Department of Mechanical and Aerospace Engineering
Graduate Study Policies:
2013-2014

This booklet contains information on the Department of Mechanical and Aerospace Engineering (MAE) graduate study policies and is to be used in conjunction with the University of Florida Graduate Catalog. Although every effort has been made to ensure the accuracy of the content, the Department of Mechanical and Aerospace Engineering reserves the right to correct any errors without further notice. The official rules and regulations take precedence over this document. This document applies to all students starting a graduate degree program after August 15, 2013. Most of these policies also affect previous students as applicable and consistent with Graduate School policies.
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UF Graduate School Catalog (Current Year)
http://gradcatalog.ufl.edu/
# TABLE of CONTENTS

1.0 GRADUATE STUDY POLICIES  
   1.1 Master's Degree Program (MS or ME)  
      1.1.1 Admission Requirements  
      1.1.2 MS vs ME Degree  
      1.1.3 On-campus and Off-campus Students  
      1.1.4 Advisor and Supervisory Committee  
      1.1.5 Plan of Study  
      1.1.6 Examinations for Non-thesis  
      1.1.7 Thesis Option Defense  
      1.1.8 Combined Bachelor’s/Master’s Program  
   1.2 Ph.D. Degree Program  
      1.2.1 Standard Admission  
      1.2.2 Direct Admission  
      1.2.3 Advisor and Supervisory committee  
      1.2.4 Plan of Study  
      1.2.5 Examinations  
      1.2.6 Degree Requirements  
      1.2.7 Dissertation  
   1.3 General Information  
      1.3.1 Financial Aid  
      1.3.2 Normal Progress  

2.0 GUIDELINES FOR PLAN OF STUDY  
   2.1 Dynamics, Systems, and Control (DSC)  
   2.2 Solid Mechanics, Design and Manufacturing (SMDM)  
   2.3 Thermal Science and Fluid Dynamics (TSFD)  
   2.4 Basic Skills Courses  
   2.5 Graduate Seminar Course  

3.0 SUPERVISORY COMMITTEE FORM
1.0 GRADUATE STUDY POLICIES

1.1 MASTER'S DEGREE PROGRAM (MS OR ME)

1.1.1 ADMISSION REQUIREMENTS

For direct admission to the master's program, the following minimum requirements must be met:

1) A baccalaureate degree in Mechanical Engineering or in Aerospace Engineering, or baccalaureate degree in a closely related engineering discipline from an ABET accredited program.
2) A minimum undergraduate Grade Point Average (GPA) of 3.0/4.0.
3) A minimum combined score of 1100 for the Verbal and Quantitative portions of the GRE with minimum of 650 Quantitative for the old scoring system; or a minimum combined score of 301 for the Verbal and Quantitative portions of the GRE with minimum of 151 Quantitative for the new scoring system.
4) International applicants are required to have a TOEFL score of 550 paper-based, 213 computer-based, or 80 internet-based, along with a verbal GRE score of 320 under the old scoring system or 140 under the new scoring system.

Due to our large volume of applicants, satisfaction of the minimum requirements does not guarantee admission to our graduate program.

1.1.2 MS VS ME DEGREE

Any master's degree candidates may elect to pursue the Master of Science degree (MS), but only those holding ABET-accredited baccalaureate degrees in engineering (or equivalent in articulation courses) may choose the Master of Engineering degree (ME). All other degree requirements are the same.

Selection of the MS or ME title is a matter of personal choice of the student in consultation with the advisor. In either case, a student has the option to pursue a thesis or non-thesis degree. However, students receiving graduate assistantships or some fellowships are normally expected to pursue a thesis degree.

1.1.3 ON-CAMPUS AND OFF-CAMPUS STUDENTS

All students must meet the same requirements regardless of whether they are full-time students studying on-campus or off-campus students, and whether they are full-time or part-time.

