

GRADUATE STUDENT GUIDE

MECHANICAL ENGINEERING (ME) PROGRAM

Master of Science (MS) and Doctor of Philosophy (PhD) Degrees

Department of Mechanical, Materials, and Industrial Engineering

Graduate Studies Committee

598 Rhodes Hall, P.O. Box 210072

COLLEGE OF ENGINEERING AND APPLIED SCIENCE

UNIVERSITY OF CINCINNATI

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Attachment
ME Graduate Student Annual Progress Review

PREFACE

A. Roles of the Office of the Vice President for Research and University Dean of Advanced Studies.

The Office of the Graduate School at the University of Cincinnati exists to serve the needs of faculty and graduate students, and to enhance these efforts through academic leadership, administrative service, and financial support. It is headed by the Vice Provost & Dean of the Graduate School, who serves as coordinator of all graduate programs throughout the University. It is the function of the Graduate School to afford its members (students and faculty) opportunities for advanced work in their chosen fields. The All-University Graduate Faculty has the responsibility for determining educational policies and regulating the awarding of degrees. The Graduate Faculty formulates common rules of instruction throughout the various departments of study, precise manners of instruction, and individual methods for evaluating the results of examinations.

B. Roles of Department's Graduate Studies Committee

The role of the Department's Graduate Studies Committee is to serve the needs of the graduate students and faculty in the Department. The Graduate Studies Committee is led by a Director who serves as coordinator of all graduate programs within the program and liaison to all graduate activities outside of the Department at the College and University levels.

C. Roles of Academic Advisor, Director of Mechanical Engineering Graduate Studies, and Advisory and Examining Committee

An Academic Advisor is assigned, by the Director of Graduate Studies for Mechanical Engineering (ME) in consultation with the program faculty in the student's major area of interest, to each student at the time of initial registration in the Graduate program. The **Academic Advisor will be a full-time faculty member of the Mechanical Engineering Program.** Appointment of an academic advisor from another program within the College of Engineering and Applied Science (CEAS) will be considered on an exception basis by petition to the ME Graduate Studies Committee. The primary responsibilities of the Academic Advisor are to assist the student in developing an acceptable Program of Study, and to select and/or act as Chairperson of the student's Advisory and Examining Committee. The authority for final approval of a student's Program of Study is vested in his/her Academic Advisor. The Academic Advisor is not necessarily the Thesis or Dissertation Director. If the Thesis or Dissertation Director is not

the Academic Advisor, the Academic Advisor must approve the Thesis or Dissertation Director.

The Director of Graduate Studies for Mechanical Engineering serves the ME Program, the graduate student body and the Department Head. The responsibilities of the Director of Graduate Studies for ME include the following:

- Maintaining the graduate advising system and revising the Graduate Student Guide.
- Coordinating the Doctoral Fundamentals Exam with the assistance of ME program faculty
- Coordinating the Faculty's evaluation of applications for admission to graduate study
- Coordinating the faculty's evaluation of applications for financial aid and assisting in the award of University Graduate Scholarships (UGS) and University Graduate Assistantships (UGA)
- Serving on the Department's Graduate Studies Committee and working with the Department Head on issues concerning ME graduate students and the ME graduate program.

Members of the Advisory and Examining Committee are selected and appointed by the student's Academic Advisor (in consultation with the student) at the appropriate stage of the program. The Advisory and Examining Committee consists of a minimum of three faculty members including the Academic Advisor, who acts as its Chairperson, and the Thesis or Dissertation Director (if applicable). At least 50% of the Committee must be Full-Time ME Program Faculty. University rules also require that a doctoral committee include a minimum of three full-time UC faculty who hold Graduate Faculty standing. The remaining member(s) may be selected from the faculties of other departments in the University, and appropriate persons outside the University. The student's Thesis or Dissertation Director must be a member of the committee.

This committee's responsibilities include the following:

- Assisting the student and Academic Advisor, if requested, in developing the student's Program of Study.

- Administering and evaluating the PhD student's Candidacy Examination
- Assisting in the evaluation of thesis/dissertation proposals and advising of thesis/dissertation work
- Administering and evaluating the student's Final Oral Examination
- Approval of Thesis or Dissertation, when applicable.

D. Purpose of Graduate Program in Mechanical Engineering

The major objective of graduate study in engineering is to better prepare for a professional career by strengthening the individual's ability to assume creative leadership in the solution of important, complex, technological problems. To accomplish this objective, the Mechanical Engineering graduate program is designed to increase the student's breadth of knowledge, to permit depth of specialization, and to provide the opportunity for theoretical and experimental research.

The field of Mechanical Engineering includes widely diverse areas and is reflected by the broad responsibilities of former graduates in industry, government, and education. Therefore, graduate work in Mechanical Engineering at the University of Cincinnati is characterized by breadth of study and flexibility in programs. This flexibility is structured in the graduate program with certain formal requirements at the program and departmental levels.

This document has been prepared by the Graduate Studies Committee in conjunction with the Mechanical Engineering faculty for distribution to ME graduate students in the MS and PhD Degree Programs. It is applicable to both full-time and part-time students. The objective of this document is to describe the sequence of events leading to the MS and/or PhD Degree in accordance with the policies and regulations of the Mechanical Engineering Program, the Department, the College of Engineering and Applied Science (CEAS), and the University of Cincinnati.

In order to be as thorough and complete as possible, every attempt has been made to include all necessary information in this guide. However, students should also consult the Graduate School handbook, which gives a more general, but limited discussion of every graduate program in the University; available online at <https://www.grad.uc.edu/fac-staff/handbook.html>

For additional questions, please address to:

Mechanical Engineering Program
College of Engineering and Applied Science, Graduate Studies Office
P.O. Box 210077
Cincinnati, OH 45221-0077

On-line: <https://www.ceas.uc.edu/academics/degrees-programs/graduate.html>

E. Areas of Specialization

The selection of a student's area of specialization within the Mechanical Engineering Program usually depends on his/her previous training and choice of specialization related to career objectives. An area of specialization must be declared at the time of admission.

While flexibility is allowed to fit the goals and needs of the individual student, most students specialize in a specific area or combination of areas within the ME Program to enhance their career opportunities. Typical areas of specialization are vibration, modal analysis, acoustics and noise control, dynamics and controls, numerical analysis including FEM and BEM, applied mechanics, biomechanics, nanotechnology, smart materials and intelligent structures, micro-scale heat transfer, enhanced heat transfer, non-Newtonian flow in heat exchangers, convection in porous media, thermal energy storage, bio-fluid mechanics, concurrent design and manufacturing, intelligent systems, machinery diagnostics/prognostics, and robotics. Most of this research is sponsored and supported by federal agencies, national laboratories and industry. For up-to-date information on the research activities, see www.min.uc.edu/.

F. Program of Study

Each student is required to develop an individual Program of Study with his/her Academic Advisor. Advisor assignment is usually based on the student's plan of study and the advisor's area of specialization. Graduate course listings for the current term are available at: <https://www.onestop.uc.edu/registration/class-offerings.html>

A copy of the student's Program of Study, signed by the Academic Advisor, must be placed on file in the College of Engineering and Applied Science (CEAS) Graduate Studies Office (665 Baldwin Hall) by the student during the first semester registered at the University. A revised copy must also be

submitted at the following times:

- At the time when applying for financial aid (UGS) continuation in Spring Semester of each academic year.
- At the time of the final oral exam.
- Students completing both MS and PhD degrees in the program must maintain separate forms for each degree; affected students should contact the Graduate Director for additional instructions.

G. Compliance of Guide with College and University Rules and Policies

Information contained in this Guide describes rules governing the Mechanical Engineering MS and PhD degrees as established by the program; such rules are believed to be in compliance with applicable rules established by the College of Engineering and Applied Science, as well as the Rules and Policies of the Handbook of the Graduate School, effective as of the date of publication of this document. The student is governed by applicable policies at the Program level (as described here), College level, and University level (Graduate School). The student should be aware that this document does not provide a comprehensive description of Graduate School rules and policies. Further, the student should also be aware that existing or new College or University level rules or policy changes may supersede program rules (as described in this document) without notice. In the event of any discrepancy, Graduate School rules will always supersede program and/or College rules, where applicable. For additional information, the student is advised to consult with the Graduate School (110 Van Wormer), or visit the following URL: http://grad.uc.edu/academics/graduate_studenthandbook.html

H. Appeal Procedure

Any student who wishes to petition for relief from any of the regulations and policies contained in this Student Guide may do so by submitting a written statement to the Mechanical Engineering Graduate Studies Director (665 Baldwin Hall). The petition will be reviewed by the Department's Graduate Studies Committee and a decision will be rendered as soon as possible.

I. APPLICATION AND ADMISSION TO GRADUATE DEGREE PROGRAMS

A. Application Process

A student applying for admission to the ME Graduate Program must submit an online application and relevant supporting documentation to the CEAS Graduate Studies Office (665 Baldwin) to be considered for (1) admission and (2) teaching assistantships, research assistantships and other forms of University and departmental support. (Students seeking governmental loans, work-study, and other forms of financial aid may make application to the Student Financial Aid Office, 220 University Pavilion). The online application may be accessed at the following link: <https://www.ceas.uc.edu/admissions/graduate.html>.

Questions and correspondence relating to applications for admission may be directed to the CEAS Graduate Studies Office. Applications to any UC graduate engineering program must be accompanied by a non-refundable \$75.00 application fee (see instructions below for submission of payment). This fee is subject to change without notice.

It is the applicant's responsibility to see that all parts of an application have arrived at UC. An inquiry to the Graduate Studies Coordinator at 513-556-5157 or e-mail to: engrgrad@ucmail.uc.edu can provide confirmation. Application status may also be checked via the on-line application URL given above.

B. Requirements for Admission

Admission to the ME Graduate Program is competitive. A baccalaureate degree (usually four or more years) in an engineering discipline from a recognized institution is required for admission to the ME program. A Master's degree is a requirement for admission to the PhD program (with exceptions as noted later in this document). Because of the sequential nature of courses in the ME Graduate Program, it is strongly recommended that students begin their program in the Fall Semester. In addition to the general university rules (physical examination, health insurance, special requirements for international students, etc.) the ME Graduate Program requires that a student follow the procedures below:

All materials should be turned into the CEAS Graduate Studies Office (665 Baldwin) unless otherwise indicated.

- Submit a completed "Application for Admission to Graduate Study" form, via the URL:

<https://www.admissions.uc.edu/apply/graduate.html>. This also serves as an application for financial aid for the first year.

- Submit PDF copies of unofficial transcripts of all previous undergraduate and graduate study. Note that official copies must be submitted at the time of enrollment, if the student is admitted and ultimately matriculates into the program.
- Submit two letters of recommendation (e-mail link to referees is generated during the online application).
- Submit the application fee. Instructions for fee payment will be provided during the online application process.

In addition to the above items, an application is not complete until a student supplies scores for the Graduate Record Exam (GRE) and Test of English as a Foreign Language (TOEFL) as required. Requirements are as follows:

- In order for the General Test of the Graduate Record Exam to be waived, students must graduate with a four-year bachelor's degree from an ABET accredited undergraduate engineering program (Mechanical Engineering or equivalent), from an institution located in the United States, with a minimum of a 3.0/4.0 GPA, or equivalent.
- All students not graduating from an ABET (Accreditation Board for Engineering and Technology) accredited undergraduate engineering program located in the United States are required to take the General Test of the Graduate Record Exam (GRE). Guidelines regarding acceptable scores for admission can be obtained by inquiry to the Graduate Studies Director.
- All students, originating from countries where English is not one of the official national languages, are required to take the Test of English as a Foreign Language (TOEFL). Minimum acceptable score guidelines can be obtained by consulting the graduate director. The TOEFL requirement is waived for applicants in this category who hold a previous degree from a university in the United States.

