit the D-2 as soon as he has completed the coursework requirements and at least one semester before the D-3
- Must start taking dissertation credits as soon as he is approved to do so by UGS
- Must submit a dissertation proposal and defend it
- Must submit forms D-3 to UGS, D-3 form at least 3 semesters before defense of dissertation
- Must turn in a dissertation and defend it, along with forms D-5 and the ETD forms. Check the university calendar for latest dates. D-5 cannot be submitted in the same semester as the D-3.

See the following website for course listings for the PhD degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](https://www.fiu.edu/~mechmat/graduate-catalog-2020-2021.pdf)

As part of the coursework:

- Minimum of 15 credits of 6xxx level coursework not including dissertation.
- Minimum of 30 credits of 5xxx level coursework not including dissertation.
- Can take maximum three credits of EML6908 independent study and/or can take maximum 3 credits of EML6910 supervised research as part of your coursework. More than that will not be counted.
- EML6910 should be taken once you pass the qualifiers but are unable to register for dissertation credits. Exceptions can be made.
- 6 credits of math/numerical methods related courses given by the department
- Must take 9 credits of coursework in a breadth area
- May transfer up to 6 credits from another accredited institution taken within 6 years of start of the PhD program
- Graduate seminar EML6935 –must attend 24 seminars (0 credits). Register in semester you will achieve 24th seminar you attend
- Must complete a minimum of 24 credits of dissertation work successfully.
- Must complete a minimum total of 75 credits of coursework and dissertation credits

A student entering with a completed MASTERS' DEGREE:

- May transfer up to a maximum of 30 credits of coursework as equivalent work for the masters' degree from an accredited institution
- Must submit the Annual Evaluation Report to UGS every year before May 30.
- Must complete the equivalent of at least 45 credits coursework/ transfer credits if awarded, with approval of your major professor
- Must complete at least 24 credits of dissertation work, EML7979
- Must choose a dissertation committee of 5 faculty, one outside the department but within FIU and submit D-1 form.
- Must pass the qualifying examination within one year of entering the PhD program
- Must submit the D-2 as soon as he has completed the coursework requirements and at least one semester before the D-3
- Must start taking dissertation credits as soon as he is approved to do so by UGS
- Must submit a dissertation proposal and defend it
- Must submit forms D-3 to UGS, D-3 form at least 3 semesters before defense of dissertation
- Must turn in a dissertation and defend it, along with forms D-5 and the ETD forms. Check the university calendar for latest dates. D-5 cannot be submitted in the same semester as the D-3.
- Must complete a minimum total of 75 credits of coursework and dissertation credits

See the following website for course listings for the PhD degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](#)

As part of the coursework, whether transferred or taken at FIU:

- Minimum of 15 credits of 6xxx level coursework not including dissertation.
- Minimum of 30 credits of 5xxx level coursework not including dissertation.
- Can take maximum three credits of EML6908 independent study and/or can take maximum 3 credits of EML6910 supervised research as part of your coursework. More than that will not be counted.
- EML6910 should be taken once you pass the qualifiers but are unable to register for dissertation credits. Exceptions can be made.
- 6 credits of math/numerical methods related courses given by the department
- Must take 9 credits of coursework in a breadth area
- May transfer up to 30 credits from another accredited institution taken within 9 years of start of the PhD program with a minimum "B" grade.
- Graduate seminar EML6935 –must attend 24 seminars (0 credits). Register in semester you will achieve 24th seminar you attend
- Must complete a minimum of 24 credits of dissertation work successfully.

4. MATERIALS SCIENCE AND ENGINEERING PHD STUDENT

If you are a **doctoral** degree student and have come into the program with a completed MASTERS' DEGREE, must choose a major professor within the first semester. If you have come into the program with a BACHELORS' DEGREE, must choose a major professor within the first year.