1.1.4 ADVISOR AND SUPERVISORY COMMITTEE

The Graduate Coordinator will normally serve as the advisor for new graduate students for their initial registration only. Students should arrange to have their supervisory committee appointed during their first semester if possible but in no case later than the end of second semester of their graduate study. Failure to do so may cause their records to be flagged, preventing further registration. An Appointment of Supervisory Committee Form, found in Section 3, must be filed with the graduate office.

The supervisory committee for a master’s degree with thesis must consist of a minimum of two members from the graduate faculty, including the supervisor. Students and their supervisor may elect to have three total committee members. If a minor is designated for the thesis option, the committee must include one graduate faculty member from the minor
department. Only faculty members from the major department may serve as the committee chair. The chair also functions as the student’s advisor. **No supervisory committee is required** for a master's degree without thesis (i.e. the non-thesis option), and the MAE Graduate Coordinator will serve as the primary academic advisor.

### 1.1.5 PLAN OF STUDY FOR MASTER’S DEGREE

Students must read Section 2.0, Guidelines For Plan Of Study, before finalizing their study plans. In general, a student's study plan must satisfy all graduate school requirements. Thus, for a student pursuing a thesis master's degree, a total of 30 credit hours is required including a minimum of 24 credits of coursework and 6 credits of thesis research (EAS/EML 6971). Of this total, at least 12 credits of coursework (excluding S/U courses) must be in the student's major field of study. Technical courses from other fields may be used to satisfy the remaining 12 credits, so long as they are graduate level courses (5000 and above). For a student pursuing a non-thesis degree, a total of 30 credit hours (excluding S/U courses) is required. Of this total, at least 17 credits must be in the major field. For both the thesis and non-thesis degree, up to 6 credits of coursework at the 3000 or 4000 level from another department may be taken and used to satisfy degree requirements as long as they are a part of an approved plan of study. However, 3000 and 4000 levels with the EGN suffix are **not considered** outside of the major, and therefore, shall not be considered for graduate credit. In no case may courses offered in other departments but listed as required in the undergraduate MAE curriculum be counted toward satisfaction of credit hour requirements. A course can and should be included in the major if it is within the principal field of study (e.g., thermal science or machine science). A major course is not limited to those offered by the Department of Mechanical and Aerospace Engineering.

If a minor is chosen, at least 6 credits of coursework with a minimum GPA of 3.0 are required. Two six-credit minors may be taken. Courses numbered 3000 and above but offered by other departments may be taken for the minor. A plan of study may include MAE courses numbered below 5000 and/or special individualized courses designed to provide review and/or articulation of educational objectives that are part of the undergraduate curriculum in Mechanical and Aerospace Engineering. Such courses, if included, shall be considered to be in excess of the minimum requirement. The number of credits of non-structured courses (a special course with objectives tailored to the need of each registrant such as 6905 courses) is limited to 4 course semester hours toward a master's degree. To exceed this limit, a petition for waiver must be filed with the approval of the advisor and committee and approved by the Graduate Committee.

1) Master’s degree – Thesis Option

All students pursuing the Master of Science or Master of Engineering degree with the thesis option must file a Plan of Study with the Graduate Studies Office prior to the end of their second semester of enrollment. The Plan of Study must list all courses the student expects to take to satisfy their degree requirements. Any deviations from the general guidelines as outlined in Section 2.0 must be explained and justified. The Graduate Committee may reject such deviations. In addition, the Plan of Study should list a tentative title for the student’s thesis. The completed Plan of Study must be discussed and signed by the student’s Advisor and approved by all members of the Supervisory Committee, and returned to the Graduate Studies Office. As the student progresses toward the degree, any significant deviations in their program from the approved Plan of Study should be discussed with the advisor and supervisory committee, and if
the proposed changes are approved, a revised Plan of Study must be signed by the Advisor and placed on file in the Graduate Studies Office.

At the time of the thesis defense and final oral examination, the Supervisory Committee should examine the student’s transcript to ensure that the courses completed are in substantial agreement with the Plan of Study. Any significant deviations from the approved Plan of Study may be discussed by the Committee and either approved or rejected. Students should be aware that the Committee is under no obligation to allow a student to graduate whose coursework differs significantly from the approved Plan of Study.