The application must demonstrate the student's ability to satisfactorily pursue graduate work. However, other accomplishments, letters of recommendation, reputation of the undergraduate university, and test scores (such as GRE) are all considered. All applications will be reviewed

by the Director of Graduate Studies in consultation with the ME program faculty in the student's indicated area of interest.

C. Types of Admission

1. Full Graduate Standing

For admission to full graduate standing in the Mechanical Engineering Program at the University of Cincinnati, a student must have a bachelor's degree in Mechanical Engineering (or equivalent engineering discipline) from a college or university regarded as standard by a regional or general accrediting agency (except students enrolled in the University of Cincinnati Mechanical Engineering BSME/MSME ACCEND program as noted below). In the United States, this is the Accreditation Board for Engineering and Technology (ABET). The applicant should have at least a "B" grade point average (3.0/4.0 or better, or equivalent) in undergraduate coursework or otherwise give evidence of academic potential (such as outstanding GRE scores). Applicants from outside the United States should report aggregate marks or grades in the marking system within which the grades were given (i.e., no conversion).

The 3.0/4.0 nominal GPA criterion represents a minimum requirement for admission with full graduate standing, but attainment of this figure alone is not sufficient to guarantee admission.

Students who are enrolled and in good academic standing in the BSME/MSME ACCelerated ENGINEERING Degree Program (ACCEND) at the University of Cincinnati will be admitted to full graduate standing in the Mechanical Program at a time established by the CEAS ACCEND program director, typically at the beginning of the senior year. Affected students should contact the CEAS ACCEND director, 665 Baldwin Hall, for more information.

Judgments concerning admission or denial to particular degree programs and the criteria used for determining admission are initiated in the Graduate School and the Mechanical Engineering Graduate Committee. These criteria and judgments vary according to programs and departments, and reflect not only estimates of the ability of students to do graduate work but also the ability of the Department to support (financially, academic advising, etc.) additional graduate students. Achievement of certain minimum scores on standardized tests is not sufficient to ensure admission.

2. Provisional Admission

Provisional admission may be granted to MS applicants who are deficient in undergraduate course work considered essential for graduate study. Coursework, without graduate credit, will be required of provisionally admitted students to make up such deficiencies before admission to full graduate standing can be granted. **Applicants admitted under the provisional admission status are not eligible for a University Graduate Scholarship (UGS) or a University Graduate Assistantship (UGA) until completion of the provisional requirements.**

Provisional admission to the MS program is rarely granted. Applicants with deficiencies will customarily be directed to apply to the Master of Engineering (MEng) program, due to its more flexible admission criteria. Admission to the MEng program with either provisional or full standing can be offered, depending on qualifications. Affected students should contact the CEAS MEng Program Director, 665 Baldwin, for additional information.

International students are not eligible for provisional admission.

PhD applicants are not eligible for provisional admission.

Admission to a Master's degree program does not guarantee PhD program admissibility.

Graduates of non-accredited institutions or those with a BS degree in a discipline other than Mechanical Engineering (or equivalent) may be granted provisional admission when their academic records warrant this status. Additional coursework will be required of such students when deficiencies in their previous training are apparent.

Graduate students may attain full graduate standing when the deficiencies responsible for their provisional status are corrected. They must also maintain a satisfactory (3.0/4.0 or better) academic record in all coursework taken as part of their graduate programs. Change from provisional to full graduate standing is affected, generally, by the Director of Graduate Studies in concert with the student's Academic Advisor.

Graduate students, admitted on a provisional basis, must meet with their Academic Advisor to determine the specific deficiencies in their academic program that must be corrected. The Academic Advisor must submit a Provisional Admission Program of Study Form summarizing the coursework required to correct the deficiencies to the CEAS Graduate Studies Office (665 Baldwin Hall) for placement in the student's academic file. This Provisional Admission Program of Study must also be approved by the ME Graduate Studies Director.

As a minimum guideline, a graduate student admitted on provisional basis, must complete courses in the following areas, and pass each course with a grade of B or better.

First, students admitted on a provisional basis must have previously completed the following (or equivalent):

- Calculus (three semesters) (MATH-2952, 2953, 2961 or equivalent)
- Differential Equations (one semester) (MATH-2073 or equivalent)
- Mechanics I and II (one semester Statics, one semester Dynamics) (AEEM-1001, 2032 or equivalent)
- General Physics (two semesters) (PHYS-2001, 2002 or equivalent)

Secondly, students admitted on a provisional basis who do not have the equivalent to the following will be required to take the following courses as part of their program, without graduate credit, and must pass each course with a grade of B or better.

- Dynamics (AEEM-2032 or equivalent), or Kinematics of Machines (MECH-2021 or equivalent)
- Solid Mechanics (MECH-2030 or equivalent)
- Manufacturing Processes I (MECH-2060 or equivalent)
- Thermodynamics (MECH-2010 or equivalent)
- Fluid Mechanics (MECH-3011 or equivalent)
- Statistics for Mechanical Engineers (MECH-4043 or equivalent)
- Basic Electric Circuit Analysis (EECE-3071 or equivalent)
- Machine Analysis and Design (MECH-3022 or equivalent)
- Heat Transfer (MECH-4012 or equivalent)
- Signals, Systems and Controls (MECH-4081 or equivalent)

Once a student has chosen a specific specialization the student may be required to take additional prerequisites in that area. This is done on an individual basis.

Students provisionally admitted to graduate study are not eligible for UGA or UGS awards administered through the Department of Mechanical and Materials Engineering and Graduate School until such time that the student achieves full graduate standing. Promotion to full standing is authorized by petition to the ME Graduate Studies Committee.

3. International Student Admissions

No international student will be granted admission on any basis other than full graduate standing. Before their admission to the University is complete, all international students must fulfill U.S. Immigration Service requirements and register with UC International Services.

All international students are required to carry the specified health and accident insurance. An annual fee (reflecting the number of accompanying dependents) will be assessed at the first registration period of each year to meet the cost of this insurance for the subsequent twelve months.

For matters concerning visas, International students must contact:

UC International Services
PO Box 210640
University of Cincinnati
Cincinnati, OH 45221-0640

On-line: <https://www.international.uc.edu>

International students must be full-time graduate students (defined as registered for 15 graduate credits each semester) except during Summer. Students who have completed all credit hour requirements for their degree and who are finishing a thesis or dissertation may be eligible to register with a reduced credit hour load (currently one credit hour per semester, except Summer). Consult the International Student Services Office at 7148 Edwards One or on-line at: www.uc.edu/international/services.html for applicable forms and further details.

4. Visiting Scholars

Visiting Scholars are permitted in the department for the purpose of specialized study not pursuant to a graduate degree. International visiting scholars must contact the International Services Office for visa information. Visa and other requirements may be different than those for other students. In any case, a visiting scholar cannot work within the department without written permission from the Department Head and a sponsoring faculty member. Visiting scholars are not considered degree students and are not admitted to the graduate program.

D. Admission Decisions

Admission to the ME Graduate Program. The ME Graduate Program has higher admission standards than the minimum admission requirements of the Graduate School.

It is the responsibility of the ME Director of Graduate Studies to notify all applicants of acceptance or rejection through the College of Engineering and Applied Science (CEAS) Graduate Admission office.

Admission Decisions are generally made on or before April 1 of each year.

E. Financial Aid Decisions

A limited number of University Graduate Scholarships (UGS) (partial tuition less fees) and University Graduate Assistantships (UGA) (tuition plus a competitive monthly stipend, currently approximately \$1833 per month) are allotted to the Mechanical Engineering Graduate Program each year. UGA awardees are normally assigned as Teaching Assistants to support undergraduate and/or graduate classroom instruction. Applicants should be aware that only a small percentage of full-time graduate students will receive a UGA.

All full-time applicants to the Mechanical Engineering MS and PhD programs are considered for all forms of financial aid offered by the program (i.e., UGS, UGA, and RA) at the time of admission. Matriculated full-time students in good standing who are not offered assistantship support at the time of admission will remain in a pool of students eligible for support and will remain under consideration on a rolling basis throughout the academic year.

University Graduate Scholarships and Assistantships are normally awarded for up to one academic year at a time. (UGS support is not normally awarded for Summer Semester.) Applications for renewal of such financial aid are required each year. Notification of the requirement to apply for financial aid will be sent by the CEAS Graduate Studies Office to the student's e-mail on file during the Spring Semester. On-line submission of the CEAS financial aid application is now mandatory. The applicable URL which must be used to complete the on-line CEAS financial aid application will be included in the notification e-mail. Applications must be received by the CEAS Graduate Studies Office (665 Baldwin Hall) by the currently announced date if aid is desired for the following academic year. A revised Program of Study, signed by the student's academic advisor, must also be submitted at this time. Initial offers of financial aid will be released to students on or about June 1.

Recipients of University Graduate Scholarships and Assistantships must register as full-time students and carry a minimum of 15 graduate credit hours each semester.

Financial aid can also be received by a student working as a Research Assistant under a research grant or contract held by a faculty member. The Graduate Studies Committee is not involved with these research efforts directed by individual faculty members, and students should contact appropriate faculty members in their areas of interest in this regard.

Financial aid awards regarding University Graduate Scholarships (UGS) and University Graduate Assistantships (UGA), are decided by the Graduate Studies Committee and the Department Head. Research Assistantships are awarded by individual faculty in the Department based upon active contracts or grants.

Partial guidelines for the awarding of UGS and UGA are as follows:

- Only those students applying for a UGS/UGA within the posted deadlines will be considered for a UGS/UGA.
- Students graduating from an ABET accredited Mechanical Engineering undergraduate program (BSME), and students graduating from graduate programs at ABET accredited institutions, along with all students who are in the Mechanical Engineering program in the department, will be considered for a UGS/UGA on a priority basis.

Within this group, residents of the State of Ohio, will be considered first.

- All other students will be considered for a UGS/UGA on a secondary basis.

Financial Aid Limitations

- Students in the Master of Science program in ME will be considered for a maximum of three (3) semesters of UGS from the ME Graduate Program allotment. A student continuing to the doctoral program may be eligible for extended UGS support for coursework applicable to the PhD which may be completed prior to MS degree completion. Affected students should contact the Graduate Director for instructions.
- Students in the PhD program in ME will be considered for a maximum of four (4) additional semesters of UGS from the ME Graduate Program allotment. Additional semesters of UGS award will be considered on a need basis if necessary to complete credit hour requirements for the degree.
- Students exceeding 173 semester hours of graduate work at UC (for all degrees, in any UC graduate degree program) will not be considered for further financial aid per University and State of Ohio policy.
- Satisfactory progress is required; a student with a semester and/or cumulative graduate GPA less than 3.0/4.0 will be on academic probation; UGS support is subject to revocation in future semesters under this condition; a GPA deficiency of less than 3.0/4.0 which persists for multiple semesters also makes the student subject to dismissal from the program, and from the University.
- Students who receive financial aid for one or more semesters are not guaranteed financial aid in future semesters.
- Financial aid is limited. Students entering the thesis or dissertation stage of their graduate program are encouraged to pursue financial support from grants and contracts managed by their Thesis or Dissertation Director.
- Only full-time students in the MS (with Thesis) or Ph.D. programs are eligible to apply for UGS support.

