

Materials Science & Engineering



Graduate Handbook
2009-2010

Last Updated: August 20, 2009

1. Introduction

The Department of Materials Science & Engineering (MSE) offers graduate students the opportunity to conduct state-of-the-art research under the supervision of world-class faculty while pursuing Master of Science or Doctor of Philosophy degrees in the discipline. The UF Graduate Catalog is the University of Florida's official record of graduate policies, critical dates, deadlines, course descriptions and faculty members for master's degree and doctoral degree students. It is the student's responsibility to know and understand these rules. The graduate school catalog may be found at the following link: <https://gradschool.ufl.edu/students/catalog.html> This handbook is provided to MSE graduate students to serve as a companion resource to the University of Florida Graduate Catalog.

Research areas include:

Biomaterials	Biomedical Applications	Biomimetics
Ceramics	Characterization	Computational Materials
Corrosion	Deformation & Fracture	Devices
Electronic Materials	Fibers & Mixed Systems	Fuel Cells
Hydrogen Production	Materials Chemistry	Metals
Minerals	Nanomaterials	Nuclear Materials
Optical & Optoelectronics	Particle Science	Polymers
Processing & Synthesis	Semiconductors & Ferroelectrics	Sensors
Student Learning and Cognition	Surface Science	Thermodynamics
Thin Films	Tissue Engineering	Tribology

2. Department Administration

Kevin Jones Chairman 100B Rhines kjones@mse.ufl.edu 846-3301		
John J. Mecholsky, Jr. Assoc. Chair & Graduate Coordinator 100D Rhines jmech@mse.ufl.edu 846-3306		
<h3>Student Affairs Committee (SAC)</h3>		
John J. Mecholsky, Jr. SAC Member 100D Rhines jmech@mse.ufl.edu 846-3306	Curriculum Chair or Representative In Students Specialization SAC Member	Martha McDonald Ex-officio SAC Member 108 Rhines mmcdo@mse.ufl.edu 846-3312

3. Arriving in the Department

- Stop by Academic Services Office (ASO) – See Doris Harlow, Martha McDonald, or Jennifer Horton (108 Rhines Hall) for entrance interview and to pick up a **New Student Welcome Checklist**
- Contacting ASO – Live Chat - During business hours go to our website www.mse.ufl.edu click on **Live Help** for assistance. If we are offline, then we will receive your request via email and respond when we return to the office.
- Residency – Please refer to the Registrar Services website for information on Residency for Tuition Purposes: <http://www.registrar.ufl.edu/currents/residencychange.html>

4. Tuition Waivers, Fees, & Registration Requirements

Financially-supported students (fellowships, assistantships, or sponsored research of a faculty member) may receive a tuition waiver.

- Register on time to avoid unnecessary late registration fees. Registration deadlines can be found at the following link: <http://www.registrar.ufl.edu/catalog/adhub.html>
- Register for the correct number of hours by requisite UF deadlines to avoid unnecessary late fees or delay of your tuition waiver. Check with ASO if you have any questions.
- Some students on funding are required to pay non-matriculation fees each term
 - Fees for 2008-09 were: \$47.50/credit hour for students who entered Fall 2008
 - For students on assistantships taxes will be withheld
 - **Pay your portion of fees before the fee payment deadline even if your tuition waiver has not been processed; this will insure you will not be assessed late payment fees. The ASO will not process petitions for late fee payments.**
- Graduate Insurance
 - Students on appointments will receive health insurance from UF for Fall 2008. For enrollment information in Gator Grad Care, please refer to the Human Resources Website: <http://www.hr.ufl.edu/benefits/gatorgradcare/default.asp>
- Notify the Academic Services Office (ASO) after obtaining any type of funding
 - Graduate Research Assistantship (GRA)
 - External Fellowship
- GPA requirements for financially-supported students; failure to maintain the appropriate grade point average (gpa) may result in loss of funding
 - Minimum 3.0 departmental gpa (designated courses with EMA prefix or other courses taught under departmental codes; i.e, ECH6726 or ECH6727)
 - Minimum 3.0 cumulative gpa
- Internship Credits – Students applying for participation in an internship must have permission from their supervisory committee chair or graduate coordinator if the student has no supervisory committee.
 - Complete and submit the Request for Internship form with your letter of offer from the company. The form may be found at the following link: <http://www.mse.ufl.edu/students/forms/internships/student-request>
 - ASO will review your form in order to verify that the work in engineering design work. ASO will notify you by e-mail if your request has been approved or denied. If the letter does not include the job duties, contact your supervisor and obtain an outline of the work to be performed during the internship period.