2) Master’s degree – Non-thesis Option

All students pursuing the Master of Science or Master of Engineering degree with the non-thesis option must file a Plan of Study with the Graduate Office prior to the end of their second semester of enrollment. The Plan of Study must list all courses the student expects to take to satisfy their degree requirements. Any deviations from the general guidelines as outlined in Section 2.0, must be explained and justified. The completed Plan of Study must be discussed and signed by the MAE Graduate Coordinator, and returned to the Graduate Studies Office.

As the student progresses toward the degree, any significant deviations in their program from the approved Plan of Study should be discussed with the MAE Graduate Coordinator, and if the proposed changes are approved, a revised Plan of Study must be signed by the Graduate Coordinator and placed on file in the Graduate Office.

During the semester that graduation is proposed, the MAE Graduate Coordinator is expected to examine the student’s transcript and ensure that the courses completed are in substantial agreement with the Plan of Study. Students should be aware that the MAE Graduate Coordinator is under no obligation to allow a student to graduate whose coursework differs significantly from the approved Plan of Study.

1.1.6 EXAMINATIONS FOR NON-THESIS OPTION

A comprehensive final examination is required by the Graduate School for a master’s student taking the non-thesis option for the M.E. degree or the non-thesis option for the M.S. degree. The exam may not be scheduled earlier than the term that precedes the semester in which the degree is to be conferred. The student should contact the MAE Graduate Coordinator to schedule the final examination. Students should select an examination in one of three general subject areas, corresponding to the three core focus areas of DSC, SMDM, and TSFD. Passing the written qualifying Ph.D. exam is an acceptable M.S. non-thesis examination for those continuing towards for Ph.D.; note however, that the exam must be taken in either the term of graduation or the previous term.

1.1.7 THESIS OPTION DEFENSE

The thesis is prepared by the student under the supervision of his/her supervisory committee led by his/her advisor. When the thesis is ready for review by the supervisory committee, the advisor will authorize distribution. The committee expects to receive a final typed draft for review at least one week prior to the oral presentation. This final draft should be complete in every respect, including figures, tables, and references in the proper format. The deadline for the submission of the signed original thesis to the Graduate School is published by the Graduate School each term and must be strictly followed. The final examination of the thesis must be passed before this submission. In any event, the student should schedule the examination sufficiently in
advance of the deadline to allow time for corrections and/or revisions prior to final thesis signing by the committee. The final examination consists of an oral presentation of the thesis which is open to the public.

An Announcement of Examination Form is to be sent to the committee and the Graduate School to announce the date, time, and place of the examination. The student must provide the appropriate information to the MAE Graduate Office at least one week before the date of the exam. The student should be prepared to present and fully explain their work. The presentation should be well organized and should include the use of visual aids. One of the aims of the presentation is to synthesize important conclusions in a time frame of about 30 minutes, leaving ample time for questions and discussion. The outcome of this exam is to be reported on the Thesis or Dissertation Final Examination Form.

1.1.8 COMBINED BACHELOR’S/MASTER’S PROGRAM (4/1 Program)
The Department of Mechanical and Aerospace Engineering offers a combined bachelor’s and master’s program of study to undergraduate students. In this program a qualified student is allowed to take up to 9 credit hours of graduate courses, and to double count them for both BS degree and MS degree requirements. It is expected that a student admitted into the program can often receive a MS degree without thesis in two semesters of graduate study after completing the BS degree requirements, or a thesis MS in one semester less than normal. Admission Requirement and Procedure:

1) Students interested in the program must have an upper division GPA of at least 3.33. The student must apply to and interview with the Undergraduate Coordinator.
2) On behalf of the student, the Undergraduate Coordinator makes a recommendation to the Graduate Admissions Committee.
3) If the application is accepted, the Graduate Coordinator will meet with the student to discuss the program.
4) An Advisor will be identified and recommended to help outline the student’s study plan.
5) The student is admitted to the graduate school upon successful completion of BS degree requirements, and an achievement of a minimum combined score of 1100 for the Verbal and Quantitative portions of the GRE for the old scoring system; or a minimum combined score of 301 for the Verbal and Quantitative portions of the GRE for the new scoring system.