Financial Aid Requirements

- Students receiving UGA support from the Program must be registered for 15 graduate credit hours each semester.

F. Other Procedures and Requirements Prior to Admission

1. Supplementary Information Form

The Supplementary Information Form must be completed prior to registration by the following individuals:

- New students entering the University
- Students not enrolled the previous academic year
- Students who have earned their BS Degree at UC and are admitted to the MS Program
- Students who have earned their Master's Degree at UC and are admitted to the PhD program

2. Physical Examination

A physical examination is required of each applicant. A Tuberculin Tine Test or chest x-ray is required within three months of registration.

3. Evidence of Health Insurance

The University requires health insurance of all full-time graduate students and offers a health insurance option at the time of registration. If a student elects to find alternative health insurance, or is covered by another policy, this should be indicated on the appropriate registration form. Evidence of alternative health insurance must be provided by the student.

4. Financial Statement

International students are required to submit financial statements to show evidence of financial support in order to obtain a student visa; the level of financial support required is subject to change on an annual basis and may also vary based upon degree level, type of financial aid offered by the program (if applicable), and current annual estimated living expenses locally. For more information, contact International Student Services at: <https://www.international.uc.edu>

II. REGISTRATION

Students pursuing a full-time program of graduate study should register for a minimum of 15 graduate credit hours each semester (15 minimum, 18 maximum). General registration information is given in the Graduate School handbook, and details and forms can be obtained at the University Registration Office (220 University Pavilion or online at www.onestop.uc.edu).

The URL www.onestop.uc.edu should be consulted regarding announcements of specific registration dates and procedures. Prior to first registration at www.onestop.uc.edu, a newly matriculated student should check in and consult with the CEAS Graduate Studies Office in 665 Baldwin Hall in order to receive further instructions. Subsequently, the student should meet with his/her academic advisor to discuss course selection and to develop the Program of Study. The course schedule for the initial semester, as well as all subsequent semesters, must be approved by the student's Academic Advisor prior to registration. The student should also provide the Graduate Studies Coordinator (665 Baldwin Hall) with a local address the first semester and any changes thereafter, so that the department can contact the student if needed. The student must also report his/her e-mail address to the CEAS graduate studies e-mail distribution list server at listserv.uc.edu (select the CEAS-ME-MS or CEAS-ME-PHD group), as well as to the University Registrar at www.onestop.uc.edu. It is essential that the student maintain current contact information and check his/her e-mail on a regular basis, as all essential correspondence related to graduate studies is now handled electronically.

Pre-Registration Procedures and Requirements

The Supplementary Information Form must be completed by all graduate students prior to their first graduate registration. Students who have previously completed this form for a previous degree (undergraduate or Master's) must complete a new Supplementary Information Form. All students should place the program code number on the "Program Major" line of this form (ME-008 along with the name of their major). If a student has previously been registered in another department at UC he/she should write "DEPARTMENT CHANGE" across the top of this form. Problems with registration, financial aid, and grade reports are often traced to program major errors in the university computer data base.

Full-time graduate student status requires at least 15 graduate credits, exclusive of audit. Students receiving University Graduate Scholarships

(UGS) and University Graduate Assistantships (UGA) require at least 15 graduate credits. International students must be in a full-time status, although they may register for fewer than 15 credit hours once they have completed all credit hour requirements for the degree and are completing a thesis or dissertation. The Reduced Credit Hour Load form must be submitted. Contact the International Services staff <https://www.international.uc.edu> for further details.

Normally, 6000 level courses (e.g., MECH-6xxx) are considered dual-level in the College of Engineering and Applied Science. Graduate credit is granted for dual level and graduate (7000 level and above) coursework. Graduate credit is not given for 5000 or below level engineering courses. Dual level (undergraduate/graduate) courses may require additional work for graduate credit.

A. Registration Change Procedure (Add/Drop)

Web registration via www.onestop.uc.edu is open for electronic Add/Drop through the first week of every semester (check posted schedules for exact dates). Courses may be dropped on-line through the last day to withdraw, as designated by the Registrar. Courses may be dropped without entry to the academic record until the date designated as such, normally within the first three weeks of the semester; after this date, the course will be graded W or F, at the discretion of the instructor. (See also Section D, Withdrawals, below.) Refer to www.uc.edu/registrar for specific dates in the current semester. A student may be withdrawn by the instructor at any time in the semester when excessive absences have been incurred. A student must finish at least 15 graduate credits in a semester to be considered full time. A student receiving a UGS or UGA must register for at least 15 graduate credits in a semester.

B. Audit Regulations

Admissions and conditions for participation in audit courses are at the discretion of the instructor, who is not obligated to accept a student for audit. Audit hours do not count toward full-time status. However, audit credits do count for tuition purposes. Hence, a student on a UGS or UGA appointment must be registered for at least 15 credits of graduate courses exclusive of audit, but will be assessed for any total credits which run over 18. A course instructor has the right to assign an "F" (failure) or "W" (withdrawal) grade to an audit student if the student fails to meet the requirements set forth by the instructor for auditing the course.

C. Pass/Fail Registration

Only Topics, Thesis, Research/Thesis, or Dissertation courses may be taken and/or graded on a pass/fail basis.

D. Withdrawals

A student may drop a course by Saturday of the third week of classes with no academic penalty. From the fourth through the eighth week, a student may drop with a grade of either "W" or "F" to be assigned at the discretion of the instructor. After Saturday of the eighth week, no withdrawal will be approved, except for reasons beyond the control of the student, such as sickness or accident. The Graduate School along with the student's ad hoc committee judges the advisability of such exceptions. All withdrawals must be made through the CEAS Graduate Studies Office (665 Baldwin Hall) either in person or by letter. A student may be withdrawn by the instructor at any time in the semester when excessive absences have been incurred. A student withdrawn because of excessive absences is not eligible for academic credit, refund, of fees, or reinstatement as an auditor in that course.

Official dropping from individual courses or completely withdrawing from the University must be initiated by the student in writing through the Graduate Studies Office. The withdrawal date to be used in determining refund eligibility shall be the date the official request is submitted for approval to the Graduate Studies Office. Questions concerning interpretation of the regulations governing refund of student fees should be referred to the Registrar.

E. Registration Requirements for Maintaining Active Student Status

Maintaining active student status for US citizens and permanent residents requires registering for at least one (1) credit hour during Fall Semester of each year. If your active status has lapsed (12 consecutive months of non-registration), you will be required to submit a petition for reinstatement and will have to pay a substantial penalty. After 36 months, you will have to re-apply and pay an even higher penalty.

All international students must remain full-time to maintain their visa status. Full-time status requires 15 credit hours (except summer). However, after completion of all credit hour requirements for the degree, international students can currently register for one credit hour each

semester (except summer) and be considered full-time, provided they submit a Course Reduction form. Certain exceptions may also apply. Consult regularly with ISSO (3134 1 Edwards Center or on-line at <https://www.international.uc.edu>) for applicable forms as well as policy changes.

III. GRADUATE CREDITS AND GRADING PRACTICES

A. Full/Part-Time Course Load

Students enrolled in a full-time program of graduate study must be registered for 15 or more graduate credits each semester. Students with outside work, or those who for other reasons devote less than full time to graduate study, may be allowed to register on a part-time basis. Part-time graduate students are not eligible for UGS or UGA awards. International students, under the terms of their visas, must be enrolled as full-time students.

B. University Graduate Assistantship (UGA) and University Graduate Scholarship (UGS) Recipients

Students receiving financial aid from the ME Graduate Program, either a UGS or UGA, must be registered for 15 graduate hours each semester.

C. Graduate Credit in 5000/6000-Level Courses

A graduate student who is registered in 5000/6000-level courses carrying both undergraduate and graduate credit may be required to complete a certain amount of academic work in addition to that required of undergraduates in the same course. The extra work may consist of reading and reviewing additional books, presenting reports, or doing such supplementary work as the instructor in charge of the course deems advisable. Students may not receive graduate credit for a 5000 level or below course (xxxx-5xxx).

D. Grading Practices

At the end of each semester the Office of Student Records provides to each student an official report of academic achievement. Reports are rendered in the form of grades which should be interpreted as follows:

Grade	Description	Quality Points
A	Excellent	4.00

A-		3.67
B+	Good	3.33
B		3.00
B-		2.67
C+	Satisfactory	2.33
C		2.00
F	Failure	0.00
P	Pass	N/A
U	Unsatisfactory	N/A
T	Audit	N/A

Grade	Description	Quality Points
I	Incomplete	0.00*
I/F*	Failure	0.00
W	Withdrawal (official)	N/A
SP**	Satisfactory Progress	N/A
blank***	No Grade Reported (See Instructor)	N/A

* If the "I" remains on student's record at the end of one (1) year after the semester has ended, the "I" will change to the "I/F" (Failure).

** The "SP" is used only for those courses approved by College committees to have an extended grading period beyond the normal semester ending, due to the nature of the material covered in the courses.

*** Rather than leaving a grade blank, an administrative "NG" mark will be recorded on grade reports and transcripts.

E. Notes on I, F, SP, and NG Grades

Students are not allowed to graduate with I (Incomplete) or F grades on their transcript unless the grade is remedied or a waiver is approved (see below). An I grade automatically changes to I/F 12 after months following the end of the term in which the I grade was originally assigned and cannot subsequently be changed. Any course in which an F or I/F is received must be repeated. The grade of I/F is equivalent to F. In a case where a student is unable to repeat a course in which a grade of F or I/F is assigned, the Graduate Director may petition the Dean of the Graduate School on behalf of the student to allow graduation. The Graduate Director must certify that the course in which the F or I/F is assigned is not a required course. If the petition is approved by the Graduate School, the grade nonetheless remains on the transcript and remains included in the GPA. Grade replacement is not offered at the graduate level, and a minimum GPA of 3.0 is required for graduation, including any and all adverse grades.

Research courses (MECH 9015 Research/Thesis and MECH-9030 PhD Dissertation) may be graded SP (Satisfactory Progress) until the research work is completed. In order to graduate, the following SP grades must be changed: The grade in the last semester the research course was taken. Excess hours may remain on the transcript with the grade SP. Any course graded NG must also have a satisfactory grade prior to graduation, unless an approved waiver is submitted to the Graduate School by the Graduate Program Director.

IV. MASTER'S DEGREE PROGRAM

A. Program of Study

The general policy of the Mechanical Engineering graduate program is to permit flexibility in the Program of Study according to the individual objectives and career planning of the student. However, final authority for a student's program of study is vested in the student's Academic Advisor. **The Academic Advisor must be a member of the ME Program Graduate Faculty** (exceptions to allow graduate faculty in other CEAS programs to serve in this capacity will be considered by petition to the Department's Graduate Studies Committee).

It is the responsibility of the student to consult his/her Academic Advisor and to formulate a Program of Study as soon as he/she enters the MS Degree program. A Program of Study form should be completed in triplicate in order to record the study plan. The Advisor will keep one copy, and the student should retain a signed copy as his/her assurance of an approved Program of Study. The third copy should be given or sent to the Graduate Studies Coordinator (665 Baldwin). The Program of Study forms are available on-line at the following URL: ceas.uc.edu/Graduate_Studies/CurrentStudents/GraduateSchoolForms.html The Program of Study should be completed by the end of the second week of the first semester of study. Revisions of a student's program of study are to be expected; however, revisions should be recorded by preparing revised Program of Study forms.