A student entering with only a BACHELORS' DEGREE or an incomplete MASTERS' DEGREE:

- Must complete at least 30 credits of coursework or the equivalent coursework if transfer credits are awarded with approval of your major professor
- Must complete at least 24 credits of dissertation work, EML7979.
- Must complete the remaining 30 credits as a combination of coursework and dissertation courses.
- Must choose a dissertation committee of 5 faculty, one outside the department but within FIU
- Must pass the qualifying examination within two years of entering the PhD program
- Must submit a dissertation proposal and defend it successfully
- Must submit forms D-2 and D-3 simultaneously to UGS, D-3 form at least 3 semesters before defense of dissertation.
- Must turn in a dissertation and defend it, along with forms D-5 and the ETD forms. Check the university calendar for dates.

See the following website for course listings for the PhD degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](#)

As part of the coursework:

- Minimum of 15 credits of 6xxx level coursework not including dissertation.
- Minimum of 24 credits of 5xxx level coursework not including dissertation.
- Can take maximum six credits of EML6908 independent study and/or can take maximum 6 credits of EML6910 supervised research as part of your coursework. More than that will not be counted.
- EML6910 should be taken once you pass the qualifiers but are unable to register for dissertation credits. Exceptions can be made.
- Must take 9 credits of coursework outside the Materials Science and Engineering area
- May transfer up to 6 credits from another accredited institution taken within 9 years of start of the PhD program
- Graduate seminar EML7939 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend
- Must complete a minimum of 24 credits of dissertation work successfully.
- All students must take-
 - EMA 5001 Physical Properties of Materials (Required core course for MSMSE)
 - EMA 5106 Thermodynamics and Kinetics of Materials (Required core course for MSMSE)
 - EMA 5507C Analytical Techniques of Materials Science (Required core course for MSMSE)
 - Of the remaining coursework, 3 courses must form a cohesive specialization in one of the specialty areas.

A student entering with a completed MASTERS' DEGREE:

- May transfer up to a maximum of 30 credits of coursework as equivalent work for the masters' degree from an accredited institution
- Must complete the equivalent of 54 credits coursework if transfer credits are awarded, with approval of your major professor
- Must choose a dissertation committee of 5 faculty, one outside the department but within FIU
- Must pass the qualifying examination within one year of entering the PhD program
- Must submit a dissertation proposal and defend it
- Must submit forms D-2 and D-3 simultaneously to UGS, D-3 form at least 3 semesters before defense of dissertation

- Must complete at least 24 credits of dissertation work, EML7979, turn in a dissertation and defend it, along with forms D-5 and the ETD forms.

See the following website for course listings for the PhD degree:

[Graduate-Mechanical and Materials Engineering-2020-2021-catalog.pdf \(fiu.edu\)](https://www.fiu.edu/~mechmat/graduate/graduate-mechanical-and-materials-engineering-2020-2021-catalog.pdf)

As part of the coursework, whether transferred or taken at FIU:

- Minimum of 15 credits of 6xxx level coursework not including dissertation.
- Minimum of 24 credits of 5xxx level coursework not including dissertation.
- Can take maximum six credits of EML6908 independent study and/or can take maximum 6 credits of EML6910 supervised research as part of your coursework. More than that will not be counted.
- EML6910 should be taken once you pass the qualifiers but are unable to register for dissertation credits. Exceptions can be made.
- Must take 9 credits of coursework outside the Materials Science and Engineering area
- May transfer up to 30 credits from another accredited institution taken within 9 years of start of the PhD program for courses with a minimum “B” grade
- Graduate seminar EML7939 –must attend 14 seminars (0 credits). Register in semester you will achieve 14th seminar you attend
- Must complete a minimum of 24 credits of dissertation work successfully.
- All students must take-
 - EMA 5001 Physical Properties of Materials (Required core course for MSMSE)
 - EMA 5106 Thermodynamics and Kinetics of Materials (Required core course for MSMSE)
 - EMA 5507C Analytical Techniques of Materials Science (Required core course for MSMSE)
 - Of the remaining coursework, 3 courses must form a cohesive specialization in one of the specialty areas.

5. QUALIFYING EXAMINATION

Qualifying examinations (QE) are given twice a year: once in September/October and once in February/March.

The qualifiers are to test your knowledge of masters level materials.

You must declare your intention to take the qualifier at least one semester ahead of the date you plan to take the examination. You should notify both your Ph.D. advisor and GPD of your intentions.

A student who is admitted to the Ph.D. program with a bachelor’s degree must take the QE no later than the beginning of the 4th major semester after admission, and a student who enters the Ph.D. program with a masters’ degree must take and pass the QE no later than the beginning of the 2nd major semester after admission. Students may petition for exceptions from the departmental graduate committee by one major semester at a time. A student who fails the QE may retake the exam once only.

Mechanical and Materials Engineering QE—The qualifiers is a proposal style exam in which the student writes a 15 page NSF proposal and defends the proposal in an oral presentation given to his/her Ph.D committee.

The topic of the proposal is provided by the students Ph.D. Advisor and the student is given a set amount of time to write the proposal. An exam defense date is then coordinated with the Ph.D. committee and the student must provide the proposal to the committee two weeks prior to that date.

The student will be evaluated using metrics developed by the MME Graduate Committee that focuses on fundamental understanding of the topic, development of a research plan and technical merit of the proposed content.

A proposal development course will typically be offered in the summer as an Individual Study to assist students in understanding the proposal development process.

6. STAGES OF A PHD STUDENT'S GRADUATE CAREER

Examinations and Proposal and Final Defense Student must demonstrate graduate knowledge acquisition in four incremental stages in order to be awarded a Ph.D. in Mechanical Engineering.

Stage I -Qualifying Exam (QE)

Stage II -Proposal Defense (Graduate Seminar)

Stage III Comprehensive Exam (CE) which is the PhD Candidacy Examination

Stage IV -Final Defense

In the semester prior to his/her taking the QE or CE, student must declare intention to take QE or CE and must declare a major field or area of research.

I. Qualifying Exam (QE)

General written exam to test masters' level knowledge: A student who is admitted to the Ph.D. program with a bachelor's degree must take the QE no later than the beginning of the 4th major semester after admission, and a student who enters the Ph.D. program with a masters degree must take and pass the QE no later than the beginning of the 2nd major semester after admission. Students may petition for exceptions from the departmental graduate committee by one major semester at a time. A student who fails the QE may retake the exam once only.

II. Proposal Defense (PD)

The dissertation proposal will be presented by the student in the form of a Graduate Seminar in which he/she must submit a proposal for his/her dissertation. Students must declare their proposal subject after taking the Qualifying Exam but before taking the Comprehensive Exam.

III. Comprehensive Exam (CE) Candidacy Examination

The objective of the CE is to assess the depth of knowledge in the major field of research. The examination will be developed by the student's dissertation committee as part of the Proposal Defense. It must be taken before the end of the 2nd semester of Year 3.

IV. Final Defense (FD)

There will be a public defense at a graduate seminar. The defense can be failed no more than twice. The final defense should be presented no later than the 4th year after the master's degree and no later than the 6th year after the bachelor's degree.

Following the successful defense of the dissertation, as determined by a majority vote of the student's examining committee, the dissertation must be forwarded to the Dean of the College of Engineering and Computing and the Dean of the University Graduate School for their approval. All dissertations submitted in fulfillment of the requirements for graduate degrees must conform to University guidelines (see "Regulations for Thesis and Dissertation Preparation Manual"). **One final and approved copy of the dissertation must be delivered to the Chairperson of the Department of Mechanical Engineering and one to the advisor, in addition to the copies required by the University Graduate School.**

7. FINAL REQUIREMENTS FOR GRADUATING PHD AND MS STUDENTS

If you plan your courses correctly you should complete your MS within 1.5-2 years and your PhD within 4-4.5 years (for those with a masters coming into the program).

When you are ready to graduate, contact the Graduate Program Director at least one semester before you graduate so that you can both check on completion of requirements.

In the last semester you will need to apply for graduation.

You will need to turn in an exit survey and a thesis completion form (for those completing a thesis or dissertation) or a non-thesis completion form (for those doing an MS project).

You will need to return your Panther ID as it is a key to open electronic locks, and return all keys to the key bank.

You will need to settle all your funding holds as you will NOT receive your degree when your financial records are not clear.

You will need to return all library books borrowed and all textbooks borrowed from faculty members.

You will need to leave a forwarding email and forwarding address in case we need to send you anything received by the department in your name.

Keep in touch and tell us how you are doing.

GOOD LUCK IN YOUR ACADEMIC CAREER HERE AT FIU!