MS Degree Requirement:
All requirements for a MS degree must be satisfied, as outlined above. The nine credit hours double-counted for both degrees must be acceptable in both the B.S. and M.S. degree programs.

1.2 PH.D. DEGREE PROGRAM
1.2.1 STANDARD ADMISSION
Minimum requirements for admission to the doctoral program are the same as for the master's program with the following exceptions:

1) The master's program must have been completed with a GPA of 3.5 or higher.
2) A minimum combined score of 1100 for the Verbal and Quantitative portions of the GRE with minimum of 700 Quantitative for the old scoring system; or a minimum
combined score of 301 for the Verbal and Quantitative portions of the GRE with minimum of 155 Quantitative for the new scoring system.

3) International applicants are required to have a TOEFL score of 550 paper-based, 213 computer-based, or 80 internet-based, along with a verbal GRE score of 320 under the old scoring system, or 140 under the new scoring system.

4) Applicants must provide a clear "Statement of Purpose" indicating goals to be achieved in their specific areas of study.

5) An applicant who has completed their Master's degree in Mechanical and Aerospace Engineering at UF must provide written recommendation from his/her master's degree supervisory committee.

Conditional admission is rarely used for Ph.D. students in MAE (e.g., due to a delay in getting official transcripts or GRE scores). However, if such a conditional admission is granted, the requirements of admission must be met in order to be permitted for subsequent registration.

1.2.2 DIRECT ADMISSION
The Department of Mechanical and Aerospace Engineering at the University of Florida extends the privilege of Direct Admission into its Ph.D. program to talented and highly motivated students holding a Bachelor of Science degree in mechanical engineering/aerospace engineering or closely related engineering disciplines. Accordingly, those students applying for graduate admission seeking Direct Admission to the Ph.D. program must:

1) Hold an undergraduate GPA of 3.5 or higher.
2) A minimum combined score of 1100 for the Verbal and Quantitative portions of the GRE with minimum of 700 Quantitative for the old scoring system; or a minimum combined score of 301 for the Verbal and Quantitative portions of the GRE with minimum of 155 Quantitative for the new scoring system.
3) Applicants must provide a clear "Statement of Purpose" indicating goals to be achieved in their specific areas of study.

1.2.3 ADVISOR AND SUPERVISORY COMMITTEE
In addition to the initial registration and deadline for appointment of the supervisory committee set forth in the policy for the master's degree, the supervisory committee for the doctoral degree consists of no fewer than four members (including the committee chair) of the graduate faculty. At least two members, including the chair, must be from the Mechanical and Aerospace Engineering Department. One of the committee members must be an External Member. The External Member must be a current graduate faculty member from another UF department. Other committee members may be chosen within or outside of MAE as appropriate. If the student is pursuing a minor, the committee must include faculty member(s) from department(s) representing the student's minor.

1.2.4 PLAN OF STUDY
The Ph.D. is a research oriented degree requiring independent mastery of a field of knowledge. As such, considerable flexibility is allowed by the Graduate School in the tailoring of individual programs. All students pursuing the Doctor of Philosophy degree in MAE must file a Plan of Study with the Graduate Office upon successful completion of the written portion of the
Candidacy Examination (i.e. Qualifying Exam). The Plan of Study must list all courses the student has taken and expects to take to satisfy their degree requirements.

All Ph.D. students must take a minimum of 39 graded credit hours (excludes S/U graded courses) beyond their B.S. degree. In addition, the Plan of Study should list a tentative title for the student’s dissertation. Any deviations from the general guidelines as outlined in Section 2.0 must be explained and justified and approved by the Graduate Committee. The completed Plan of Study must be discussed and signed by the student’s Advisor and approved by all members of the Supervisory Committee, and returned to the Graduate Studies Office.