A student may select courses outside of the program and/or the College of Engineering and Applied Science with the approval of his/her Academic Advisor. Generally, any courses outside of CEAS which are elected (apart from those offered by the Department of Mathematical Sciences which are used to satisfy the program's mathematics requirement) should be essential for and integral to the student's Program of Study and/or

research plan. Individual study or projects can be accommodated by registration for Topics in Mechanical Engineering (MECH-9021). However, it is the student's responsibility to arrange for faculty supervision and to obtain the consent of the Academic Advisor prior to registering for Topics.

B. Credit Hour Requirements

The Mechanical Engineering Graduate Program offers both a thesis and non-thesis program of study for the MS Degree, with exceptions as noted below. The MS Degree program includes the following specific requirements:

(Thesis Option)

- The Thesis Option is REQUIRED for students who, at any time during the course of their enrollment in the program, receive a full or partial University Graduate Scholarship (UGS).
- A minimum of 30 graduate credit semester hours are required. This may include up to 12 credit hours for research courses (MECH 9015 Research/Thesis).
- A minimum of 18 graduate semester credit hours must be classroom work; i.e., academic work other than Research/Thesis (MECH 9015), Special Topics in Mechanical Engineering (MECH-9021), or Graduate Seminar (MECH-9022). The 18 hour classroom total must include:
 - A minimum of 12 credit hours of Mechanical Engineering graduate courses (MECH-xxxx or EGFD-xxxx).
 - A minimum of three (3) graduate semester credit hours of study in advanced mathematics. Courses not taken from the Department of Mathematical Sciences must be approved by the Academic Advisor to apply to this category. This can be done as part of the Program of Study approval. (See also Substitute Courses, below.)
- An oral thesis defense during the final semester of the study is required.

(Non-Thesis Option)

- The Non-Thesis option is NOT AVAILABLE for students who, at any time during the course of their enrollment in the program, receive a full or partial University Graduate Scholarship (UGS).
- A minimum 30 graduate semester credit hours that may include up to 3 credit hours for Final MS Project (MECH 9012), Research/Thesis (MECH 9015), or Topics in Mechanical Engineering (MECH-9021) are required; therefore a minimum of 27 graduate semester credit hours must be classroom work.
- Of the minimum 27 semester hours of classroom work, a minimum of 18 hours must be in Mechanical Engineering courses (MECH-xxxx or EGFD-xxxx).
- Of the minimum 27 semester hours of classroom work, in addition to the above requirement, a minimum of 6 graduate semester credit hours of study in advanced mathematics are required. Courses not taken from the Mathematics Department must be approved by the Academic Advisor to apply to this category. This can be done as part of the Program of Study approval.
- A Final Oral Examination, administered by the student's Advisory and Examining committee, is normally required; additional requirements governing the formation of the committee are described in Section H. In exceptional cases, eligible non-thesis students may appeal for an alternate format for the final examination by petition to the ME Graduate Studies Committee. Any approved alternate format must be in compliance with applicable Graduate School rules regarding the MS degree.

The following specific requirements apply:

- Exclusive of seminar, topics, Research, and Thesis grades, the grade point average (GPA) for grades received in all other courses must not be less than 3.0/4.0 (B average). In addition, a student's GPA for all credits in his/her Program of Study must not be less than 3.0. If a student's term and/or cumulative GPA falls below 3.0, the student is placed on academic probation until the cumulative GPA is above 3.0; if this deficiency persists for two or more semesters, the student is subject to dismissal.

- A limited number of substitute courses may be allowed on an exception basis to satisfy the MECH and/or mathematics course requirements; substitute courses from other CEAS programs that are regularly approved are most frequently from the following programs: AEEM, CVE, EECE, CS, MTEN. A petition for a substitute course should be submitted to the ME Graduate Program Director, following a recommendation by the Academic Advisor. All substitute course petitions are evaluated on a case-by-case basis. As a general guideline, the number of substitute courses on a student's program of study should not exceed 50% of the overall course requirement for the degree.
- ENGR courses are generally not acceptable as substitute courses.
- Any student admitted to the direct-admit PhD program (who does not possess an MS degree, or equivalent) is required to complete all MS degree requirements, as stated here, while enrolled in the program, as a pre-requisite to the PhD degree requirements as given in the following section.
- Full-time traditional students are required to register for the ME Graduate Seminar (MECH-9022). Registration is required during all semesters in which the student maintains full-time status. Non-traditional students (part-time and GE students) are encouraged, but not required to participate. Seminar schedule is provided when the semester is in session. ME Graduate Seminar (MECH-9022) does not count toward the 30 graduate credit hours required for the degree.

C. Registration for Research Courses

The research course for MS students is MECH 9015 Research/Thesis. Permission from the faculty member is required prior to registration in a research course. The student must understand and meet the requirements set forth by the professor in order to receive a grade for the course. All such courses may be graded SP (in progress) until graduation. Upon satisfactory completion of the final oral exam for the degree, the faculty member will submit changes to applicable SP grades.

The Graduate School has requested that programs discontinue use of the SP grade, and instead assign a final grade (such as P) in all research courses, at the conclusion of each semester. Students should be aware

that assignment of a final grade in a research course does not directly imply satisfaction of degree requirements; a student may only graduate upon satisfactory completion of the final oral exam or defense of the thesis.

D. Transfer of Credits

As a means of assuring that the character and standards embodied in graduate degrees awarded by the University of Cincinnati are preserved, limits are set on the amount of work completed at other institutions which can be used to fulfill graduate degree requirements. The limits complement residency requirements, and are stated as follows:

- A maximum of 9 graduate semester credit hours of classroom coursework can be transferred (one time only) from another university and/or academic program, upon approval of the Academic Advisor, with subsequent approval from appropriate department and university authorities. Specific policies regarding such transfer of credits are:
 - Transfer of graduate credit hours is not allowed for coursework taken to satisfy the requirements of a previous or concurrent undergraduate or graduate degree program.
 - Credit hours allowed for a course will not exceed the semester credit hours of any University of Cincinnati course(s) which covers equivalent material.
 - The student's Academic Advisor must send a written request for transfer of credits to the Director of Graduate Studies (ME). Upon approval, the Director of Graduate Studies (ME) will submit the request to the University Graduate Faculty for approval.
 - Thesis work cannot be transferred.
 - Credits taken at the University of Cincinnati, prior to formal admission to the ME Graduate Program, are likewise limited to 9 graduate credit hours. This includes both non-degree coursework as well as coursework taken while enrolled in another degree program at UC which did not count toward another degree.

E. Minimum Academic Performance

In order to obtain a Master's Degree in Mechanical Engineering, a student

must (1) maintain a B average (3.0/4.0 or better), (2) obtain grades of A, A-, B+, B or B- in at least 2/3 of the minimum graduate credits necessary for the degree and (3) satisfy all final project/thesis requirements.

F. Candidacy

Students are not required to submit formal application for Master's candidacy. However, to maintain status as a graduate student and thus be eligible for a graduate degree, students must maintain minimum academic performance and must register for at least one (1) credit each academic year during the Fall semester. A student becomes a candidate for the Master's Degree upon matriculation into the ME Master's program.

G. Time Limitations

The minimum requirement for the Master's Degree is the equivalent of one academic year of full-time graduate study, consisting of at least 30 graduate credits completed to the satisfaction of the candidate's Advisory and Examining Committee. The average length of time involved in completing the MS Degree is approximately two years. A student pursuing a program leading to a Master's Degree must complete all requirements no later than five (5) years from the date of first registration in that degree program. Under extenuating circumstances students may petition the Graduate School for extension of the time limit. Applicable time limits are enforced irrespective of a student's part-time or full-time status.

In general, full-time students who continue their academic programs without interruption (not including Summer Semester) are held responsible for the graduate program requirements that are in force and published at the time of first matriculation into that program. Generally, changes in graduate program requirements will affect only the students who enroll after adoption and publication of the modifications.

Students who interrupt their graduate studies by withdrawing from the University, either officially or by failing to register for an entire academic year, will be held responsible for the graduate program requirements in force and published at the time they reenter that program. A written request for reinstatement must be made to the Graduate Studies Director (665 Baldwin). For current forms and instructions, please refer to the following URL: www.grad.uc.edu.

H. Theses, Research Projects and Examinations

Students are encouraged to select a thesis/project topic in their area of specialization/interest within the field of Mechanical Engineering. Thesis work is a valuable learning experience in which students have an opportunity to develop their abilities to search the literature, plan, analyze, experiment, evaluate, present and defend their work in addition to achieving a degree of specialization.

The primary requirements of a thesis are that it demonstrates ability of expression and critical power to evaluate. The acceptability of a thesis depends upon its quality and merit rather than the time and effort required for its completion or the tuition fees and credits hours spent on the investigation.

The Thesis Director should be selected as soon as feasible in the student's overall program. It is the policy of the Department that the selection of a thesis topic and Thesis Director be a voluntary process which is initiated by the student. For a student supported on a research assistantship (RA) funded by a faculty member's extramural research program, it is normally expected that the faculty serving as principal investigator and research supervisor will become the student's Thesis Director.

A Mechanical Engineering student awarded University Graduate Assistantship (UGA) support by the MME Department, either at the time of admission or subsequently, is required to select a thesis advisor within the Mechanical Engineering program; a thesis advisor from another CEAS department is not permitted.

Thesis Director: Since the student is normally assigned an Academic Advisor in his/her field of interest, and since the Academic Advisor has guided the student in preparation for the thesis, the Academic Advisor and the Thesis Director will normally be the same person. If a student wishes to change Advisors (Academic, Thesis, or to a Thesis Director different from the Academic Advisor), he/she must submit a written petition to the Director of Graduate Studies including the written approval of both the new and old advisors (Academic Advisor and Thesis Director if the petition is that they be different people) and the reasons for the change. Generally speaking, this change should be initiated towards the end of the first semester after a student has entered the MS program. **The Thesis Director must be approved by the Academic Advisor.** Since the assignment of Academic Advisor is based on the area of interest of the student and the area of expertise of the advisor, changes in advisors

generally reflects a change in student's area of interest. Since the MS program is designed to take approximately eighteen months, students should choose their areas of interest very carefully.

It is the student's responsibility to initiate thesis/project topic discussion with his/her Academic Advisor.

The Thesis Director will become a member of the student's Advisory and Examining Committee, if not already a member, and assumes the primary responsibility for guiding the student to completion of the thesis as long as the student continues to make reasonable progress.

The Thesis Director must hold Graduate Faculty standing, except as noted below. Full-time research-track faculty (Research Assistant Professor, Research Associate Professor, or Research Professor) may be approved by the Graduate School chair on an exception basis, for a specific student, by petition to the Dean of the Graduate School but are not awarded Graduate Faculty standing. Education-track faculty may not chair. Adjunct faculty may not chair. Visiting faculty may not chair. Other non-faculty personnel (e.g., Post-Doctoral Associate, Research Associate) may not chair.

Graduate Faculty standing is defined in further detail under the PhD Degree requirements section of this document.

Eligibility of Emeritus faculty to serve as Thesis Director is governed by rules established by the Graduate School. Currently, Emeritus faculty may be eligible to serve as a Thesis Director for a student if (and only if) that faculty member was serving in that capacity at the time of retirement; new advisees cannot be accepted post-retirement.