- If approved, ASO will give you permission and e-mail you instructions for registering for EGN5949
- It is the student's responsibility to register for EGN5949 and pay the tuition by the UF deadlines. UF Academic Deadlines may be found at the following link: <http://www.registrar.ufl.edu/catalog/adhub.html>
- International students wishing to register for internship credits must also follow the guidelines set by the University of Florida International Office (UFIC) for Curricular Practical Training (CPT). These guidelines, instructions and forms may be found on the UFIC website: www.ufic.ufl.edu
 - UFIC Practical Training: <http://www.ufic.ufl.edu/iss.htm> and click on CPT – Curricular Practical training under Forms and Instructions (in the left hand column)

International Students Only

- Optional Practical Training (OPT) Registration – International students requesting for ASO to prepare an OPT letter for them should fill out the OPT Confirmation Letter Request Form at least five business days prior to their appointment at UFIC. The form may be found at the following link: <http://www.mse.ufl.edu/students/forms/opt>

5. College Achievement Award

Some out-of-state and international students, who are not on traditional funding, may be awarded partial financial support through the College Achievement Award. The following rules apply to the College Achievement Award.

- No other funding; i. e., assistantship, fellowship, etc. concurrently
- Only applies to 30 hours which are taken in the first two years of enrollment in the Department of Materials Science & Engineering at the University of Florida
- Students pay a set portion of their fees per credit hour; this amount was provided in your original offer letter if you were awarded a College Achievement Award
 - The student's portion of their fees for 2009-10 is \$555.00 per credit hour
 - **Pay your portion of fees before the fee payment deadline even if your achievement award has not been processed; this will insure you will not be assessed late payment fees. UF Academic Deadlines may be found at the following link: <http://www.registrar.ufl.edu/catalog/adhub.html> ASO will not process petitions for late fee payments.**
- Notify ASO after obtaining any type of funding
 - Graduate Research Assistantship (GRA)
 - External Fellowship
- GPA requirements for financially-supported students; failure to maintain the appropriate grade point average (gpa) may result in loss of funding
 - Minimum 3.0 departmental gpa (designated courses with EMA prefix or other courses taught under departmental schedule; i.e., ECH6726 or ECH6727)
 - Minimum 3.0 graduate cumulative gpa

6. Graduate Assistants United

UF Graduate Assistants United (GAU) represents all graduate assistants employed by the University of Florida. GAU bargains for tuition waivers, health benefits, improved working conditions and pay increases. It also represents graduate assistants in workplace disputes and protect their rights as state employees. To view the Collective Bargaining Agreement, visit the following link: <http://www.ufgau.org/contract/>

Frequently referred sections of the GAU contract are

- Time Worked – Article 6
- Termination – Article 2
- Grievance Procedures – Article 11

7. Curriculum Planning

The responsibility of every student's curriculum planning will rest on the student and his/her advisor/supervisor. If you have not joined a faculty member's group, then you will see Dr. John J. Mecholsky, Jr. (100 Rhines Hall) for advisement.