As the student progresses toward the degree, any significant deviations in their program from the approved Plan of Study should be discussed with the advisor, and if the proposed changes are approved, a revised Plan of Study must be signed by the Advisor and Supervisory Committee and placed on file in the Graduate Office.

At the time of the final dissertation defense and examination, the Advisor and Supervisory Committee are expected to examine the student’s transcript and insure that the courses completed are in substantial agreement with the Plan of Study. Any significant deviations from the approved Plan of Study may be discussed by the Committee and either approved or rejected. Students should be aware that the Committee is under no obligation to allow a student to graduate whose coursework differs significantly from the approved Plan of Study.

An Appointment of Supervisory Committee Form, found in Section 3, must be filed with the graduate office. The structure of a Student's Plan of Study is detailed in Section 2.0,

1.2.5 EXAMINATIONS FOR Ph.D. STUDENTS
The Graduate School requires a minimum of two examinations for all Ph.D. students:

1) The candidacy examination, which must be both written and oral,
2) The final dissertation defense examination.

The written portion of the Ph.D. candidacy examination (referred to in MAE as the Qualifying Examination) is intended for determining the qualification of a student for pursuing a Ph.D. degree as well as for assuring that the student is well prepared in fundamentals of relevant subject areas to launch independent dissertation research. The written qualifying examination is administered by the Graduate Committee. The student, with advisor approval, must select to be examined in one of three areas: Dynamics, Systems, and Control (DSC); Solid Mechanics, Design, and Manufacturing (SMDM); Thermal Sciences and Fluid Dynamics (TSFD).

A major subject area for the examination covers topical materials represented in the core courses listed below and those of relevant undergraduate courses. If in DSC, SMDM or TSFD the student will select three topics (of the four, five, or six respectively). These selections must be made with the advisor’s approval. A copy of a syllabus for each of the courses is available in the Graduate Studies Office. The four qualifying exam subject areas, and the courses which approximately support these exams, are listed here:

1. **DSC**
   - EML 5215 Analytical Dynamics I
   - EML 5311 Control System Theory
   - EML 5223 Structural Dynamics
   - EML 6281 Geometry of Mechanisms and Robots I
2. **SMDM**
   EML 5526 Finite Element Analysis and Application
   EGM 5533 Applied Elasticity and Advanced Mechanics of Solids
   EML 6934 Failure of Materials in Mechanical Design
   EML 6324 Fundamentals of Production Engineering
   EGM 6611 Continuum Mechanics

3. **TSFD**
   EML 5714 – Introduction to Compressible Flow
   EGM 6812 – Fluid Mechanics I
   EGM 6813 – Fluid Mechanics II
   EML 5104 – Classical Thermodynamics
   EML 6154 – Conduction Heat Transfer
   EML 6155 – Convective Heat Transfer
• The written qualifying examination will be offered around the second week of the Fall semester. The examination may also be given around the second week of the Spring semester, but only if there is sufficient demand for it. A student must pass the written qualifying examination before being eligible for the oral portion of the candidacy examination. The examination will be conducted in a designated time period (typically 4-6 hours) on a set date established for each particular area (DSC, SMDM, TSFD).

• Information on the conduct of the individual topics (date, open-book/closed-book, permissible computer use, etc.) and further details on the subject matter will be available at the start of the semester during which the exam is conducted. If a student’s major subject area covers two different specializations, a special examination set of three topics can be recommended by the advisor. Any such set must be approved by the Graduate Committee.

• The written qualifying examination is formulated in each area and graded by a committee of faculty members from each respective group (DSC, SMDM, TSFD). This committee will grade the qualifying examinations and designate one of three outcomes for each student: (1) Pass; (2) Partial Pass (the student must retake a single subject exam); and (3) Fail. If a student fails the written qualifying examination, including a partial failure, the student is allowed to retake the examination one more time only. In the event of second failure, the Chair of the student’s Supervisory Committee may petition the Graduate Committee for a third chance if there are extenuating circumstances.