Emeritus faculty who held Graduate Faculty standing prior to retirement do not maintain full Graduate standing post-retirement; Graduate Faculty standing is extended on a per-student basis only to provide privileges to chair, in connection with specific advisees who were in progress at the time of retirement, by petition to the Graduate School. Otherwise, Emeritus faculty do not maintain Graduate Faculty standing in relation to committee service (see below). Emeriti are, however, eligible to serve as outside committee members with approval from the Graduate School.

Advisory and Examining Committee.

Members of the Advisory and Examining Committee are selected and appointed by the student's Academic Advisor (in consultation with the

student) at the appropriate stage of the program. The Advisory and Examining Committee consists of a minimum of three members including the Academic Advisor, who acts as its Chairperson, and the Thesis Director (if applicable). A minimum of two members of the Committee must hold Graduate Faculty standing in the Mechanical Engineering program. The remaining member(s) may be selected from the faculty of the Department, the faculties of other departments in the University, and appropriate persons outside the University. Outside committee members for a Master's committee must hold at least a Master's degree.

Thesis Proposal. Communication between the student and the Advisory and Examining Committee is an important factor in the successful completion of a thesis. Since the student is the central figure in a thesis investigation, he/she should strive to maintain communication. Preparation of a written thesis/project proposal (at the early stages of the research) with an oral presentation to the Advisory and Examining Committee is an excellent way of establishing communication and is recommended of each student. The thesis proposal should include a plan for subsequent meetings or other forms of communication. To be effective, however, the thesis proposal should be prepared early in the investigation.

Thesis Submittal. When the thesis work is essentially complete, a final draft is prepared. In general, the thesis will have gone through several preliminary drafts, and the Advisory and Examining Committee will have set forth specific requirements concerning the final draft.

The final draft is submitted to the Advisory and Examining Committee for critical review before scheduling of the Final Oral Examination. The student should allow the Advisory and Examining Committee ample time to review the work. Action on a draft submitted less than one month before the date on which the completed thesis/project is due may be deferred until the next semester.

After the Advisory and Examining Committee is satisfied, the student will, together with the Chairperson of this Committee (usually the Academic Advisor), schedule the Final Oral Examination. The Thesis Director will instruct the student regarding specific material which must be prepared for the examination.

Information concerning the required thesis format, reproduction, and fees, is available from the Graduate School (110 Van Wormer). Additional stipulations regarding thesis reproduction may exist if the student is

working under a grant or research contract. Any thesis submitted to satisfy requirements for the MS Degree becomes the property of the University.

Final Oral Examination. The MS Degree is not granted solely on the basis of the accumulation of the required number of graduate credits. A Final Oral Examination is normally required of candidates for the MS Degree in Mechanical Engineering. The purpose of the oral exam is to examine the student's understanding of engineering principles, his/her abilities of expression and power of critical evaluation. For the MS with Thesis, the defense of the thesis satisfies this requirement.

The Final Oral Examination is administered by each student's Advisory and Examining Committee. The student's Academic Advisor selects and is chairperson of the Committee. A student should contact his/her Advisor at the beginning of his/her last semester in order to discuss and make preliminary arrangements for the Final Oral Examination.

Thesis Option. The student's Academic Advisor will moderate the Final Oral Examination and will assist the student in arranging for the time, place and date. The Academic Advisor and the Thesis Director will specify what is required of the student prior to the Final Oral Examination and thesis defense. The student and the Academic Advisor will prepare a resume of the student's Program of Study including grades received, credits earned and GPA. The resume will be submitted along with the final draft of the thesis to members of the Advisory and Examining Committee at least one month before the examination date.

The specific format of each student's examination is left to the Academic Advisor; however, a typical procedure is as follows: The examination includes an uninterrupted summary (approximately 30 minutes) of the thesis by the student, an oral defense of the thesis, and a question period generally covering the student's comprehension of engineering principles. The thesis presentation is important and should be well prepared. Visual aids are recommended for this presentation. The examination lasts approximately one hour. Visitors may be invited to attend the thesis presentation, but they will not be permitted to remain during the committee questioning session.

The decision of the Advisory and Examining Committee is rendered immediately after the examination. If the student does not pass the examination, then the Committee will decide upon a future course of action. If the student passes, then the Committee will complete the Thesis

Approval Page and the Record of Final Oral Examination form. The Committee will also make a recommendation to the Graduate Studies Director (ME) and the Graduate Studies Committee concerning acceptability of the student for the doctoral program. (See also Section J., Continuation to the PhD program.)

There may be changes or additions required to the thesis. These must be made by the student and approved by the Thesis Director. The final corrected copies must be submitted to the Graduate School (110 Van Wormer) before the date on which the completed thesis is due. Electronic submission of the thesis is now required. For additional information, refer to www.etd.uc.edu.

I. Graduation

The graduate student has the responsibility to notify the CEAS Graduate Coordinator (665 Baldwin) **one semester prior to expected graduation**. Application for graduation is now submitted electronically; refer to the URL www.grad.uc.edu for further information.

Any student intending to receive a graduate degree is responsible for insuring that the aforementioned procedures, as well as those listed below, are carried out and the indicated forms submitted to the appropriate graduate office.

Graduation Requirements for Master's Degrees are:

1. Formal Application for Degree--online at www.grad.uc.edu. The student bears sole responsibility for maintaining up-to-date contact information with the College of Engineering and Applied Science Graduate Studies Office so that he/she can be advised of applicable deadlines for graduation.
2. Alumni Office Record.
3. Cap and Gown - Cap and gown may be purchased or rented at the University Bookstore.
4. Final Date for Defense of Thesis (as applicable to the degree awarded by the unit). Students should check with the Graduate Studies Office for specific dates.
5. SP, NG, I, and F Grades - Notification of removal of all SP, NG, I, and F grades must be submitted prior to a student's graduation, and/or

request for applicable waivers submitted to the Graduate Director.

6. Credit Hours - Completion of the required semester hours for the degree.
7. Certification of Program Requirements - Completion of all program requirements for the degree. Certification will be based upon a valid Program of Study form in the student's academic file.

Job Placement Form. It is very helpful to the department to know the placement information for graduates. The Job Placement Form should be completed by the student and returned to the CEAS graduate coordinator (665 Baldwin) for submission with the Final Oral Examination form.

J. Continuation to the PhD Program

Upon completion of the MS degree within the Mechanical Engineering program, a student may petition for immediate continuation into the ME PhD program; contact the CEAS graduate coordinator, 665 Baldwin Hall, for instructions. This can occur at the time of submission of paperwork for Master's graduation. A written petition and/or application for doctoral study is required, which is subject to approval by the ME Graduate Studies Committee. The student must meet all PhD program admission criteria to be eligible. Academic performance throughout the student's Bachelor's and Master's degree programs, as well as the recommendation from his/her Master's advisory and examining committee, are evaluated.

A student admitted to a Master's degree program within the department, who is admitted with certain deficiencies (with or without provisional standing, including but not limited to deficiencies in undergraduate and/or graduate GPA and/or previous degree field) may, in some cases, not meet PhD program admission criteria and may thus be ineligible for continuation to the doctoral program. Attainment of full standing in a Master's degree program (if applicable) and subsequent Master's degree completion does not, by itself, guarantee doctoral program admissibility. Affected students should contact the Graduate Director prior to Master's degree completion for additional information.

V. DOCTORAL DEGREE PROGRAMS

A. Program of Study

The general policy of the program is to permit flexibility in a Program of Study according to the individual objectives of the student. However, final authority for a student's program of study is vested in the student's Academic Advisor. **The Academic Advisor must be a member of the ME Program Graduate Faculty.**

It is the responsibility of both the student and his/her Academic Advisor to formulate a Program of Study as soon as he/she enters the PhD degree program. A Program of Study form should be completed in triplicate in order to record the study plan. The Advisor will keep one copy, and the student should retain a signed copy as his/her assurance of an approved Program of Study. The third copy should be given or sent to the Coordinator of Graduate Studies (665 Baldwin). The Program of Study forms are available on-line at [ceas.uc.edu/Graduate Studies/CurrentStudents/GraduateSchoolForms.html](http://ceas.uc.edu/Graduate%20Studies/CurrentStudents/GraduateSchoolForms.html). This should be completed by the end of the second week of the first semester of study. Revisions of a student's program of a study are to be expected; however, revisions should be recorded by preparing revised Program of Study forms.

The major objective of the doctoral program is to strengthen the student's ability to assume creative leadership in the solution of important, complex technological problems. Such ability is enhanced by both breadth of knowledge and depth of specialization. Therefore, the student's Program of Study should be a compromise between breadth and depth. It should be an integrated program of formal coursework and independent study culminating in an original dissertation which demonstrates the student's ability to define, analyze, and solve complex problems.

A student may select courses outside of the Program, Department and/or College of Engineering and Applied Science with the approval of his/her Academic Advisor. Individual study or projects can be accommodated by registration for Topics in Mechanical Engineering (MECH-9021). However, it is the student's responsibility to arrange for faculty supervision and to obtain the consent of the Academic Advisor prior to registering for Topics.

A Program of Study can be interdepartmental and interdisciplinary. However, in such cases the Academic Advisor may wish to select and consult with the student's Advisory and Examining Committee during the development of the student's Program of Study.

B. Credit Hour Requirements

The doctoral program includes the following specific requirements:

- A minimum of 90 graduate semester credit hours beyond the bachelor's degree is required. Completion of a Master's degree, either prior to matriculation or while enrolled in the Mechanical Engineering graduate program, is a prerequisite to PhD degree completion. A Master's degree earned prior to matriculation into the program is subject to approval by the Mechanical Engineering graduate studies committee, usually at the time of admission. All students who matriculate into the program with a Master's degree (whether thesis or non-thesis) will receive 30 credits toward the required 90 for a PhD. Therefore a minimum of 60 graduate semester credits beyond the Master's degree is required. Students possessing only a BS degree who are admitted into the direct-admit PhD program are required to complete a Master of Science (MS) degree while enrolled in the program. Unless otherwise stated, all of the below-referenced credit hour requirements for the PhD degree are stated as above and beyond MS degree requirements and thus assume master's degree completion.
- The required 60 credit hours beyond the MS degree may include up to 42 credit hours for research courses (which must include a minimum of 21 semester hours of MECH-9030 Dissertation with the remainder being comprised of MECH-9015 Research/Thesis). Prior to electing MECH-9030 Dissertation, the student must pass the ME PhD Fundamentals Exam.
- In addition, a minimum of 18 graduate semester credit hours must be classroom work, i.e., academic work other than Research/Thesis (MECH-9015), Research (MECH-9020), PhD Dissertation (MECH-9030), Topics in Mechanical Engineering (MECH-9021), or Seminar (MECH-9022).
- Of the 18 credit hour classroom course requirement, a minimum of three (3) graduate credit hours of study in advanced mathematics beyond the MS degree are required. In addition to courses offered by the Department of Mathematical Sciences, certain courses in MECH, AEEM, EECE, and other selected programs may be eligible to be

approved as substitute courses for the math requirement. Approval by the student's academic advisor is required. Due to changing course availability, students seeking to use a substitute course for this requirement should contact the Graduate Director for more information.