- Register properly each semester for your degree program in person with your advisor or electronically
 - **In Person** - Download form by following directions below:
 - Go to **MSE Website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms** in the left-hand column
 - Click on **Academic Advisement Form** under Graduate Student Registration
 - Fill out advisement form and take to advisor/supervisor for signature
 - Bring completed advisement form to ASO for permission to register
 - **Electronically** - Electronic Advisement Form
 - Go to **MSE Website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms** in the left-hand column
 - Click on **Online Graduate Advising Form** under General Forms
 - Fill out advisement form, indicate advisor in the drop-down menu (John Mecholsky if you do not have an advisor) and click submit
 - ASO will email you directions once they receive the approval from your advisor
- After receiving permission to register, go to www.isis.ufl.edu
 - Go to Registration, Register Now in the left-hand column and click on the term (fall, spring, or summer) you are registering
 - Proceed to the registration screens
 - Click on Register by section number
 - Type in the section number provided by ASO and if applicable the number of credits
 - Confirm the course with your Gatorlink password
 - Repeat the steps above for the remainder of your registration

- If you have problems, go to **MSE Website:** www.mse.ufl.edu and click on the Live Help Link (Question mark (?)) in the lower right hand corner for assistance
- All on-campus graduate students must attend the Graduate Seminar (EMA 6936) each Fall and Spring. Registration for this course will depend upon your course load. (See the ASO for any exceptions)

8. Academic Requirements: PhD, MS Non-Thesis, MS Thesis

- Form Supervisory Committee no later than the end of your second semester of study or after 12 credit hours in order to be able to register for a third semester
- Progression to Graduation – Every student is expected to make satisfactory progress toward graduation each semester. Students who fail to make satisfactory progress may be required to seek advisement, mandated to meet specific conditions in order to continue in the major, or denied further registration in the department.
 - Additional Progression Standards: All MSE students must meet these standards:
 - Maintain a grade point average of 3.0 or higher
 - Probation: students who fail to maintain a 3.0 grade point average are placed on departmental probation and are not eligible for funding. Students on probation are subject to the following regulations:
 - Complete probation contract prior to the end of drop/add the subsequent semester to the probationary status.
 - When students receive an email from the University informing them of their registration appointment for the next term, they should consult their degree audit via ISIS. The degree audit outlines the requirements for the degree and indicates whether or not a student has met each requirement. Students should utilize their degree audit to monitor their academic progress each term.
 - Each semester, the department places a registration hold on all MSE students to ensure each student receives academic advising.

PhD

- Required Credit Hours: 90 beyond the bachelor's degree
- Required: 18 hours EMA5000 -6000 level (base-count hours) courses with a minimum grade of C or better
- Maintain a minimum 3.0 departmental grade point average (designated courses with EMA prefix or courses taught under departmental schedule; i.e, ECH6726 or ECH6727)
- Maintain a minimum 3.0 cumulative grade point average
- Maximum: 6 credit hours of coursework outside the Department; of these 3 credit hours may be an undergraduate course with a course number of 3000-4999.
- Maximum: 8 credit hours of EMA 6905 - Individual Work
- Maximum: 5 credit hours of EMA 6910 - Supervised Research
- **Transfer credits** - up to 30 hours of graduate level courses from a Masters degree at another university may be considered for transfer to count towards the PhD degree with approval of the PhD advisor. All work transferred must be B or better. In addition per the grad school catalog, “All such transfer requests must be made by petition of the supervisory committee no later than the third term of Ph.D. study.”

- **Time Limitations** –
 - Qualifying Exam – Per the grad school catalog, “All work for the doctorate must be completed within 5 calendar years after the qualifying examination, or this examination must be repeated.”
 - Admission to Candidacy – Per the grad school catalog, “All work for the doctorate must be completed within 5 calendar years after the qualifying examination, or this examination must be repeated.”
 - Final Exam – Per the grad school catalog, “The defense should be no more than 6 months before degree award.”
- **Supervisory Committee** – must be formed by the end of the 2nd semester or completion of 12 credit hours. Consists of 5 members who hold graduate faculty status with the Graduate School. In addition, the supervisory committee must be in place in order to sit for the written Qualifying Examination which is taken at the beginning of your first summer as a student in the MSE department.
 - **4 Internal MSE members**
 - Chair
 - 3 additional MSE graduate faculty
 - **1 external member; this individual can not hold MSE status**

Purpose of qualifying exam

The PhD qualifying exam has three purposes:

- Ensure students have a broad, fundamental knowledge in materials science and engineering.
- Ensure students have a depth of knowledge within their specialty.
- Ensure that students have the ability to think critically within the field of materials science and engineering, i.e. to formulate a significant problem, to ask the right questions to solve that problem, and apply the correct tools to solve that problem.