• The second part of the Ph.D. candidacy examination (referred to in MAE as the Research Proposal) should take place within one year of successful completion of the written qualifying exam. This examination is an oral examination and is conducted by the Chair of student’s Supervisory Committee. The research proposal should be comprised of the following three components: (1) a detailed, critical literature review of the student’s intended area of focus; (2) identification of a research problem that follows the literature review; (3) a succinct statement of proposed research and research methods to be conducted, including a brief schedule. The research proposal must have a written document to accompany the oral presentation, which must be provided to the committee in advance of the presentation. The student’s Supervisory Committee should be present at the oral examination to decide on the student’s qualification for Ph.D. study, to discuss and approve a program of study, as well as to evaluate and approve a proposed Ph.D. dissertation project.

• Upon successful completion of the written examination (i.e. qualifying exam) and the oral examination (i.e. research proposal), the student is admitted into the Ph.D. candidacy.

• The Ph.D. candidate must meet again with his/her Supervisory Committee, typically at least one year prior to the date of the final defense, to make an oral presentation of the research completed to date, along with an outline of the expected remaining research. This research update meeting allows the Supervisory Committee the opportunity to provide input prior to the student’s final defense.

1.2.6 DEGREE REQUIREMENTS
After being accepted into the Ph.D. program, the following are required for the successful completion of a degree:
1) A minimum of 90 semester credits beyond the baccalaureate degree is required for the doctoral degree, including a minimum of 39 graded credit hours (excludes S/U graded courses) beyond the B.S. degree. If a minor is chosen, a minimum of 12 graduate credits in the minor must be taken. If two minors are chosen, each
must include at least 8 graduate credits. For a minor to be valid, a minimum of 3.0 GPA in the minor must be earned. Students with a recognized master's degree from another institution must petition to have that master’s degree count for 30 of the required 90 credits, including toward the minimum graded credit hours as appropriate.

2) Students must meet the University’s residency requirement which states that “Beyond the first 30 hours counted toward the doctoral degree, students must complete 30 hours in residence at the University of Florida campus or at approved branch stations of the University of Florida Agricultural Experiment Station.”

3) Students must be admitted to Ph.D. candidacy (see Section 1.2.5).

4) There is a minimum time lapse of two semesters between being admitted to candidacy and receiving the doctoral degree. The term in which the student is officially admitted to candidacy may be counted as one of the two semesters, provided that the exam is completed satisfactorily before the midpoint of the semester (students should consult the Graduate School calendar critical dates for each term).

5) A dissertation must be presented which shows independent research to the satisfaction of the Graduate school and the Supervisory Committee. See Section 1.2.7 Dissertation below.

6) The final dissertation defense and examination must be passed.

7) All work must be completed within 5 years of the oral portion (Research Proposal) of the candidacy exam, or the written portion must be retaken.

1.2.7 DISSERTATION
Dissertation format requirements are essentially the same as those for the Master’s degree thesis. Of course, the level and significance of the work must be much greater. However, the final typed draft of the dissertation must be delivered to the Supervisory Committee for review at least one week prior to the oral final defense presentation. The dissertation must meet all requirements of the Graduate School Editorial Office, and must be submitted to the Editorial Office for review by the published Graduate School dates of the semester of graduation (students should consult the Graduate School calendar critical dates for each term).

1.30 GENERAL INFORMATION
1.3.1 FINANCIAL AID
Students who have been admitted to the Graduate School are eligible for consideration of financial aid including graduate assistantships (TA and/or RA), department or university award fellowships (e.g. GSF Awards), and department administered grants. Admission does not guarantee that financial aid will be awarded.