- Of the 18 credit hour classroom course requirement, a minimum of 12 graduate semester credits of Mechanical Engineering courses (MECH-xxxx or EGFD-xxxx) beyond the Master's Degree are required. Research/Thesis (MECH-9015), Topics (MECH-9021), Dissertation (MECH-9030) and Seminar (MECH-9022) do not count toward the requirement. Substitute courses, as previously described, may be allowed on an exception basis to satisfy the MECH course requirement. A petition for a substitute course should be submitted to the ME Graduate Program Director, following a recommendation by the Academic Advisor.

Exclusive of seminar and dissertation grades, the grade point average (GPA) in his/her Program of Study must not be less than 3.0 (B average). In addition, a student's GPA for all credits in his/her Program of Study must not be less than 3.0. If a student's term and/or cumulative GPA falls below 3.0, the student is on academic probation until the cumulative GPA is above 3.0; if this deficiency persists for two or more semesters, the student is subject to dismissal.

- Full-time traditional students are required to register for the ME Graduate Seminar (MECH-9022). Registration is required during all semesters in which the student maintains full-time status. Non-traditional students (part-time and GE students) are encouraged, but not required to participate. Consult the Mechanical Engineering seminar URL at <http://www.min.uc.edu/me/academics/departments-seminar> for the seminar schedule and other pertinent information. Seminar credits do not count toward credit toward the degree.
- Students enrolled in the ME graduate program on a continuous, full-time basis beyond a specified period of time (nominally two years in the MS program or three years overall, including both MS and/or PhD study) may apply for a waiver of the seminar requirement. Students in this category may contact the seminar director for more information.

C. Transfer of Credits

As a means of assuring that the character and standards embodied in

graduate degrees awarded by the University of Cincinnati are preserved, limits are set on the amount of work completed at other institutions which can be included as fulfilling graduate degree requirements. The limits complement residency requirements, and are:

- A maximum of 9 graduate semester credit hours (exclusive of 30 credits for an MS Degree at another university) can be transferred (one time) from another university and/or academic program, upon approval of the Academic Advisor, with subsequent approval from appropriate department and university authorities. Specific policies regarding such transfer of credits are:
 - Approval of these courses must be obtained before taking them unless the student is transferring to this program from another university.
 - Transfer of graduate credits is not allowed for coursework taken to satisfy the requirements of a previous or concurrent undergraduate or graduate degree program.
 - Credit hours allowed for a course will not exceed the semester credit hours of any University of Cincinnati course(s) which covers equivalent material.
 - The student's Academic Advisor must send a written request for transfer of credits to the Director of Graduate Studies (ME). Upon approval, the Director of Graduate Studies (ME) will submit the request to the University Graduate Faculty for approval.
 - Thesis or Dissertation work cannot be transferred.
 - Credits taken at the University of Cincinnati, prior to formal admission to the ME Graduate Program, are likewise limited to 9 graduate credit hours.

D. Minimum Academic Performance

In order to obtain a Doctor of Philosophy Degree in the ME Program, a student must (1) maintain a B average (3.0/4.0 or better), (2) obtain grades of A or B in at least two-thirds of the minimum graduate credit classroom hours necessary for the degree, (3) take and pass the PhD Fundamentals Exam within the specified time limits, and (4) complete the Dissertation Proposal/Candidacy exam, and final defense of the Dissertation within

nine (9) years.

E. Residency

All doctoral students must a residency requirement which states that he/she must remain enrolled for at least 10 graduate credit hours during two out of three consecutive semesters. Part-time students are not exempt from the residency requirement.

F. Doctoral Examination

The Doctoral Examination process consists of two exams, in addition to the final oral exam (dissertation defense) and is required of all doctoral students. The purposes of the Doctoral Examination are: (a) to evaluate the student's knowledge of engineering fundamentals and comprehensive problem solving ability, and (b) to ascertain that the student is qualified to perform independent research. Hence, the examination is divided into two parts, the PhD Fundamentals Exam and the PhD Candidacy Exam, which are discussed in the paragraphs to follow. A student is required to pass the PhD Fundamentals Exam before taking the PhD Candidacy Exam. The PhD Fundamentals Examination is scheduled during the Fall and Spring Semesters. **Graduate students must take the PhD Fundamentals Examination within certain specified time limits of the date when they are first admitted into the ME PhD program.**

The time limit depends upon which semester (Fall or Spring) the student is first admitted to the ME PhD program, as well as highest degree held upon entering the PhD program (BS or MS).

Each student shall receive two (2) attempts to pass the PhD Fundamentals Examination. The timetable within which the student must appear for his/her first and second attempts, and pass the exam, is given below:

Traditional PhD Student (MS degree conferred prior to enrollment in the PhD program): Students in this category must appear for their *first attempt* no later than the *second time* the exam is offered, following their date of initial enrollment in the PhD program. For a student continuing directly from the UC Mechanical Engineering MS program, the date of initial enrollment into the PhD program is the first day of the semester following receipt of the MS degree. Any student who does not appear for the first attempt within the required time frame is dismissed from the PhD program. A traditional PhD student must pass the Fundamentals

Examination (if a second attempt is necessary) no later than the third time the exam is offered. Examples of the most common scenarios are given below. The student's first academic year is considered to be a 12-month period which commences upon his/her date of initial enrollment into the PhD program:

1. A traditional PhD student first admitted into the ME PhD program in the Fall semester:
 - a. Must attempt the PhD Fundamentals Exam for the first time by the Spring semester of their first academic year.
 - b. Students who do not take the PhD Fundamentals Exam for the first time by the end of the Spring semester of their first year will be dismissed from the PhD program.
 - c. Students must pass the PhD Fundamentals Exam by the end of the Fall semester of their second academic year.
2. A traditional PhD student first admitted into the ME PhD program in the Spring semesters:
 - a. Must attempt the PhD Fundamentals Exam for the first time by the Fall semester of their second (the next) academic year.
 - b. Students who do not take the PhD Fundamentals Exam for the first time by the end of the Fall semester of their second academic year will be dismissed from the PhD program.
 - c. Students must pass the PhD Fundamentals Exam by the end of the Spring semester of their second academic year.

Direct-Admit PhD Students (Students admitted to the PhD program with a BS degree, MS degree earned while enrolled in the PhD program): Students entering the direct-admit PhD program with a BS degree only will be granted a grace period of two (2) calendar years, beginning with the date of initial enrollment. Effective on the two-year anniversary date of the student's initial enrollment, he/she is treated as equivalent to a newly-enrolled traditional PhD student, for the purpose of the PhD Fundamentals Exam requirement. As such, a direct-admit PhD student must appear for his/her first attempt no later than the second time the

exam is offered following the two-year anniversary date of his/her initial enrollment. Failure to appear will result in dismissal from the ME PhD program or demotion to the MS program as a terminal degree, without the possibility of readmission to the PhD program. The exam must be passed (if a second attempt is necessary) no later than the third time the exam is offered, following the two-year anniversary date of initial enrollment.

In no case will a student be offered more than two (2) attempts to pass the PhD Fundamentals exam. This includes any attempts while enrolled in the ME MS program. The second attempt (if necessary) must occur six months (next semester, not including summer) following the first attempt. Students who fail or who do not appear within the specified time limits are dismissed from the program. (MS students would be ineligible for PhD admission.)

A student who is matriculated into the PhD program in Mechanical Engineering and who subsequently petitions for and is granted demotion to the MS program in Mechanical Engineering within the first two semesters of study must nevertheless attempt the PhD Fundamentals Exam on the original schedule dictated by their original date of admission. Otherwise, such student will be ineligible for admission to the PhD program upon completion of the MS at UC. Any such student who takes and passes the PhD Fundamentals exam must nevertheless complete the MS in ME at UC prior to being eligible for re-admission to the PhD program.

PHD FUNDAMENTALS EXAM

The PhD Fundamentals Examination is prepared by the ME PhD Examining Committee and administered by the Mechanical Engineering Director of Graduate Studies. The examination requires that the student demonstrate competency in mechanical engineering fundamentals. The Mechanical Engineering PhD Fundamentals Exam takes place over four days. Exam subjects are offered for a period of 90 minutes (1.5 hours) in each of nine (9) areas, of which a student may elect a maximum of five (5) subjects. Each test consists of three or four problems in a specific area. The student is graded on a pass/fail basis in each area. All exams will be without reference or notes - appropriate reference material will be provided, if necessary. In order to pass the Mechanical Engineering portion of the PhD Fundamentals Exam, a student must pass three (3) of the nine (9) areas including his/her

declared primary area.

****NO CONDITIONAL OR PROVISIONAL PASSES WILL BE ISSUED.****

The following are the nine areas included in the Mechanical Engineering PhD Fundamentals Exam.

1. Fundamental Dynamics and Mechanical Vibrations
2. Strength of Materials
3. Fluid Mechanics
4. Heat Transfer
5. Manufacturing Processes
6. Engineering Statistics
7. Measurement and Control
8. Thermodynamics
9. Nuclear Engineering

Registering for the PhD Fundamentals Exam

At the beginning of the semester in which he or she takes the PhD Fundamentals Exam, the student must register for the course MECH-9031. This ME PhD Fundamentals Exam course is a no fee, zero credit hour course.

In the event the student does not pass the Mechanical Engineering PhD Fundamental Exam, he/she must petition the ME PhD Examining Committee for retake permission. No more than one repetition of the PhD Fundamentals Exam will be permitted. **No Conditional or Provisional passes will be issued. Students must pass three of nine areas of the Mechanical Engineering PhD Fundamental Exam.** Students who fail to pass the PhD Fundamentals Exam in two attempts are automatically dismissed from the ME PhD program.

A list of typical references, course outlines of basic courses in each area and at least one previous examination are made available to students via access to a OneDrive folder. Students enrolled into MECH-9031 will be given access to this folder. Affected students should contact the Graduate Director for more information. Since the examinations are usually prepared by different faculty members each time they are given, the student should consider these materials only as general guidelines.

The PhD Fundamentals Examinations are usually given during the

ninth and/or tenth weeks of the Fall and Spring Semesters. After the student's examinations have been evaluated, the Graduate Studies Committee will then notify the student and his/her Academic Advisor whether or not the student has passed the PhD Fundamentals Examination.

Within two months of successful completion of the PhD Fundamentals Examination, the student must officially notify the Graduate Studies Committee (in writing) of the members of his/her Advisory and Examining Committee. This Committee, which is chaired by the student's academic advisor is responsible for administering the PhD Candidacy Examination and will serve as the students' doctoral dissertation committee.

Retaking the PhD Fundamentals Exam

In the event the student does not pass the PhD Fundamentals Exam, he/she must petition the ME PhD Examining Committee for retake permission. When a student retakes the PhD Fundamental Exam, only the areas that were not passed in the first attempt need to be repeated. The student must pass at least three (3) of the nine (9) areas of the Mechanical Engineering PhD Fundamentals Exam, in a maximum of two (2) attempts. The second attempt must occur within six months (next semester, not including summer) of the first attempt. No more than one repetition of the PhD Fundamentals Exam will be permitted under any circumstances. No exceptions to applicable timetables are made for students whose registration status is other than full-time (e.g., part-time, GE, or inactive). The student bears sole responsibility in maintaining up-to-date contact information with the College of Engineering and Applied Science Graduate Studies Office, as well as with his/her advisor, so that he/she can be advised of details regarding the examination, as well as the applicable timetables. MS students who fail in two attempts will be ineligible for PhD admission. PhD students who fail to pass the PhD Fundamentals Exam in the two attempts are automatically dismissed from the ME PhD program, or offered the option of demotion to the MS program as a terminal degree, without the possibility of readmission to the PhD program. The ME PhD Examining Committee will not accept petitions for readmission to the ME PhD Program within ten years of dismissal from the ME Graduate Program.