Written qualifying exam

Item 1 is tested through a written exam, which you must take at the beginning of your first summer at UF. In addition, you must be registered as a student for the summer A or C semesters. The exam is based upon two courses which are taught in the department, Advanced Materials Principles 1 during the fall semester and Advanced Materials 2 in the spring. These courses are not required, and you may choose to study for the qualifying exam on your own without taking the courses.

The written exam is designed to take 2 ½ hours, but you will be provided with 5 hours to complete it. The exam consists of 10 questions, of which you must answer 8. Questions will be graded solely on a pass/fail basis. You must pass 6 of the questions to pass the exam. If you do not pass on your first attempt, you may take the exam again at the beginning of the following fall semester. Note that the exam in the fall is only for students who have failed their first attempt in the summer. If you do not pass the second attempt you will not be admitted to PhD candidacy, which means you will not be able to obtain a PhD degree from our department.

Proposal

Items 2 and 3 are tested by having you write and defend an original research proposal. The proposal topic can be related to your anticipated PhD dissertation research topic, but must contain original ideas/hypotheses/research plans independent of input from your advisor. The proposal serves to test your ability to formulate a significant problem, to ask the right questions to solve

that problem, apply the fundamentals to your problem, and to apply the correct tools to solve that problem.

Your supervisory committee must sign the proposal topic approval form before you write the proposal. You should give the written proposal to your committee at least one week before the defense date. At the proposal defense you will present your proposal and answer questions about your proposal from your committee. The committee may also question you on topics within your specialty that may not be directly part of the proposal, but which represent knowledge required within that specialty. The scope of this examination will be determined by the PhD committee (i.e., there is no list of required areas). You should discuss the scope of the proposal defense with your advisor if you have any questions.

Passing of the proposal requires a unanimous vote of the committee. The proposal will be graded solely on a pass/fail basis. Passing can not be subject to any additional conditions, such as additional coursework. If you fail the proposal defense, you may make a second attempt. The second attempt must occur in the semester following the first attempt. If you do not pass the second attempt you will not be admitted to PhD candidacy, which means you will not be able to obtain a PhD degree from our department.

Deadlines

The written exam must be taken no later than the beginning of your first summer as a graduate student in the Department Materials Science and Engineering. If you fail the first attempt, your second attempt must occur no later than early in the fall semester.

The first attempt at the proposal defense must be within 24 months of the date of the first day of classes of your first semester enrolled in MSE as a graduate student (even if you were initially enrolled as an MS student). If you do not pass the first attempt, the second attempt at the proposal defense must occur in the semester immediately after the first attempt.

These deadlines are absolute. If any of the deadlines are missed, you will not be admitted to PhD candidacy, which means you will not be able to obtain a PhD degree from our department.

- **Proposal Defense-** Complete the on-line form at least five business days prior to the defense, by following the directions below
 - Go to the **MSE website:** www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Click on **Admission to Candidacy** in the SUPERVISORY COMMITTEES/DEFENSES section
- **Proposal Defense date**
 - **Entire Supervisory Committee** must attend and examine the student
 - **Chair and external may not be substituted**
 - Two internal MSE members may be substituted if necessary
 - ◆ **On the day of the defense the student's file and faculty signature page must be picked up by a faculty member from the ASO and returned within 10 business days upon completion. If signed forms are not returned in within time frame, then the ASO will process as a failed examination.**
- **Admission to Ph.D. Candidacy**

- After successful completion of the written qualifying exam, topic approval and the proposal defense, a Ph.D. student will be admitted to candidacy
- A course correction changing all EMA7979 hours to EMA7980 must be filled out with ASO at the time of the passing of the proposal defense to be processed through the Graduate School and Registrar
 - If this is done prior to the midpoint of the semester, that term will count as your first term of PhD study
 - Registration for a minimum of two semesters in EMA7980 is required to complete the degree
- **Graduation** - complete graduation check with ASO the term before you expect to graduate
 - Apply for your degree by submitting an online degree application through www.isis.ufl.edu and clicking on Degree Application within the first two weeks of the semester you plan on graduating (two days if summer term)
 - Comply with graduate school rules and graduate school thesis/dissertation and final examination deadlines
 - Register for a minimum three credits of EMA 7980 Doctoral Research in final term for fall/spring graduation (min. two credits EMA 7980 for summer grads)
 - Complete the departmental employment questionnaire and exit interview and return them to the ASO no later than the last day of classes for the term. To obtain these forms, follow directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Download both the **Exit Checklist** and the **Employment Questionnaire** in the Graduate Student portion of the EXIT INTERVIEW section

Guidelines for PhD Dissertation Defense

- Notify the ASO at least five business days prior to any defense by following the directions below
 - Go to the **MSE Website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Click on **Final Examinations (MS-Thesis or PhD)** in the SUPERVISORY COMMITTEES/DEFENSES section
 - Fill out the form and submit online.
- Defense date
 - Entire supervisory committee must attend and examine the student
 - Chair and external may not be substituted
 - Two internal MSE members may be substituted if necessary
 - **On the day of the defense the student's file and faculty signature page must be picked up by a faculty member from the ASO and returned within 10 business days upon completion. If signed forms are not returned in within time frame, then the ASO will process as a failed examination.**
- Refer to the ETD website for submission information and current deadline dates. ETD site is located at <http://gradschool.rgp.ufl.edu>, then click on Graduate Editorial

- Original dissertation signature pages are processed in the ASO; you may request these via an email to liveperson@mse.ufl.edu
- It is the student's responsibility to obtain all of the signatures on the signature pages

MS Non-Thesis

- Required Credit Hours: 30
- Required: 18 hours EMA5000 -6000 level (base-count hours) courses with a minimum grade of C or better and must maintain a minimum GPA of 3.0 or above
- Maintain a minimum 3.0 departmental grade point average (designated courses with EMA prefix or courses taught under departmental schedule; i.e, ECH6726 or ECH6727)
- Maximum: One 3000 level or above undergraduate course (outside the department)
- Maximum: 6 credit hours of EMA 6905 - Individual Work
- Maximum: 6 credit hours of S/U work (includes max. 5 hours of EMA 6910 - Supervised Research)
- Overall GPA for all course work must be 3.0 or better
- Courses cannot have been used for a previous degree
- **Transfer credits** – up to 9 hours graduate-level courses from another university may be considered for transfer to count towards a MS degree with approval of the MS advisor. All work transferred must be B or better. In addition per the graduate school catalog, "Petitions for transfer of credit for a master's degree must be made during the student's first term of enrollment in the Graduate School."
- **Time Limitation** - all work, including transferred credits, counted toward the master's degree must be completed during the seven years immediately preceding the date on which the degree is awarded
- **Supervisory Committee** – must have one member in MSE Dept. by the end of the 2nd semester or after 12 credit hours; if you are not working with an individual faculty member then Dr. John J. Mecholsky, Jr. will supervise your MS Non-Thesis degree
 - **MSN Non-Thesis Paper** – Guidelines for the paper may be found by following the directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Click on **MS Non-Thesis Paper Guidelines** in the SUPERVISORY COMMITTEES/DEFENSES section
 - **MSN Non-Thesis Paper submission** –
 - No later than one month prior to graduation for the semester, you must email this document to your advisor.
 - Your advisor should email ASO no later than three weeks prior to the end of the semester your paper is acceptable for partial fulfillment of the MSN degree
- **Graduation** - complete graduation check with ASO the term before you expect to graduate
 - Apply for your degree by filling out a degree application within the first two weeks of the semester (two days if summer term) you plan on graduating
 - Indicate via e-mail to ASO whether your degree is terminal
 - Register for a minimum of three credits of coursework, which will count towards your degree, in final term for fall/spring graduation (two credits in summer)

- If the degree is terminal, complete the departmental employment questionnaire and exit interview and return them to the ASO no later than the last day of classes for the semester. To obtain these forms, follow directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Download both the **Exit Checklist** and the **Employment Questionnaire** in the Graduate Student portion of the EXIT INTERVIEW section

MS Thesis Degree

- Required Credit Hours: 30
- Required: 12 hours EMA5000 -6000 level (base-count hours) courses with a minimum grade of C or better
- Maintain a minimum 3.0 departmental grade point average (designated courses with EMA prefix or courses taught under departmental schedule; i.e, ECH6726 or ECH6727)
- Maintain a minimum 3.0 cumulative grade point average
- Maximum: One 3000 level or above undergraduate course (outside the Department)
- Maximum - 6 credit hours of EMA 6971 - Master's Research
- Maximum - 8 credit hours of EMA 6905 - Individual Work
- Maximum - 8 credit hours of EMA 6938 – Special Topics
- Maximum - 5 credit hours of EMA 6910 - Supervised Research.
- **Transfer credits** – up to 9 hours graduate-level courses from another university may be considered for transfer to count towards a MS degree with approval of the MS advisor. All work transferred must be B or better. In addition per the graduate school catalog, “Petitions for transfer of credit for a master's degree must be made during the student's first term of enrollment in the Graduate School.”
- **Time Limitation** - all work, including transferred credits must be completed during the seven years immediately preceding the date on which the degree is awarded
- **Supervisory Committee – consultation with your Supervisory Committee as necessary is strongly encouraged**
 - Committees must consist of three members in MSE department and be formed by the end of the 2nd semester or after 12 credit hours. To form or modify the committee, follow directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Click on **Supervisory Committee Form** under SUPERVISORY COMMITTEES/DEFENSES and follow the directions listed on the website.
 - Turn in signed form to ASO
- **Thesis defense** - write and defend a written thesis acceptable to the Supervisory Committee and the Graduate School
- **Graduation** - complete graduation check with ASO the term before you expect to graduate
 - Apply for your degree by filling out a degree application within the first two weeks of the semester (two days if summer term) you plan on graduating
 - Comply with Graduate School rules, thesis/dissertation and final examination deadlines

- Refer to the ETD website for submission information and current deadline dates. ETD site is located at <http://gradschool.rgp.ufl.edu>, then click on Graduate Editorial
- Register for a minimum three credits EMA 6971, MS Research, in final term for fall/spring graduation (two credits EMA 6971 for summer)
- Complete the departmental employment questionnaire and exit interview and return them to the ASO no later than two days prior to graduation. To obtain these forms, follow directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Download both the **Exit Checklist** and the **Employment Questionnaire** in the Graduate Student portion of the EXIT INTERVIEW section

Guidelines for MS Thesis Defense

- Graduate students must notify the ASO at least five business days prior to any defense for preparation of the appropriate paperwork. To notify ASO, please follow directions below:
 - Go to the **MSE website**: www.mse.ufl.edu
 - Click on **Students** in the menu bar
 - Click on **Forms**
 - Click on **Final Examinations (MS-Thesis or PhD)** in the SUPERVISORY COMMITTEES/DEFENSES section
 - Fill out the form and submit online.
- Defense date
 - Entire Supervisory Committee must attend and examine the student
 - Chair may not be substituted
 - One internal MSE member may be substituted if necessary
 - **On the day of the defense the student's file and faculty signature page must be picked up by a faculty member from the ASO and returned upon completion**
- Submit a completed and defended thesis per graduate school requirements and deadlines; refer to the ETD site located at <http://gradschool.rgp.ufl.edu>, then click on Graduate Editorial for more information.