Students receiving assistantships (normally 1/4 time to 1/2 time appointments) will also (normally) receive in-state or out-of-state tuition waivers. Minimum registration loads for students on 1/4, 1/3, and 1/2 assistantships are 9 hours in the Fall and Spring semesters, and 6 hours in Summer C. Students on conditional admission or fall below the minimum GPA (see below) are ineligible for assistantships. Students on assistantships who are eligible for Florida residency are expected to become Florida residents.
1.3.2 NORMAL DEGREE PROGRESS
Students in pursuit of a graduate degree are expected to complete at least the minimum hourly requirements each term and to maintain an acceptable grade point average, noting that individual project courses and enrichment courses are excluded in the GPA computation. An acceptable GPA is defined as a 3.00 cumulative or greater for all Masters, Engineer and Ph.D. students. Students who fall below these standards will be placed on academic probation, which may make them ineligible for financial assistance, including RA and TA appointments. A student who remains below these standards for two consecutive terms may be terminated. A terminated student may petition through his/her advisor to the Graduate Committee for reinstatement.

Students are also expected to make normal progress toward the completion of degree. Thus, a master’s program is expected to be completed in four semesters and a summer session; an engineer program in three years; and a doctoral program in about four to five calendar years of equivalent full-time study beyond the baccalaureate. Students failing to meet these expectations may be formally assessed by the Graduate Committee each new term to determine their fitness to continue in their programs.

To maintain progress, the following guidelines should be followed:

1) Before starting the first semester:
   a. All students: Establish general field of specialization (e.g., thermal science, dynamics and control, or solid mechanics, design and manufacturing).

2) Before the end of the first semester:
   a. All Thesis/Dissertation students: Contact faculty in your area of interest and reach an agreement with one to serve as your advisor. Work out a tentative plan of study.
   b. Masters students: Determine whether you wish to pursue the Master of Science (MS) degree or Master of Engineering (ME) degree. Decide on the thesis or non-thesis option.

3) Before the end of the second semester:
   a. All Thesis/Dissertation students: Consult with your advisor to form a supervisory committee. Submit the names of the members of the committee to the Graduate Studies Office (GSO) so that appointment forms may be completed.
   b. All students: Finalize plan of study for course work. (The plan of study may be changed if necessary.)
   c. Master's students on thesis option: Finalize a plan for your thesis work with your advisor.

4) During the second year of study:
   a. Ph.D. students: Take written portion of the candidacy exam (qualifying examination).

2.0 GUIDELINES FOR PLAN OF STUDY

During the first year of graduate study, the normal expectation is that each student would take a minimum of three regular courses in both the Fall and Spring semesters. Generally, these would include core courses and (if Ph.D. student) those which will prepare the student for the qualifying exam, as well as an appropriate mix of elective courses for the chosen specialization. Except for a minority of students doing interdisciplinary specializations whose plans of study will be reviewed by the Graduate Committee, a student will follow the requirements of one of the three MAE graduate study groups:

- Dynamics, Systems, and Control (DSC)
- Solid Mechanics, Design, and Manufacturing (SMDM)
- Thermal Science and Fluid Dynamics (TSFD)
The plan of study (and qualifying exam if a Ph.D. student) will be based upon the chosen group from among the following three:

2.1 DYNAMICS, SYSTEMS, AND CONTROL (DSC)
There is no core course requirement for Master’s students. However, they are encouraged to select from the following courses to prepare them for other DSC courses, and the Master’s final exam for non-thesis students (see Section 1.1.6). Ph.D. students must take a minimum of three of the following courses:

- EML 5215 Analytical Dynamics (or EGM 5430)
- EML 5311 Control System Theory
- EML 5223 Structural Dynamics
- EML 6281 Robot Geometry I

2.2 SOLID MECHANICS, DESIGN, AND MANUFACTURING (SMDM)
All SMDM students (Master’s and Ph.D.) must complete 3 of the 5 courses listed in Group A below. Ph.D. students must also complete a minimum of 2 additional courses from Group B.

GROUP A:
- EML 5526 Finite Element Analysis and Application
- EGM 5533 Applied Elasticity and Advanced Mechanics of Solids
- EML 6934 Failure of Materials in Mechanical Design
- EML 6324 Fundamentals of Production Engineering
- EGM 6611 Continuum Mechanics

GROUP B:
- EML 5045 Computational Methods for Des. & Manuf.
- EGM 5111L Experimental Stress Analysis
- EGM 5584 Mechanics of Soft Tissues
- EAS 6242 Advanced Structural Composites
- EML 6267 Structural Dynamics of Production Machinery
- EGM 6352 Advanced Finite Element Methods
- EGM 6365 Structural Optimization
- EML 6506 Fluid Film Lubrication
- EML 6507 Wear of Materials
- EGM 6570 Principles of Fracture Mechanics
- EGM 6595 Bone Mechanics
- EAS 6xxx Design and Optimization
- EGM 6xxx Inelastic Materials
- EML 6xxx Design of Precision Machines

2.3 THERMAL SCIENCE AND FLUID DYNAMICS (TSFD)
All TSFD M.S. students must take a minimum of three of the following core courses and all Ph.D. students must take a minimum of four of the following core courses. Ph.D. students should consider whether the qualifying exams will emphasize the Thermal Sciences or Fluid Dynamics when making their Plan of Study.
EML 5104 Introduction to Classical and Statistical Thermodynamics
EML 6154 Conduction Heat Transfer
EML 6155 Convection Heat Transfer I
EML 5714 Introduction to Compressible Flow
EGM 6812 Fluid Dynamics I
EGM 6813 Fluid Dynamics II

2.4 BASIC SKILLS COURSES
All MAE Ph.D. students must demonstrate their basic skills capability by successfully passing (with a B or better) an overall total of nine credits of basic skills courses with a minimum of three credits each in at least two of the following three areas:

A. Applied Mathematics
   EGM 6321 Principles of Engineering Analysis I
   EGM 6322 Principles of Engineering Analysis II
   MAP 6327 Applied Differential Equations I
   MAP 6505 Mathematical Methods of Physics and Engineering
   MAP 6506 Mathematical Methods of Physics and Engineering II

B. Numerical Methods
   EML 5526 Finite Element Analysis and Application
   EGM 6341 Numerical Methods of Engineering Analysis I
   EGM 6342 Numerical Methods of Engineering Analysis II
   MAD 6406 Numerical Linear Algebra
   MAD 6407 Numerical Analysis

C. Statistics and Data Analysis
   EGM 5121C Data Measurement and Analysis
   STA 5325 Mathematical Methods of Statistics
   STA 6166 Statistical Methods in Research I
   STA 6167 Statistical Methods in Research II
   STA 6200 Fundamentals of Research Design
   STA 6207 Basic Design and Analysis of Experiments

Other courses may be counted towards these Basic Skills requirements if a petition to that effect is approved by the student's Supervisory Committee and the Graduate Coordinator. (The Basic Skills requirement does not apply to master’s students.)

2.5 GRADUATE SEMINAR COURSE
All Ph.D. graduate students are expected to have passed one credit of EAS 6935 or EGM 6936 (Graduate Seminar course) prior to graduation. Students working exclusively at the REEF campus are exempted from this requirement.
3.0 APPOINTMENT OF MAE SUPERVISORY COMMITTEE

All committee members agreeing to serve on a Graduate Supervisory Committee must sign this form. The graduate coordinator of the major department will review the committee.

(Please Print)

Student’s Name__________________________________ UF ID#___________________
Degree sought __________ If Master’s degree check one: Thesis____ Non-thesis____
Minor _________________ Department _______________
Thesis/Dissertation Topic_______________________________________________________
____________________________________________________________________________

Signature of Committee Members

Chairperson______________________________________ __________________________
Co-chair ________________________________________ __________________________
Member_____________________________  __________________________
Member_____________________________  __________________________
Member_____________________________  __________________________
Member_____________________________  __________________________
External Member______________________  __________________________

(Required for Ph.D.)

Graduate Coordinator ______________________ Date_______________________

Revised 8/2013