PhD CANDIDACY EXAM

The PhD Candidacy Examination is concerned with the specialized knowledge and research ability of the student. The objectives are to evaluate the student's progress toward high scholarly attainment and to ascertain that the student is qualified to begin independent research. This examination may be written and/or oral, and it is prepared and administered by each student's Advisory and Examining Committee. The student's Academic Advisor selects and is Chairperson of the Committee. Since the PhD Candidacy Exam is designed for individual students, the subject matter, manner of conducting the examination(s), and scheduling are at the discretion of the student's Advisory and Examining Committee. **However, at a minimum the PhD Candidacy Exam must include a formal dissertation proposal (written) and its defense (oral).** It is recommended that the PhD Candidacy Exam be given as soon as practical after the PhD Fundamentals Exam.

As soon as possible after a student has completed the PhD Candidacy Exam, his/her Advisory and Examining Committee will meet to discuss the student's overall performance and make a decision on passing or failing the PhD Candidacy Examination. If the student does not pass, the Committee will decide upon a future course of action. If the student passes, the Committee will send written notification to the student and the Director of Graduate Studies (665 Baldwin Hall).

Candidacy

Candidacy occurs when the student successfully passes both the PhD Fundamentals Examination and the PhD Candidacy Examination as described previously.

Time Limitations for Candidacy/Graduation

The minimum requirement for the PhD Degree is the equivalent of two academic years of full-time graduate study beyond the MS Degree. The average length of time involved in completing the PhD Degree is more than three years. In no case may the PhD program of any student exceed nine (9) years from the date of acceptance into the PhD program.

In general, full-time students who continue their academic programs without interruption (not including Summer Semester) are held responsible for the graduate program requirements that are in force and published at the time of first matriculation into that program. For PhD students, this means the date they first matriculated into the ME

PhD program, not the date they were first admitted into the ME MS program. Changes in graduate program requirements will generally affect only the students who enroll after adoption and publication of the modifications.

Students who interrupt their graduate studies by withdrawing from the University, either officially or by failing to register for an entire academic year, will be held responsible for the graduate program requirements in force and published at the time they reenter that program. A written request for reinstatement must be made to the Graduate Studies Director.

The student must be a candidate for at least seven months before the PhD degree is granted. Also, candidacy must be maintained by registering for at least one graduate credit hour each Autumn Semester. Doctoral candidacy starts when the student passes the Candidacy Examinations (both parts) and terminates after seven years.

G. Doctoral Dissertation

1. Dissertation Director and Committee

Dissertation work is a valuable learning experience in which a student has an opportunity to develop his/her abilities to search the literature, plan, analyze, experiment, evaluate, present and defend his/her work in addition to achieving a significant depth of specialization. The primary requirement of a dissertation is that it shows evidence of high scholarly attainment through original and independent work. The acceptability of a dissertation depends upon its quality and merit rather than the time and effort required for its completion or the tuition fees and credit hours spent on the investigation.

The dissertation topic is expected to be in the student's area of specialization. It is the student's responsibility to initiate dissertation topic discussion with his/her Academic Advisor/Dissertation Director.

Obtaining financial support is usually important to a doctoral student, especially during completion of the dissertation which typically involves a minimum of one year of full-time work. Since the dissertation is expected to be of value and interest to some segment of our society, students and their Dissertation Directors are strongly urged to write and submit research proposals to government agencies and industry. In addition to the possibility of financial support, this

could provide valuable experience for the student. However, agencies typically require at least six months for action on a research proposal and funding usually starts at the beginning of their next fiscal year. Therefore, research proposals should be planned and submitted well in advance of the intended period of work.

Dissertation Director. Since the student is normally assigned an Academic Advisor in his/her field of interest and since the Academic Advisor has guided the student in preparation for the dissertation, the Academic Advisor and the Dissertation Director will normally be the same person. If a student wishes to change Advisors (Academic, Dissertation to a Dissertation Director different from the Academic Advisor), he/she must submit a written petition to the Director of Graduate Studies (ME) including the written approval of the intended Dissertation Director and the reasons for the change. **The Dissertation Director must be approved by the Academic Advisor. Appointment of a Dissertation Director from outside the ME Program faculty must be approved by petition to the ME Graduate Studies Committee.**

The Dissertation Director will become a member of the student's Advisory and Examining Committee, if not already a member, and assumes the primary responsibility for guiding the student to completion of the dissertation as long as the student continues to make reasonable progress.

For a student supported on a research assistantship (RA) funded by a faculty member's extramural research program, it is normally expected that the faculty serving as principal investigator and research supervisor will become the student's Dissertation Director.

A Mechanical Engineering student awarded University Graduate Assistantship (UGA) support by the MME Department, either at the time of admission or subsequently, is required to select a dissertation advisor within the Mechanical Engineering program; an advisor from another CEAS department is not permitted.

The Dissertation Director must hold Graduate Faculty standing. Full-time faculty holding research-track rank (Research Assistant Professor, Research Associate Professor, or Research Professor) may chair on an exception basis by petition to the Graduate School but are not awarded Graduate Faculty standing. Education-track faculty may not chair.

Adjunct faculty may not chair. Visiting faculty may not chair. Other non-faculty personnel (e.g., Post-Doctoral Associate, Research Associate) may not chair.

The CEAS Senior Associate Dean of Research and Graduate Education maintains a list of all faculty in the College who hold Graduate Faculty standing in their respective programs, including Mechanical Engineering. The Graduate School maintains a separate list of faculty who hold all-university Graduate Faculty standing. The Graduate School defines Graduate Faculty standing to be a faculty member who is authorized to chair thesis and/or dissertation committees. Generally, most faculty who hold Graduate Faculty standing will hold such standing at both the program and University levels. The nominal prerequisite for a member of the faculty to hold Graduate Faculty standing, both at the program and University levels, is a full-time tenure-track/tenured appointment in a program with graduate degree-granting status. Eligible faculty not currently holding Graduate Faculty standing in a program must be nominated for said standing by a program. New faculty holding a tenure-track/tenured appointment, with primary appointment in the MME department and assignment to the Mechanical Engineering program, may be nominated for Graduate Faculty standing in the ME program by vote of the ME Graduate Studies Committee; the nomination is then forwarded via the CEAS dean to the Graduate School for ratification. Faculty holding primary appointments in other programs or other departments within the University or its affiliates (e.g., Cincinnati Children's Hospital), including those holding joint or secondary appointments in the MME department, may also seek nomination for Graduate Faculty standing in Mechanical Engineering; in this case, a vote of the entire ME program Graduate Faculty is required to ratify the nomination. The nominee must possess all-University Graduate Faculty standing to be eligible.

Eligibility of Emeritus faculty to serve as Dissertation Director is governed by rules established by the Graduate School. Currently, Emeritus faculty may be eligible to serve as a Dissertation Director for a student if (and only if) that faculty member was serving in that capacity at the time of retirement; new advisees cannot be accepted post-retirement.

Emeritus faculty who held Graduate Faculty standing prior to retirement do not maintain full Graduate standing post-retirement; Graduate Faculty standing is extended on a per-student basis only to

provide privileges to chair, in connection with specific advisees who were in progress at the time of retirement, by petition to the Graduate School. Otherwise, Emeritus faculty do not maintain Graduate Faculty standing in relation to committee service (see below), although Emeriti are eligible to serve as outside committee members, with approval from the Graduate School.

Dissertation Proposal. Communications between the student and his/her Advisory and Examining Committee is an important factor in the successful completion of a dissertation. Since the student is the central figure in a dissertation investigation, he/she should strive to maintain communication. Preparation of a written dissertation proposal with an oral presentation to the Advisory and Examining Committee is an excellent way of establishing communication and is required of each student. The dissertation proposal should include a plan for subsequent meetings or other forms of communication. To be effective, however, the dissertation proposal should be prepared early in the investigation.

A written proposal must be submitted to the Department Head for all dissertation investigations or projects requiring departmental facilities, technician support, funds for computer usage, or funds for materials and equipment. If the proposal is approved, then a project number will be assigned to the investigation and the instructions will be given to the student regarding preparation of purchase orders, work orders and other required paper work.

Advisory and Examining Committee.

Members of the Advisory and Examining Committee are selected and appointed by the student's Academic Advisor (in consultation with the student) at the appropriate stage of the program. The Committee consists of a minimum of four full-time faculty members at UC, including the Academic Advisor, who acts as its Chairperson, and the Dissertation Director (if applicable). A minimum of three members (and at least 50%) of the Committee must hold Graduate Faculty standing in the Mechanical Engineering program. The remaining member(s) may be selected from the faculty of the Program, the Department, the faculties of other departments in the University, and appropriate persons outside the University (who must hold a PhD.).

Dissertation Submittal. When the dissertation work is essentially

complete, a final draft is prepared. In general, the dissertation will have gone through several preliminary drafts, and the Advisory and Examining Committee will have set forth specific requirements concerning the final draft.

The final draft is submitted to the Advisory and Examining Committee for critical review before scheduling of the Final Oral Examination. The student should allow the Advisory and Examining Committee ample time to review the work. Action on a draft submitted less than one month before the date on which the completed dissertation is due may be deferred until the next semester.

After the Advisory and Examining Committee is satisfied, the student will, together with the Chairperson of this committee, schedule the Final Oral Examination. The Dissertation Director will instruct the student regarding specific material which must be prepared for the examination. Information concerning the required dissertation format, reproduction, and fees is available from the Graduate School (110 Van Wormer) or on-line at www.grad.uc.edu. Additional stipulations regarding dissertation reproduction may exist if the student is working under a grant or research contract. Any dissertation submitted to satisfy requirements for the PhD degree becomes the property of the University of Cincinnati.

2. Final Defense of Dissertation

A Final Oral Examination or dissertation defense is required of every doctoral candidate after he/she has fulfilled all other requirements. In general, the examination will be restricted to the content of the dissertation and closely related material.

The examination is administered by each student's Advisory and Examining Committee. A student should contact his/her Dissertation Director at the beginning of the last semester in order to discuss and make preliminary arrangements for the Final Oral Examination. The examination should be held not later than two weeks before the anticipated graduation date.

The student's Dissertation Director will moderate the Final Oral Examination and will assist the student in arranging for the time, place and date. The student and his/her Dissertation Director will prepare a resume of the student's Program of Study including grades received, credits earned, and candidacy date. The resume will be submitted

along with the final draft of the dissertation to members of the Advisory and Examining Committee at least one month before the examination date.

The dissertation defense is open to the public, with invitations extended to the University and local community. The CEAS Graduate Studies Office (665 Baldwin) will assist the Academic Advisor in publicizing the dissertation defense and sending invitations **at least two weeks** before the examination date. As such, official notification of the date, time, location, dissertation title, and abstract must be provided to the CEAS Graduate Studies Coordinator (665 Baldwin) at least two weeks in advance of the dissertation defense. Official notification to the Graduate School of the scheduling of the defense is also required; students scheduling a defense at a time when they have not yet applied for graduation should contact the CEAS Graduate Coordinator, 665 Baldwin, for instructions.

The examination includes an uninterrupted summary (approximately 45 minutes) of the dissertation by the student, followed by pertinent questions from anyone in attendance. After the public has completed its questioning, members of the Advisory and Examining Committee will have an opportunity to submit further questions or comments, in private.

The candidate is judged by the quality of the dissertation, the manner of presentation, and his/her comprehension and response to questions on subjects related to the dissertation. The dissertation presentation is important and should be well prepared. Visual aids are recommended for this presentation.

At the conclusion of the examination, the Advisory and Examining Committee will withdraw, make a decision forthwith regarding the acceptability of the dissertation and its defense, and report to the candidate. If the student does not pass the examination, then the Committee will decide upon a future course of action. If the student passes, then the Committee will complete the Dissertation Approval Page and the Record of Final Oral Examination form. The Committee will also recommend a grade for the dissertation.

The Dissertation Director will forward the Record of Final Oral Examination form and a copy of the student's resume to the Director of Graduate Studies (ME). The Academic Advisor will forward the Record of Final Oral Examination form and a completed Program of

Study for the student showing grades received, credits earned, and GPA to the Graduate Studies Coordinator (665 Baldwin Hall).

There may be minor changes or additions required in the dissertation. These must be made by the student and approved by the Dissertation Director. The final corrected copies must be submitted to the Graduate School (110 Van Wormer) before the date on which the completed dissertation is due. Electronic submission is now required. For further information, refer to www.etd.uc.edu.

3. Publication of Dissertation

All dissertations approved for the doctorate will be published electronically via the UC Libraries and OhioLink. After a dissertation has been approved, a candidate for the doctorate will be required to complete the steps for electronic submission of the dissertation, as set forth by the Graduate School, Electronic Thesis and Dissertation (ETD) program. For further information, style guides, and detailed submission instructions, please refer to the following URL: www.etd.uc.edu. Also consult the Graduate School URL at www.grad.uc.edu for applicable forms and deadlines.

Detailed information regarding dissertation format and related issues may also be obtained from the ETD site at www.etd.uc.edu. A doctoral candidate may request (by signing the appropriate space on the University Microfilms Agreement form and attaching a check) that the dissertation be copyrighted by University microfilms.

H. Graduation

The graduate student has the responsibility to notify the Graduate Studies Coordinator in the COE Graduate Studies Office (665 Baldwin Hall) a minimum of one semester prior to expected graduation (no later than January 1 for June graduation). Application for graduation is now handled on-line. The student planning to graduate must apply for graduation by the posted deadline at the URL www.grad.uc.edu. Failure to apply for graduation by the posted deadline in a given semester will make the candidate ineligible for graduation in that semester. Since the student's graduation must be deferred to a later semester, additional fees may be incurred.

Any student intending to receive a graduate degree is responsible for insuring that the aforementioned procedures, as well as those listed

below, are carried out and the indicated forms submitted to the appropriate Department and University Offices.

Graduation Requirements for Doctoral Degrees are:

1. Formal Application for Degree--on-line at www.grad.uc.edu
2. Alumni Office Record.
3. Cap and Gown - Cap and gown may be purchased or rented at the University Bookstore (for June Graduation).
4. Announcement for Defense of Dissertation: The date, time, and location of the final defense of the dissertation must be reported to the CEAS Graduate Studies Office, and to the Graduate School, a minimum of two weeks prior to the defense date. Affected students should contact the CEAS Graduate Studies Office for specific instructions.
5. Degree in Absentia - A degree is conferred in absentia upon written request from the student, submitted on the appropriate form to the Graduate Studies office. The request must be made at least ten days prior to Commencement.
6. SP, NG, N, I, and F Grades - Notification of removal of all SP, NG, N, I, and F grades must be submitted prior to a student's graduation.
7. Credit Hours - Completion of the required semester credit hours for the degree.
8. Certification of Program Requirements - Completion of all program requirements for the degree. Certification will be based upon a valid Program of Study Form.
9. Survey of Earned Doctorate - NSF Form 558 (Doctoral Degrees only). Each Doctoral candidate is requested to complete this form and return it to the Graduate School (110 Van Wormer). The basic purpose of this survey is to improve graduate education by gathering objective data about doctoral graduates.

Job Placement Form. It is very helpful to the Department to know the kinds of employment obtained by graduates. The Job Placement Form should be completed by the student and returned to the Academic

Advisor for submission with the Final Oral Examination form. If the student has not confirmed employment at the time of the Oral Examination he/she should submit this form to the Graduate Studies Coordinator (665 Baldwin) as soon as possible. Part-time students should list their present jobs on this form.

Doctoral Exit Surveys Each doctoral candidate is required to complete the Doctoral Exit Survey on their doctoral experience and return it to the Graduate School. The results will be shared with the doctoral programs.

VI. SPECIAL RULES AND PROVISIONS

A. Non-Discrimination Policy

The University of Cincinnati's Notice of Non-Discrimination is repeated below:

The University of Cincinnati does not discriminate on the basis of disability, race, color, religion, national origin, ancestry, medical condition, genetic information, marital status, sex, age, sexual orientation, veteran status or gender identity and expression in its programs and activities.

The university does not tolerate discrimination, harassment, or retaliation on these bases and takes steps to ensure that students, employees, and third parties are not subject to a hostile environment in University programs or activities.

The university responds promptly and effectively to allegations of discrimination, harassment, and retaliation. It promptly conducts investigations and takes appropriate action, including disciplinary action, against individuals found to have violated its policies, as well as provides appropriate remedies to complainants and the campus community. The university takes immediate action to end a hostile environment if one has been created, prevent its recurrence, and remedy the effects of any hostile environment on affected members of the campus community.

The following URL provides up-to-date contact information for inquiries or reports related to these policies from any student, faculty, or staff member:

<https://www.uc.edu/about/policies/non-discrimination.html>

B. Right to Review Records

Students, once enrolled, have the right to review their educational records, except for those excluded by law, such as records maintained by a physician or psychiatrist, or parents' financial statement. Educational records are maintained in such offices as Student Records, the different College Deans' Offices, Department offices, Student Financial Aid, Career Development and Placement, and Educational Advising.

In order to gain a review of such records, along with any appropriate explanation or interpretation, the student should first address the proper university, collegiate, or departmental office. Should the student encounter any difficulty in obtaining the kind of review requested, the question should be referred to the office of the Registrar. An individual may challenge the content or the right to review a student record by appealing to the Family Educational Rights and Privacy Act Committee. It is the policy of the University of Cincinnati that the kinds of student records referred to in this statement will be reviewable by any qualified student at any reasonable time. Copies of any portion of the record will be provided at cost, except transcripts of students' permanent academic records for which the University's transcript policy will apply.

It is the policy of the University of Cincinnati that all student records, other than "Directory Information," are to be treated with confidentiality so that the only access afforded University faculty or staff is on a "need-to-know" basis. The office responsible for the maintenance of any particular student record will be responsible for seeing to it that such confidentiality is maintained.

Directory information includes the student's name, address, telephone number, college, class, major field of study, dates of attendance, registration status, and degrees and awards received.

C. Grievance Procedures

Any student who wishes to petition for relief from any of the regulations and policies contained in this guide may do so by submitting a written statement to the Director of Graduate Studies. The petition will be reviewed by the Mechanical Engineering Graduate Studies Committee and a decision will be rendered as soon as possible.

D. Academic Honesty

Academic dishonesty, in any form, is a serious offense and cannot be tolerated in an academic community. Dishonesty, in any form, including cheating, plagiarism, deception of effort, or unauthorized assistance, may result in a failing grade in a course and/or suspension or dismissal from the Graduate School (University Statement). Please refer to the University Student Code of Conduct for specific details.

E. Provisions for Dismissal

Students are expected to maintain a cumulative grade point average (GPA) of at least 3.0 while completing their Program of Study. A minimum cumulative GPA of 3.0 in graduate credit classroom work is required for graduation. A student with a cumulative GPA of less than 3.0 is considered to be in a state of deficient standing and is subject to withdrawal of departmental financial aid, including UGS and/or UGA awards, if applicable. Students whose GPA falls below 3.0 in two academic semesters will not be allowed to continue graduate study. It shall be the responsibility of any student whose GPA falls below 3.0 in any semester to consult with his/her Academic Advisor. Students will be advised, in writing, once each year concerning their academic standing relative to grades. Except for provisional students, at least one warning letter will precede dismissal for academic reasons.

F. Student Responsibility

The general responsibilities of the student include the following:

1. **The final responsibility for meeting all degree requirements lies with the student.** The Handbook of the Graduate School and this Student Guide for the ME Graduate Program should be read carefully; regular updates to this document are posted at: <https://www.ceas.uc.edu/academics/departments/mechanical-materials-engineering/mechanical-engineering/current-graduate-students.html>
2. In general, students will be held responsible for the latest requirements outlined in the Handbook of the Graduate School. All students, and part-time students, particularly, are cautioned to study the latest Handbook and Guide carefully. University rule changes may be exceptions.
3. Each student should strive to maintain communication with his/her Academic Advisor. Occasionally, an Advisor is off campus for an extended period of time. In this case, the student can obtain assistance from the Director of Graduate Studies.
4. Each student should have an up-to-date Program of Study which has been approved by the Academic Advisor. The student should keep a record of progress, e.g., courses taken, grades received. Failure to provide a Program of Study to the Secretary of Graduate Studies may be cause for denial of financial aid and/or dismissal from the graduate

program.

5. The Department conducts a Seminar Program each year in order to keep faculty and students informed of current technological problems and areas of interesting research. Graduate students are strongly encouraged to attend these seminars.

VII. ANNUAL GRADUATE PROGRESS REVIEW

Students who intend to continue their studies in the fall semester of the following academic year are required to complete an **annual review process during the summer semester**. The annual review consists of two components:

1. **Individual Development Plan (IDP) Survey** – Students must complete the IDP survey using the link provided by the program.
2. **Graduate Student Annual Progress Review** – Students must complete the annual progress review using the template included in this handbook.

Students should first complete the IDP survey and then schedule a meeting with their faculty advisor to discuss their IDP, academic and research progress, accomplishments, and plans for the upcoming academic year. Following this discussion, the student and advisor will complete the Graduate Student Annual Progress Review. The completed review must be signed by both the student and the advisor and submitted to the **Graduate Program Director before the beginning of the fall semester**.

(End of ME Graduate Student Guide)

Appendix

Department of Mechanical, Materials and Industrial Engineering, University of Cincinnati ME Graduate Student Annual Progress Review

Fill out each applicable field below and the Curriculum Requirements form on the following page, using continuation pages as needed.

Student Name:

Graduate Program: ☐ MEng ☐ MS ☐ PhD Special Program, if applicable: ☐ ACCEND ☐ GE-ACE

Faculty Advisor:

Committee Members:

Milestone dates (previous or anticipated, noting outcomes as applicable):

First enrollment in graduate program:

Previous annual progress reviews:

Thesis/dissertation committee meetings:

PhD fundamentals exam:

PhD candidacy exam (dissertation proposal):

MS thesis or PhD dissertation defense:

Expected semester of graduation:

Number of course credits completed:

Cumulative GPA:

Course deficiencies (F, N, I, U or Y): list course title, semester, grade (Please attach a copy of Program of Study)

Student comments (if any):

Faculty/advisor Inputs :

Is student making satisfactory progress toward degree? ☐ Yes ☐ No

Comments (if any):

Student Signature:

Faculty Signature:

Date:
