FOREWORD

Provisions of this Graduate Handbook apply fully current students, as well as to students admitted into the Graduate Program in Materials Science and Engineering (MSE), starting in the Fall Semester, 2012. This Handbook represents a Semester upgrade and revision of the current MSE Handbook that has been in effect since September 2009. The minor changes and Semester accommodations to this Handbook will be applicable to all graduate students, including those graduate students admitted into the program under provisions contained in earlier editions of the Graduate Handbook. However, students who may be adversely impacted by these changes can request an exemption from particular aspects of the new provisions by appealing to the MSE Graduate Studies Director who, along with the Graduate Committee, will consider each case on an individual basis.

Approved for distribution by the MSE Graduate Studies Committee:
Professors:
Relva Buchanan - Chair
Steven Clarson
Donglu Shi
Vesselin Shanov
Vijay Vasudevan

March 18, 2012
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I. PREFACE

A. Graduate School: Graduate Studies, Graduate Research and Faculty

The Dean of the Graduate School coordinates all graduate programs throughout the university. The Graduate School extends to its member students and faculty opportunities for advanced work in their chosen fields. The All-University Graduate Faculty has the responsibility for determining educational policies and for regulating the awarding of degrees. The Graduate Faculty formulates also common rules for instruction throughout the various departmental units and programs, including the manner of instruction and the methods for evaluating the results of examinations.

B. MSE Graduate Studies Director and Graduate Studies Committee

The Materials Science and Engineering (MSE) Program administers graduate programs leading to the M.S. and Ph.D. degrees. The MSE Graduate Studies Committee is the graduate policy body of the Materials Science and Engineering Program. Academic actions concerning the graduate program are made by this committee and administered by the Graduate Studies Director, in conformity with CEAS and Graduate College directives. The Graduate Studies Director is advisor to all MSE graduate students.

All forms and correspondence concerning the graduate program should be directed through the Graduate Program Office the Engineering College’s Office of Graduate Studies (located in 665 Baldwin Hall).

C. Graduate Handbook.

The policies and procedures described in this Handbook apply equally to full-time and part-time students pursuing a graduate degree in the MSE program. These policies supplement those published in the University of Cincinnati Handbook by the Division of Graduate Education and Research of the University, and other regulations set forth by the Engineering College, and the International Student Services Office. Students are advised to be thoroughly familiar with, and conform to, all these rules and regulations.

II. ADMISSION TO GRADUATE DEGREE PROGRAMS

A. Application

To gain admission to graduate study in the Materials Science and Engineering Program, the student must submit an application form, which is available online at the Engineering College’s Office of Graduate Studies site.

The application should include three letters of recommendation and transcripts of his/her undergraduate and graduate record (if applicable). The GRE (Graduate Record Examination) is required for those students who received their last degree from a non-US University. It is recommended that students from U.S. Universities also submit GRE results. On receipt of the application, the Graduate Studies Committee will determine if the student is to be admitted for graduate study in the MSE Program and whether he/she is eligible for financial aid. Additional information relating to admissions is also available from the above units, together with details of the MSE Program, faculty and research areas.
B. Financial Aid.

Financial aid usually takes the form of a University Graduate Scholarship (UGS) (a Tuition Scholarship). A Graduate Teaching Assistantship (UGA) (which carries a stipend) may also be offered to select incoming graduate students. In some cases, the student might be admitted with aid in the form of a Research Assistantship (RA) or a Research Fellowship and a UGS. In a few other cases, a student could also be admitted without program financial aid.

A Student, who has explicitly declined to seek financial aid at the time of application for admission, may not later reverse that decision and seek such aid, unless at least one year has elapsed from the time of initial enrollment into the graduate program. Exception to this rule may be granted only upon petition to the Director of Graduate Studies and by presenting evidence of hardship, or other extenuating circumstances that necessitate such a reversal.

In general, financial is awarded to qualified incoming full-time graduate students for the first academic year only. Beyond that the student should try to arrange with his/her thesis/dissertation advisor for financial support. However, the student will normally continue to receive the UGS from the Department, subject to his/her satisfactory progress towards the degree, time constraints and to availability of UGS funding.

All financial aid is normally subject to time limitations. A full-time student registered for an M.S. degree will not normally receive a UGS or an assistantship after 6 semesters or 2 years. Similarly, a student registered for a Ph.D. degree may not be recommended to receive financial aid after 12 quarters or 4 years. [Note; There are three semesters in an academic year at UC, including summer]. This 12 semester (4 year) limit will start from the semester an M.S. student defends his/her M.S. thesis (for continuing students) or from the date of initial enrollment (for those who join the program with an M.S. degree). In the case of those students who qualify and choose the direct Ph.D. path after the B.S. degree, the total time limit for receiving financial aid is 18 quarters (6 years).

A student, who has been placed on probation for 2 consecutive semesters or any two semesters during their tenure as a graduate student will not be recommended for further financial aid (consult the ‘Graduate Student’s Responsibilities’ document for details about probation).

III. GRADUATE CREDITS AND GRADES.

A. Course Registration

Students who have been admitted to graduate study in the MSE program, should, upon arrival, confer with the Graduate Studies Director, who initially will act as the student’s advisor, until the Thesis or Dissertation Advisor is chosen. Once an academic advisor is chosen, all courses taken subsequently by the student must have the prior approval of that advisor. All MSE graduate students are expected to take mainly those courses, classes, and other credits hours that are offered within the Program, and/or those approved by the Program. A list of approved courses will be available in the Graduate Program office. Exceptions to this requirement must be approved, in writing, by the student’s advisor and the Graduate Studies Director. Students wishing to take classes outside of the College of Engineering must fill out a form available in the Graduate Studies Office and obtain approval also from the Program Director.
All Full-time MSE graduate students are required to submit a copy of their complete schedule of registration for the quarter (from UC Registrar's Office) to their advisor before the end of the fourth week of each quarter. A copy of this schedule should be submitted also to the MSE Graduate Program Office for their records.

B. Selection of Advisor.

Students admitted to the MSE Program should make every effort to choose a thesis advisor during the first quarter of their enrollment in the Program. A student entering the program with GA-UGS support or UGS-only support should, before choosing his/her thesis or advisor, contact faculty members of the Program to determine an area of mutual research interest.

The selection of the advisor is the most important decision the student will make in the early stages of his/her career study. This selection should be made in writing using the appropriate form (signed by the student and the faculty advisor), and approved by the Graduate Studies Director, with notification to the Graduate Program Office. The advisor will advise the student on all phases of his/her progress towards the degree objective, including his/her academic program and the thesis or dissertation research project, which is carried out under close guidance by the advisor. The student should, therefore, keep the advisor informed at all times of his/her academic progress, courses taken, grades received, examinations passed, etc. The award of financial support beyond the first year invariably will depend on the academic performance of the student, as well as on the availability of financial resources. The Director of Graduate Studies must be advised of this support in writing (in a form signed by both the student and the faculty advisor).

Full-time Load and Reduced-Time Load of Graduate Credits.

The normal load for a student devoting full-time to graduate study is 10 graduate credits of work in the fall and spring semesters, and 8 graduate credits in the summer. Students will not be permitted to register for more than 13 credits in any one semester without approval of their advisor and the Director of Graduate Studies. Students who have completed their total credit hour requirements for the degree being pursued, but have not yet completed and defended their thesis/dissertation, may register for a reduced course load of 1 credit hour per quarter (maintaining thereby their full-time status) by filling out a form available online and/or in the College's Graduate Studies Office and having their advisor sign it. Since these policies may be subject to revision, students should contact the Graduate Program Office periodically for guidance.

C. Auditing

Graduate students, with the permission of the course instructor and his/her advisor, may be allowed to audit a course. The instructor may require the student to take all the regular examinations of the course. If the examinations grades are unsatisfactory, the student may be required to drop the course. The student is normally assigned a “T” grade for successfully auditing a class. However, these credits cannot be included as part of the degree course requirements.

D. Special Projects.
Of the research credits required to satisfy graduate degree requirements, no more than 4 semester credit hours may be taken as special project credits by M.S. students. Likewise, not more than 6 credit hours may be taken as special project, by the PhD. student (after the M.S. degree). The student will receive the letter grades in the special projects. These credits cannot be used to satisfy the graduate degree course requirements.

E. Unsatisfactory Course Performance.

A student having a grade of “F”, “I”, or, “NG” or “UP” in any course for which he/she has registered is not considered to have completed the degree requirements. An "F" grade is permanent on the student’s transcript and is included in the GPA. The student cannot graduate without retaking the course with the "F" grade and obtaining a Pass (A, B, C, etc) grade. In unusual cases, an alternative procedure may be permitted, provided that such procedure has the approval of the course instructor and the advisor. No course may be dropped unless permission is obtained from the course instructor and the advisor.

F. Minimum Academic Performance.

The student must maintain at least a 3.0 cumulative quality point average (QPA) in graduate courses at the University of Cincinnati and within the Graduate Program. Failure to maintain at least a 3.0 QPA may result in probation in the following semester. (consult the ‘Graduate Student’s Responsibilities’, for details about probation). No student with a QPA below 3.0 will be recommended for graduation.

G. Transfer of Credits.

To transfer graduate credits earned at other U.S. institutions of higher learning, the student must file a petition for Advanced Standing with the Director of Graduate Studies not later than two semesters after admission. The petition should be endorsed by the student's advisor, and should list the courses to be transferred, the university, the year, and the grade earned. The student should provide proof that the course to be transferred was not part of a program for which a degree was granted. Only courses with grades “A” or “B”, taken within the last 5 years, can be transferred. Credit for a course will be transferred only if an equivalent course is given at the University of Cincinnati and the student has not taken the UC course, and if the equivalent course is not one of the first level or advanced level core courses offered by the program. A maximum of 6 semester credits may be transferred to satisfy either the M.S. or Ph.D. course requirements.

H. Undergraduate Courses for Graduate Credits

Under special circumstances, undergraduate courses offered by other Departments within the University may be counted toward the requirements for the M.S. or Ph.D. degree. A petition must be filed by the student, with the endorsement of his/her advisor, to the Director of Graduate Studies. The undergraduate course in question must be: (1) outside the student’s main area of study, (2) essential in broadening the student’s capability in an area related to his/her main area of study, and (3) unavailable at the graduate level within the University. No more than six credit hours taken under this provision may be counted toward the degree requirement.
I. Exposure to Teaching.

Graduate students within the Materials Science and Engineering Program will be required to undertake some teaching activity, as part of their professional academic training. To fulfill this requirement, the student may be asked to serve as a teaching assistant, for no more than one quarter per calendar year during the time he/she is enrolled in the graduate program, or until graduation. This requirement is aimed at assuring that students acquire needed experience in teaching interactions. The required teaching activities will normally involve: providing assistance to the instructor in undergraduate courses and/or laboratories, in the form of help students with course/lab work, grading assignments and examinations, conducting tutorials and experiments, and any other related activities deemed necessary by the instructor for proper conduct of the class.

Students are encouraged to volunteer for such assignments, and may seek academic credit through a teaching internship with the involved faculty.

IV. DEGREE PROGRAMS AND COURSE REQUIREMENTS

A. Degrees Offered

The MSE graduate Program offers both MS level and PhD level degrees in Materials Science and Engineering, based on core level and recommended/optional course requirements, and a thesis presentation and defense. The Program is generally structured towards specialization in Metals, Ceramics, or Polymers, as sub-disciplines, with Composites as possible special area. A non-thesis option may be available at the MS level to students who do not receive financial aid, to part-time students with external sponsorship, or under exceptional circumstances with approval of the Graduate Dean and Graduate Studies Director.

B. Core Courses

All graduate students entering the MSE graduate program in the Fall semester are required to take one of the following two sequences of first level core courses:

Metallurgy/Ceramics Option:

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<td>1</td>
<td>Advanced Thermodynamics</td>
<td>20-MTSC-7035</td>
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<tr>
<td>2</td>
<td>Mechanical Behavior of Materials II</td>
<td>20-MTEN-6097</td>
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<tr>
<td>3</td>
<td>Kinetics of Materials Processing</td>
<td>20-MTSC-6020</td>
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<tr>
<td>4</td>
<td>Phase Transformation in Solids</td>
<td>20-MTEN-6071</td>
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Polymers Option:

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<tbody>
<tr>
<td>1</td>
<td>Advanced Thermodynamics</td>
<td>20-MTSC-7035</td>
</tr>
<tr>
<td>2</td>
<td>Fundamentals of Polymer Science</td>
<td>20-MTEN-7094</td>
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<tr>
<td>3</td>
<td>Physics of Polymer Properties</td>
<td>20-MTEN-6034</td>
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<td>4</td>
<td>Polymer Analysis and Characterization</td>
<td>20-MTEN-7032C</td>
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The student is normally required to complete these first-level core courses during the first academic year in the graduate program. Those graduate students with a B.S. degree in MSE from the University of Cincinnati will be required to take additional elective courses if they have already taken any of these courses.
C. MS Course Credit Requirements

Students enrolled in the MS program, must pursue the thesis program if they receive Institutional financial support. To satisfy the requirements for the MS degree, a minimum of 30 graduate semester credit hours must be completed by the student. Of these 30, a minimum of 20 credit hours, should be in graduate courses offered through the Program, including the 9 credit hours in the first-level courses as core requirements. Students wishing to take courses offered by other Departments/Programs, to fulfill the balance of 12 credit hours (i.e. 20-8) must obtain prior approval from their advisor and the Graduate Studies Director. These courses must be related to MSE program goals, and be in an area that will advance the student’s thesis research. Of the required total of 30 credit hours, 10 credit hours must be in M.S. thesis research. All courses require prior approved by the student’s thesis advisor.

Candidacy:
Enrollment in the graduate program makes the student a candidate for the degree of Master of Science.

Time Limitations:
M.S. students are expected to complete the degree requirements within (6) semesters (2 years) after initial enrollment into the graduate program. Financial aid may be withheld after this time limit.

Non-Thesis Option:
Where applicable, a minimum of 30 credit hours must be completed by the student. Of these 30 hours to satisfy the non-thesis requirement. Of these, 26 must be in graduate courses offered or approved by the Program, including 8 in the first level core courses listed above for the two options, and 4 credit hours in an approved research project. The courses taken must have prior approval by the student’s advisor.

For the regular non-thesis option, students should enroll in the MENG Program, with a concentration in Materials science and Engineering. This program normally takes only two semesters to complete. The curriculum basically consists of four components: 1) Program core courses taken by all MENG students; 2) Track required courses from the discipline of interest; 3) Elective courses which permit breadth, depth, or interdisciplinary focus, depending on student educational objectives; and, 4) a capstone project that demonstrates application of acquired skills and synthesis of knowledge. A detailed description of this program, together with program requirements can be found at the graduate website.

MS Theses, and Examinations

The selection of the MS thesis topic is made in consultation with the student's thesis advisor. On completion of the thesis work, the student in consultation with his/her thesis advisor, will select the names of two faculty members, who together with the advisor will form the thesis examination committee. At least one committee member must chosen from a specialty area (ceramics, metals, polymers) different from that of the advisor. A majority of the committee must also be from the program faculty, unless specially exempted by the Graduate Studies Director. The thesis committee selection must be submitted to the Graduate Studies Director for approval [use appropriate form], prior to published notifications or the scheduling of the thesis examination. Upon review, the Graduate Studies Committee may add up to two additional members to the thesis committee. Approval of the thesis examination results will be conditioned on this prior procedure being adhered to.
A thesis must be prepared in accordance with the guidelines (see “Instructions for the Preparation and Depositing of Master’s Theses and Doctoral Dissertations” of the Graduate College). A successful oral defense of the thesis before the student’s committee is a degree requirement. Copies of the thesis must be submitted to the Thesis Committee members at least one week prior to the oral defense. The oral examination will start with a formal presentation (20-30 minutes) by the student, followed by questions from the members of the thesis committee and members of the audience. The entire examination may not exceed 2 hours. At its completion, both the student and audience will be excused from the room, and the thesis committee will deliberate as to the merits of both the written thesis and the oral defense. The results of this deliberation will initially be communicated directly to the student by the committee, and subsequently in written form by the advisor, with copies to the Graduate Program Director and Graduate Studies Office. Required revisions to the thesis should be conveyed to the student in writing [use appropriate thesis examination form]. The student’s advisor will suggest the final grade for research, which must be approved by the committee. The committee will also determine, based on the performance at the oral defense, whether the student will be recommended to proceed towards the PhD degree. The Committee may also recommend a date (not to exceed six months from the date of defense) for the submission of the final copies of the thesis. All recommendations from the thesis committee should be conveyed to the Graduate Director in writing (use relevant form) by the advisor within a time period of 1 week from the date of the defense. The thesis advisor must assure that the student makes the recommended changes to the thesis before the final copies are submitted. The student should make the required changes and submit the final thesis within a reasonable period of time. The committee’s recommendation, for continuation to the PhD degree, may be voided by the Graduate Studies Director, in cases where the student has unreasonably delayed his/her MS graduation, after the thesis defense.

Non-Thesis MS Degree:

Students pursuing an approved non-thesis degree option should make every effort to select his/her project advisor as early as possible and convey this choice to the Graduate Director in writing. After consultation with the advisor, the student should prepare a project report based on the student’s work experience (for part-time students) or on a topic of literature review/research work. The advisor has the responsibility for judging the acceptability of the project report. In no case may the project have a proprietary classification. The project should be completed within two semesters. On successful completion of the project requirement appropriate notification (use relevant form) should be given from the advisor to the Graduate Studies Director.

V. DOCTORAL DEGREE PROGRAM

A. Enrollment.

The Department offers programs in metals, ceramics, and polymers leading to the Ph.D. degree. There are three routes by which a student can enroll in the Ph.D. program.

1. Students with M.S. (MSE) from UC:
   A student having a M.S. degree with major in Materials Science or Materials Engineering from the University of Cincinnati must secure a recommendation from his/her thesis Committee to proceed towards the PhD.
2. **Direct PhD Program After BS:**

A student already in the MS program may request the direct PhD program (use relevant form) at the end of the third quarter after enrollment, if he/she has obtained a minimum of 27 graduate course credit hours (not including special projects) and GPA of 3.5 or better in the core courses as well as in the overall graduate courses. To proceed under this program, the student is required to pass the graduate qualifying examination within two semesters after selecting this option. If the student fails the qualifying examination in his/her first attempt, he/she will be required to take the MS degree route first and will then pursue the same route available to other students. However, if the student is allowed to continue for a Ph.D. after completing the M.S. degree, he/she will have only one more chance to take the qualifying examination. Alternatively, a student may qualify for the direct Ph.D. program if he/she has completed all the course requirements (not including the Ph.D. core courses) and has passed the Ph.D. qualifying examination in one attempt before the end of the second academic year. In this case, the application for the direct PhD program must be made before the end of the second academic year (use relevant form).

**Students with MENG from UC and/or MS from Other Departments or Universities:**

A student having a MS degree in an appropriate field from a recognized university may be admitted to the PhD program in Materials, when his/her application is approved by the Graduate Studies Committee. Students having an MENG degree from the College will be admitted to the PhD program only after specific review and approval by the Graduate Studies Committee, since the MENG is intended to be terminal degree.

**B. Credit Hours.**

1. **Advanced-Level Core Courses**

   In addition to satisfying the 12 credit hours of required courses as described above (section IV.A), a student working toward a PhD degree is required to take 6 credit hours of the following advanced-level core course.

   - Diffraction Theory 20-MTEN-7048
   - Advanced Materials Techniques 20-MTSC-7010C

2. **Students With B.S. Under Direct Ph.D. Program:**

   The doctoral degree requires a minimum of three years of full-time graduate study in the MSE program and a minimum of 90 graduate semester credits beyond the bachelor’s degree, excluding credits earned to remove deficiencies. Of the required total of 90 credit hours, a minimum of 30 credit hours must be in coursework and a minimum of 60 credit hours must in research. Of the total 30 credit hours of course work required, a minimum of 24 credit hours (including 9 credit hours of core courses described in section IV.A and 6 credit hours in the advanced-level courses described in section V.B.1) must be in graduate courses offered or approved by the Program. The balance of 6 credit hours (30-24) must be in graduate courses approved by the student’s advisor. All course registrations should have prior approval by the student’s dissertation advisor.
3. Students with MS /MENG from UC in MSE or Other Departments or Other Universities:

For students entering this Department with an approved M.S. degree from UC (in MSE or another Department) or another University, the doctoral degree in the MSE program requires a minimum of three years of full-time graduate study and completion of a minimum of 60 credit hours, excluding credits earned to remove deficiencies. Of the total of 60 credit hours, the student must complete a minimum of 30 credit hours in courses and a minimum of 30 credit hours in research. Of the required 30 credit hours of course work, a minimum of 24 credit hours must be in Departmental graduate courses or those approved by the Program, including the 12 credit hours of core courses described in Section IV.A and 6 credit hours in the advanced courses described in section V.B.1. All course registrations should be approved by the student’s Dissertation Advisor.

4. Department Seminar

All students are required to sign-up for 1 credit hour of seminar (20-METL-871 or 20-MTSC-871) in the Fall and Spring semesters of each academic year. Attendance is mandatory and required for a PASS grade. If a student is unable to attend the seminar during a given week, prior written approval must be obtained from the student’s advisor and the faculty seminar coordinator.

C. Qualifying Examination.

1. Philosophy:

The objective of the Ph.D. Qualifying examination is to determine whether the student’s level of preparation in his/her chosen topical area (ceramics, metals, polymers) within the general field of materials science and engineering, is adequate for the successful conduct of the doctoral dissertation research program. The examination is structured to assess both the student’s depth of knowledge in the chosen field and his/her ability to apply this knowledge to a critical review of an important research topic. The Qualifying Examination consists, therefore, of a critical literature review document, its oral presentation and defense in front of a select committee, and an oral examination within the chosen field.

Prior to the qualifying examination date, the student will prepare the written critical literature review document on a topic that is in the general area of the student’s research interest and is selected in consultation with his/her research advisor. Four copies of the written literature review must be submitted to the Department office two weeks after the beginning of the Fall or Spring semester in which the examination is being taken. This document will be reviewed by the selected faculty qualifying exam committee and returned to the student with appropriate comments, within three weeks after receipt. The student will then make his/her own revisions and resubmit the document two weeks prior to the oral examination date.

2. Time Limitations:

A full-time student who started in this Program with a B.S. degree should make the first attempt at the qualifying examination no later than the 7th semester from the initial enrollment. A student who started with an M.S. degree should make the first attempt no later than the 4th semester from the initial enrollment. If a student fails to make any one of the attempts within the specified time limits, he/she will be deemed to have failed that attempt, and appropriate academic action will be initiated. The qualifying examination will normally be scheduled between
the 8th and 10th week of the Autumn and Spring semesters. A student may choose to take the qualifying examination prior to the above time limits by informing (in writing) the Graduate Director. By the first day of class of the Autumn and Spring semesters, those students planning to take the Ph.D. qualifying examination during that period must declare, in writing, (use relevant form) their chosen field (ceramics, metals or polymers) for the examination.

3. **Examination Procedure:**

The following procedures will be used for conducting the Ph.D. Qualifying Examination:

a. The Program head, in consultation with the Graduate Program Director, will appoint a senior MSE faculty member as the Chair of the Ph.D. Qualifying Examination Committee. The Chair’s function is to organize all facets of the qualifying examinations to ensure that procedures are applied uniformly to all the students. Generally, the Chair will constitute examination committees for each of the three primary disciplines (ceramics, metals polymers), consisting of three faculty members, only two of which will represent the student’s discipline. Alternate committee members (one each from ceramics, metals, and polymers) will also be appointed to the committee. The Chair will constitute a fourth member of all the examination committees, and will chair these committees. An alternate will replace a regular member in cases where the regular member is the student’s primary advisor. Whenever the Chair is also the student’s primary advisor, or due to unavoidable absence of the Chair, a fourth regular member (or alternate) will act for the Chair.

b. By the second week of the semester The Graduate Program Director, with the help of the Academic Program Coordinator, will prepare a list of all candidates scheduled to appear for the PhD qualifying examination. A final list will be available for distribution to all committee members by the fourth week of the semester.

c. The Qualifying examination committee Chair will, in consultation with the faculty, determine the individual student’s examination committee (the panel) and prepare the overall examination schedule. This schedule will be published by the end of the third week of the quarter. All examinations will be conducted between the sixth and the eighth week of the quarter. Every attempt will be made to conduct the examinations on the published schedule. Under exceptional circumstances, the Chair has the option of: (a) rescheduling the examination, (b) conducting the examination with another regular member, or (c) conducting the examination with an alternate member. Should these exceptional circumstances arise, the Chair will consult with the concerned student, the advisor, and the Director of Graduate studies before choosing one of these options.

d. The individual student’s examination committee (the panel) will consist of the Chair, two members from his/her chosen discipline (ceramics, metals, or polymers), and one member from one of the other disciplines. The same panel of faculty members, where feasible, will be retained for all students taking the examination in a designated field.

e. The examination format will consist of four components: (i) the written review; (ii) a formal presentation of the review; (iii) an oral examination on the written literature and presentation; and, (iv) an oral examination in the chosen discipline.

f. The Chair will meet with the panel members for a given student a few minutes prior to the scheduled time of the examination to discuss the written report and develop the strategy for
the sequence of questions. A primary role of the Chair is to assure balance and fairness to participants during the conduct of the examination proceedings.

g. The written literature review will be on a topic chosen in consultation with the student’s advisor and will be limited to a maximum of 20 type-written pages (double-spaced, font times-roman 12 or equivalent) (all-inclusive). The number of references cited in the review must be limited to a maximum of 30. [References may be single-spaced and of slightly smaller font]. The written, critical review document should be coherent, clear, and present a thorough analysis of the topic area, reflecting the student’s deep understanding of the subject matter. The student will be expected to defend the material presented in the document and may be asked to discuss any individual citation in depth during the examination. A summary paragraph or two should be included at the end of the review portion of the document, which identifies the critical problems and research issues arising from the review. Further, based on this summary the student should, in the final 2-3 pages, detail an approach and methodology for addressing the identified issues as a research thesis topic, that he/she might or will undertake. Relevant, preliminary data from the student's own work, if any, may be included in these final pages.

h. The formal presentation is limited to the first 25 minutes (uninterrupted, except for brief clarifications) of the examination. The use of viewgraphs, power point or other visual aids, is recommended. The student must prepare a high quality professional/technical presentation.

i. The oral examination on the literature review will last for 30-50 minutes.

j. The oral examination on the general discipline (ceramics, metals, or polymers) will last for 50-90 minutes. Students should prepare from the list of suggested six topic areas (attached) for the appropriate general field. The student must declare in advance (at the time of submission of the written report on the literature review) three of the six topic areas on which he/she wishes to be examined. This designation, however, does not preclude the panel from examining the student in the other three areas.

k. It is the intent of this examination to make sure that responsibility for the preparation and performance rests with the student. The student’s advisor’s role in the preparation of the written report and other parts of the presentation should be strictly advisory.

4. Grading Procedures:

a. Each panel member will keep a written record of their observations in the four different categories (from item #5 above) along with their questions/answers and comments, and will assign a grade of “Pass”, “Marginal”, or “Fail” to the student for each category, based on the adequacy of the answers given to the questions asked.

b. At the end of each student’s examination, the panel will assign a combined grade of “Pass”, “Marginal” or “Fail” for each category, based on inputs of the individual faculty, and on the panel review and discussions.

c. Based on the panel’s scores and inputs, the Examination Committee will assign the final grade of “PASS”, “CONDITIONAL PASS” or “FAIL” for the entire examination. The examination results will be reported, in confidence, to the student by the Exam Chair. Whenever appropriate, the Chair will also include a summary of the examiners’ comments. Copies of the report will also be sent to the student’s advisor, the Program head and the Director of Graduate Studies. A copy of this report will be placed in student’s file in the Graduate Studies Office.
d. Normally a student receiving a “Pass” grade in all four categories or a “Pass” grade in three categories and a “Marginal” in one will be assigned a “PASS” grade for the entire examination.

e. Normally, a student getting a “Pass” grade in two categories and a “Marginal” in the other two categories will be assigned a “CONDITIONAL PASS” for the entire examination. The student will be given written conditions along with time limits for satisfying the conditions to receive a “PASS” grade for the entire examination. If the conditions are not met to the satisfaction of the Examination Committee by the stipulated time, the “CONDITIONAL PASS” will automatically be converted to a “FAIL”. If the “CONDITIONAL PASS” grade is a result of getting a “Marginal” in any one of the oral categories, the Examination Committee has the option of requiring the student to retake the oral part of the examination at the next opportunity.

f. A “Fail” grade in any one of the four categories will result in automatic failure of the entire examination. According to the MSE Program graduate regulations, a student has two opportunities to “PASS” the Qualifier Examination. For any student who failed the examination in his/her first attempt, the Examination Committee has the option to recommend that the student be exempted from taking one or more of the four categories during the retake. Failure in two attempts to receive a “PASS” will automatically disqualify the student from continuing in the Departmental doctoral program. In no instance will a student be allowed more than two attempts at passing the qualifying examination. A retake of part or of the entire exam must be made no later than the succeeding Quarter that the exam is offered. Upon written petition by the student and with the approval of the Qualifying Exam Chair, this time limit may be extended to the next available offering.

g. At the end of all the examinations, all written records will be handed over to the Qualifying Exam Chair. (use relevant forms), who will retain them in an archival file up to at least one year after the student’s qualifying status has been completely resolved.

5. **Topic Areas for Ph.D. Qualifying Examination**

   Six topic areas in each discipline that have been recommended by the faculty are listed below. On submission of the written literature review to the Qualifying Exam Chair, the student will declare his/her discipline and will designate three of the six topic areas in that discipline for detailed examination.

**D. Ceramics:**

1. Thermodynamics
   - Law of thermodynamics
   - Solution thermodynamics
   - Phase equilibria / phase diagrams
   - Phase transformation (thermodynamics aspects)
2. Diffusion/ Kinetics
   - Laws of diffusion
   - Nucleation and growth
   - Spinoidal decomposition
   - Activated processes
3. Mechanical Behavior
   - Brittle fracture/ strength
   - Static fatigue
4. Ceramic Characterization

Powder characterization

X-ray diffraction and Crystallography

Thermal analysis:  TGA, DSC, Dilatometry

Electron-optical techniques:  SEM, TEM, ESCA, Auger

5. Processing

Ceramic Materials, systems, glasses

Powder processing; synthesis, dispersion, binders, forming

Sintering, hot pressing, Finishing

Sol-gel processing

Vapor deposition and thin films

Phase Diagrams; Phase Transformations

6. Properties and Applications

Electrical, Magnetic Optical and Thermal Properties

F. Metals

1. Thermodynamics

Laws of thermodynamics

Solution thermodynamics

Phase equilibria, phase diagrams

2. Physical Metallurgy

Crystallography; Phase diagrams (unary, binary and ternary) and phase transformations

Types of transformations: Crystallography of transformations

Physical metallurgy of steels, Al, Ni, and Ti alloys; TTT and CCT diagrams

3. Diffusion/Kinetics

Diffusion; Nucleation and growth

Activated processes

Order of reactions

Kinetics of non-diffusional processes

4. Mechanical Behavior

Dislocations, twins, and other lattice defects; plastic deformation

Strengthening and toughening mechanisms; structure-properties relationships

Fracture mechanics; Fatigue damage initiation and growth

High temperature deformation; Creep and stress rupture

5. Characterization

Mechanical properties

X-ray diffraction, Electron microscopy, EDS, etc.

Metallographic techniques and quantitative metallography

Thermal analysis: Dilatometry, DTA, TGA, Calorimetry

6. Processing

Solidification processing

Thermal, mechanical and thermo-mechanical processing

Powder metallurgy

Joining methods (welding, brazing, etc.)

Surface treatments (coatings, ion-modifications, nitriding, carburizing, shot peening, etc)

G. Polymers

1. Synthesis

Addition polymerization
Step reaction polymerization
Ionic polymerization
Living polymerization
Molecular weight averages and distributions
Gelation

2. Structure
   Chain conformation
   Crystalline polymers
   Liquid crystalline polymers

3. Solution properties
   Methods of determining molecular weights
   Theta temperature and excluded volume effect
   Solution thermodynamics
   Transport properties (viscosity, diffusion)

4. Transitions
   Melting
   Crystallization kinetics
   Glass transition
   Liquid crystal transitions

5. Bulk properties
   Rubber elasticity
   Strength and fracture
   Dynamic mechanical properties
   Time-temperature superposition

6. Polymer Characterization
   Spectroscopy (ESCA, Auger, IR, Light, NMR, etc.); X-ray diffraction
   Thermal analysis
   Mechanical properties

H. Doctoral Candidacy.

A student will be recommended for admission to Doctoral candidacy upon completion of the following requirements:

1. Completion of all course requirements (including the Ph.D. core classes)

2. Passing of the qualifying examination.

3. Passing the Oral English Proficiency Test (applicable to only those students whose native language is not English).

4. Approval of the student’s dissertation examination (advisory) committee (see below). At the appropriate time (not more than one academic year after passing the qualifying examination), the student may initiate the application for candidacy process (use relevant form) starting with the Graduate Director. At least six months must elapse between the time of admission to doctoral candidacy and the dissertation defense examination. A student who has been admitted to candidacy will normally devote all his/her efforts toward research leading to the PhD degree.
I. Dissertation.

1. **Dissertation Advisor:**

   The student should make every effort to select his/her Dissertation Advisor by the end of the first semester after enrollment into the Ph.D. program. This decision should not be postponed beyond the end of the second semester. It is strongly recommended that the student spend time with each faculty member discussing that faculty member’s research interests. After talking to all faculty members, the student will be in a better position to make a decision regarding his/her selection of an advisor. The decision must be mutually agreeable between student and faculty member, and should be communicated to the Director of Graduate Studies, in writing, by both parties (use appropriate form), detailing the financial support level that will be provided by the advisor.

2. **Dissertation Examination (Advisory) Committee**

   The student will select a dissertation topic in consultation with the advisor, and together they will also select a list of members to be appointed to the student’s Dissertation Examination (Advisory) Committee. Such a list should include the student’s dissertation advisor and at least three additional faculty members. The majority of the committee members must be from the faculty of the Program. The student will then submit the list (use relevant form), together with a short abstract (less than 400 words) of the proposed research, to the Director of Graduate Studies for approval. This procedure must precede any examinations being scheduled. The latter will ensure that the committee members’ expertise covers the student’s research areas adequately. The Graduate Studies Director and Graduate Committee may appoint up to two additional members to the Dissertation Examination Committee.

3. **Oral Progress Review:**

   The primary objective of the progress review is to assure that the graduate student is making adequate progress towards the Ph.D degree, specifically in the quality and quantity of research work. The student will present the work in a coherent, meaningful way to the Dissertation Examination Committee. These reviews are designed to facilitate evaluation of the student’s progress towards the stated degree objective, by both the advisor and the Program’s Graduate Studies Committee. During these reviews, the Dissertation Examination Committee is expected to critically review of the student’s progress and make recommendations that will guide the student’s progress towards completion of the degree, and assure that the research meets the expected high standards of the doctoral program. The following procedures should be used:

   The student is encouraged to complete the first dissertation research progress review as early as possible, but no later than two years after passing the PhD qualifying examination. The student should initiate the process by submitting the Dissertation Progress Report Request application (use relevant form) to the Graduate Studies Director.

   The review process will consist of two components, namely, the written part and the oral part. For the written part, the student is expected to submit a written report (not to exceed 35 pages, double-spaced) to the Dissertation Examination Committee at least two weeks prior to the proposed review date. The written report must include: (i) Background/Introduction, (ii) Statement of Objectives and Scope of the work, (iii) Summary of work done and, (iv) a time-line for completion of Ph.D. degree. Appropriate figures, tables, micrographs, references, etc., must also be included.
For the oral part, the student is required to make a 30-40 minute presentation in front of all the Dissertation Examination Committee members, at the scheduled date and time. Based on the written report and the presented material, the committee will conduct a questions and answers dialogue with the on the significance of the research findings, and on the overall merit and direction of the research. The oral review process is not expected to exceed two hours, and at the end, the student will be excused from the room for the committee deliberations. Following such deliberations, the student is brought into the review room and advised [used relevant examination form], by the entire committee of the steps needed to facilitate successful completion of the thesis work. Subsequently, the advisor will communicate these recommendations in writing to the student, according to the procedures described below.

Based on the review, the Dissertation Examination Committee (through the student’s advisor) will make two sets of recommendations to the student in writing, one on the content, quality, and the rate of progress of the dissertation research, and the other on the need for additional research reviews. First, the committee may provide directions to conduct additional research work and/or analysis, modeling, etc., that is deemed essential to completing the work. If warranted, the committee could also make specific recommendations as to the scope, direction and feasibility of the research project. The committee could also express concern over the rate of progress. Second, the committee may require that the student appear for additional reviews before the final dissertation defense. Such additional reviews should be done only after adequate time has been given to the student to make sufficient progress, usually not less than six months. Both these sets of recommendations should be communicated to the student in writing by the student's advisor within two weeks after the review, with copies sent to the members of the Dissertation Examination Committee and to the Graduate Studies Director [use appropriate examination form].

4. **Doctoral Research and Preparation of Dissertation:**

The doctoral research work of a student must be independent and original, leading to at least one refereed publication in a reputed journal with the student as the first author. The dissertation itself is a stand-alone, coherent document that reflects the highest quality that the MSE Program at UC strives to maintain. This document is archived by the UC Libraries and by the international professional community through the services of the “Dissertation Abstracts”.

5. **Final Defense of Dissertation:**

The student should initiate the process by submitting the Dissertation Defense application (use relevant form) to the Graduate Director.

Prior to the public defense, copies of the dissertation for review by the Advisory Committee members must be submitted to the Departmental office two weeks before the scheduled defense date. The dissertation must be accompanied by a reprint of a publication, in a refereed journal, that has resulted from the dissertation research, or a manuscript that is ready to be submitted to a refereed journal.

The student will defend his/her dissertation in public, according to the procedures outlined in the University Graduate Handbook of the Graduate College. The defense must be scheduled no later than four weeks before the end of the semester in which the degree is expected. The Graduate Program Office will initiate the Ph.D. Dissertation Defense Approval form for the thesis advisory committee approval. A final copy of the dissertation, incorporating all
revised revisions, must be approved by the thesis advisor before the student can be certified (use relevant form) for graduation. In exceptional cases, the Graduate Studies Committee or Program head may require additional revisions to the dissertation. One copy of the final document must be deposited with the program for archival purposes.

VI. SPECIAL RULES AND PROVISIONS

A. Graduate Student Responsibilities.

The graduate student is responsible for monitoring progress toward the advanced degree by meeting the deadlines for specific events such as selecting the advisor, taking the qualifying examination, completing course requirements, etc. A checklist will be reviewed by the Director of Graduate Studies periodically, and the student will be notified in writing about his/her progress towards the degree. If the student is found to be in violation of any of the regulations (such as failing to maintain a “B” average in courses, failing to meet the appropriate deadlines, etc.), he/she may be recommended for probation for that academic semester. If a student is on probation for two consecutive semesters or three non-consecutive semesters, he/she may be denied further financial aid and dismissed from the program.

B. Course Deficiencies.

A new graduate student who is deficient in undergraduate studies may be required by his/her advisor to take certain undergraduate courses to make up such deficiencies. Graduate credit, however, will not be granted for these courses, unless they are listed as equivalent courses offered by the University. All students who enter the Graduate program with Materials Science and Engineering as their major subject must be familiar with the fundamental principles and laboratory techniques that are characteristic of this discipline. Usually, the students with deficiencies in undergraduate studies will not receive a graduate teaching assistantship (UGA) from the Department.

C. Graduate Committees.

The various committees, for the MS thesis defense, PhD dissertation research progress report, and PhD dissertation defense, must be formally appointed by the Graduate Director with approval from the Graduate Studies Committee. The request for appointment of a thesis committee must be initiated by the graduate student, with the approval of his/her thesis advisor.

Time Constraints for Submission of Written Documents

The students must submit the various written documents to the appropriate committees at least 10 days prior to the date of deliberation by the committee. Such written documents include the MS thesis, literature review report for PhD qualifying examination, PhD progress report, and PhD dissertation.

E. Changing Advisor

It is recognized that occasionally, a student may have to change his/her academic advisor during the course of his/her tenure in the graduate program. Normally, such a change should be driven by academic considerations but, in any event, an approval form must be processed through the Graduate Studies Director and Graduate Program Office, before the student can officially change his/her advisor. Approval and agreement by all parties to this
change should indicate that all research obligations to the current advisor have been met a pre-requisite for the student to be allowed to change advisor.

F. Advisors from Other Departments.

A student enrolled in the Program of Materials Science and Engineering may sometimes need to have an advisor from another department in the College or University, because of the interdisciplinary nature of the program he/she may plan to pursue. Approval may be requested from the Director of Graduate Studies. A condition for approval is that the student must also have a program advisor who will guide his/her academic progress within the program. A graduate student may not choose an outside advisor in the first year if he/she is receiving an MSE Program GA that year. The outside advisor may not advise more than two MSE graduate students at any given time.

When an outside advisor is chosen, the MSE Graduate Studies Director or a faculty member designated by the Director will act, for administrative purposes, as the student’s thesis/dissertation committee chairperson. The student will register for MSE research credits under this chairperson. This chairperson will also be responsible for organizing the progress review and for following up the student’s progress and compliance with the Program’s graduate regulations. A graduate student who was admitted and has received financial aid from MSE program, is considered a graduate student of the Program, and must abide by the prevailing graduate regulations, even when his/her advisor is from another department.

G. Maximum Number of Credit Hours.

The University has set an upper limit for the number of credit hours that a graduate student can earn and still be eligible for financial aid (UGS, GA, etc.). For students who start in the graduate program at the University of Cincinnati after a BS degree this upper limit is 174 graduate semester credit hours. For students starting after an M.S. degree from another institution this upper limit is 134 graduate credit hours. For students transferring from another department within the University of Cincinnati, graduate credits earned in different departments are counted cumulatively in determining whether the above stated upper limit has been reached.

H. Certification for Graduation.

The Graduate Director has the responsibility for certifying students for award of the MS and PhD degrees. At the time of certification, the entire academic file is reviewed to assure compliance with all the academic requirements for graduation. It is the student’s responsibility to make sure that he/she is in compliance with all the academic requirements. A student is expected to graduate within 12 months of the date of his/her thesis/dissertation defense. Any extension of this limit must be approved by the entire thesis/dissertation Examination Committee. Failure to comply with this time limit may result also in non-certification for graduation. Under these conditions, the Graduate Studies Director may recommend that an MS student be not allowed to continue in the PhD program, and that a PhD student be asked to again defend his/her dissertation.

I. Part-time Students.

All provisions stated in this Handbook are applicable to part-time students as well as to full-time students. However, part-time students are not subject to the time limitations set for Ph.D. qualifying examination and for dissertation research progress oral review. They are
subject, however, to other time limits set by the University Graduate Handbook. A change in the status of a student from full-time to part-time or vice versa will require approval by the student’s advisor and the Director of Graduate Studies.

J. Conflict and Grievance Resolution

Students who have a conflict with their advisor, course instructor, staff member or other students should bring the issue to the attention of the Graduate Studies Director, who will initiate the necessary ameliorative steps. If this route is not available, the student may make an appeal directly to the Program Head.

K. Degree Progress Review.

The MSE Graduate Program Office will maintain all records to monitor the progress of graduate students. Degree Progress Audit (DPA) forms summarizing the student’s progress towards the stated degree objective will be made available to the advisor, periodically. The student is ultimately responsible to be thoroughly familiar with and comply with the Program, College, and University graduate regulations.

The MSE Graduate Studies Office will maintain all records appropriate for monitoring the progress of graduate students towards their degree objectives. Degree Progress Audit (DPA) forms summarizing the student’s progress towards the stated degree objective will be made available to the advisor, periodically. The student must be familiar with these procedures, and is responsible for complying with all Program, College, and University graduate regulations.
GRADUATE PROGRAM IN MATERIALS SCIENCE AND ENGINEERING
DEPARTMENT OF CHEMICAL AND MATERIALS ENGINEERING,

APPENDIX  Projected Time Schedule for Completion of Degree Requirements

1. Starting with BS Degree

<table>
<thead>
<tr>
<th>Event</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection of Thesis Advisor</td>
<td>2 semesters from enrollment</td>
</tr>
<tr>
<td>Satisfactory completion of 12 credits of core courses</td>
<td>3 semesters from enrollment</td>
</tr>
<tr>
<td>Satisfactory completion of 30 graduate course credits</td>
<td>4 semesters from enrollment</td>
</tr>
<tr>
<td>MS Degree</td>
<td>6 semesters from enrollment</td>
</tr>
<tr>
<td>Satisfactory completion of PhD Qualifying Examination</td>
<td>7 semesters from MS thesis defense</td>
</tr>
<tr>
<td>Satisfactory completion of a minimum of 30 graduate course credits</td>
<td>6 semesters from MS thesis defense</td>
</tr>
<tr>
<td>Admission to Doctoral Candidacy</td>
<td>6 semesters from M.S. thesis defense</td>
</tr>
<tr>
<td>PhD Dissertation Progress Report</td>
<td>6 semesters from Qualifying Exam</td>
</tr>
<tr>
<td>Completion of PhD</td>
<td>9 semesters from M.S. thesis defense</td>
</tr>
</tbody>
</table>

2. Starting with M.S. Degree

<table>
<thead>
<tr>
<th>Event</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory completion of PhD Qualifying Examination</td>
<td>4 semesters from enrollment</td>
</tr>
<tr>
<td>Satisfactory completion of a minimum of 45 graduate course credits</td>
<td>6 semesters from enrollment</td>
</tr>
<tr>
<td>Admission to Doctoral Candidacy</td>
<td>6 semesters from enrollment</td>
</tr>
<tr>
<td>Ph.D. Dissertation Progress Report</td>
<td>6 semesters from Qualifying Exam</td>
</tr>
<tr>
<td>Completion of PhD</td>
<td>12 semesters from enrollment</td>
</tr>
</tbody>
</table>

FORMS
Most of the forms can be obtained by visiting the [website](http://example.com).
Remaining forms are included in a separate PDF file.
**Direct Ph.D. Program Request**

(Action to be initiated by the student-no later than the end of the student’s first academic year or if the student has already passed the PhD Qualifying examination in one attempt, no later than the end of second academic year)

Student Name: ___________________________________________________

Date of starting: ___________________________________________________

Advisor: ________________________________________________________

The following requirements have been met:

<table>
<thead>
<tr>
<th>Program Requirements</th>
<th>Student Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses (QPA 3.5 or better for a minimum of 12 Credits)</td>
<td># of Credit Hours:</td>
</tr>
<tr>
<td>All Graduate Courses (QPA 3.5 or better for minimum of 18 credits)</td>
<td># of Credit Hours:</td>
</tr>
</tbody>
</table>

Date of Ph.D. Qualifying Examination: ____________ Passed: Yes / No

Advisor’s Signature: _____________________________________________

Ph.D. Direct Approval (Yes/No) ______________________________________

If No, Comments: ________________________________________________

Graduate Studies Director Approval: _____________________________Date______________

Note: All forms to be returned to GSO, 665 Baldwin Hall
Form 09-1
Ph.D. Qualifying Examination Declaration

(To be initiated by students in the Ph.D. program on the first day of class during Autumn and Spring Quarters)

Name: __________________________________________

Advisor’s Name ________________________________________________

Date of enrollment in the Department (month/year) __________________________

The degree at the time of enrollment: BS ________ or MS _________

_____ I plan to take the Ph.D. qualifying examination in the fall quarter of ___________ in the discipline of:

polymer ______ ceramics _______ metals ________

_____ I do not plan to take the Ph.D. qualifying examination because

_____ I am not seeking a PH.D. degree

_____ for another reason. (State the reason.) __________________________

________________________________________________

________________________________________________

Signature ________________________ Date ________________________

Note: Return Form Graduate Studies Director
Form 09- 2
Ph.D. Qualifying Examination Scheduling

(Action to be initiated by MS&E Qualifying Exam Chair)

Date: ______________________

To: _____________________________ (Student Name)

Advisor: _________________________

Date of First Enrollment in Department: ________________ with BS or MS

Discipline: (Circle One) POLYMERS CERAMICS METALS

Date of previous qualifying exam, if any ___________________________________

Oral Test Committee Members ____________________________________________

_____________________________________________________________________

_____________________________________________________________________

Exam Date: _________________ Time: ______________ Room: ______________

Your Ph.D. qualifying examination has been scheduled as described above. Your written literature review has to be submitted to the MS&E Graduate Program Office 1-2 weeks before the exam date.

Cc:  Student File, Advisor, Committee Members

Note:  All forms to be returned to the GSO Office, 665 Baldwin
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI
PhD Qualifying Exam-Individual Examiner Report
(Confidential report- To be initiated by the Qualifying Examination Committee)
Name of Student: ______________________ Date: ____________________________

Area: Polymers / Ceramics / Metals

I. Evaluation of WRITTEN LITERATURE REVIEW

Grade: ______________________
Comments: ______________________

II. Evaluation of ORAL PRESENTATION of the Literature Review

Grade: ______________________
Comments: ______________________

Examiner’s Signature: ____________________________________________________

Note: All forms to be returned to Quals Exam Chair
Form 09 - 4
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI
Ph. D Qualifying Exam-Individual Examiner Report
(Confidential report- To be initiated by the Qualifying Examination Committee)

Name of Student: __________________________ Date: __________________________
Area: Polymers / Ceramics / Metals

III. Questions Asked on LITERATURE REVIEW and Evaluation of Answers

Grade:

Examiner’s Signature: _______________________________________________

Note: All forms to be returned to Quals Exam Chair

Form 09 - 5
Ph.D. Qualifying Exam - Individual Examiner Report
(Confidential report – To be initiated by the Qualifying Examination Committee)

Name of Student: ___________________________ Date: _________________

Area: Polymers / Ceramics / Metals

IV. Questions Asked on General Topics and Evaluation of Answers

Grade:

Examiner’s Signature: ____________________________________________

Note: All forms to be returned Quals Exam Chair
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

Ph.D. Qualifying Examination- Committee Report
(Confidential report- To be initiated by the Qualifying Examination Committee)

Name of Student: _____________________ Date: _______________________
Area: Polymers / Ceramics / Metals

EVALUATION

I. Written Literature Review Grade: pass/marginal/fail
   Comments:

II. Oral Presentation of the Literature Review Grade: pass/marginal/fail
   Comments:

III. Questions/Answers on the Literature Review Grade: pass/marginal/fail
   Comments:

IV. Questions/Answers on the Literature Review Grade: pass/marginal/fail
   Comments:

Examiner’s Signatures: ____________________
__________________________
__________________________

Note: All forms to be returned to: Quals Exam Chair, Form 09 - 07
PhD Qualifying Examination – Final Recommendation

(Confidential report – To be initiated by the Qualifying Examination Committee)

Student Name ___________________ Advisor ______________________

Area: (Circle One) POLYMERS CERAMICS METALS

Date of Examination: _______________________________________________

Literature Review Topic: ____________________________________________

______________________________________________________________

RECOMMENDATION BY THE EXAMINATION COMMITTEE

______________________________________________________________

Chair of the Ph.D. Qualifying Examination Committee Date

Form 09 - 08
APPLICATION FOR ADMISSION TO Ph D CANDIDACY

(TO BE INITIATED BY STUDENT WITHIN ONE ACADEMIC YEAR OF PASSING PHD QUALIFYING EXAMINATION AND SUBMITTED TO GRADUATE PROGRAM OFFICE)

Name of Student ______________________________________ Date _____

Name of Thesis Advisor ___________________________________________

Thesis Examination Committee Members:

________________________________     _____________________________

________________________________     __________________________________

Committee not yet Selected: ___________

No of course Credits Taken:______________________________

Are all Core Course Requirements Satisfied? Yes / No

Date of Qualifying Examination Pass ________________________

Date of Oral English Proficiency Test Pass _______________________

Advisor Signature ___________________________________________

Checked against Departmental Record: _________________________
(Grad Director)

Graduate Studies Director Approval__________________________ Date: ______

Note: All forms to be returned to GSO, 665 Baldwin Form 09 -10
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

SELECTION: PHD PROGRESS REVIEW/THESIS COMMITTEE

[To be initiated by the student (post Doctoral Candidacy), in consultation with Thesis Advisor, and submitted to the Graduate Studies Director for approval]

Name of Student _______________________________________

Date first enrolled in the Department ______________________

Date of qualifying examination(s) _________________________

Was M.S. degree earned/Direct Ph.D. approved? Date _________

Thesis Title (initial)

________________________________________________________________

_________________________________________________________________

Thesis advisor ______________________________

Committee members suggested (3 or more)

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Additional members appointed by the Graduate Studies Committee

_________________________________________________________________

_________________________________________________________________

Approval: ___________________________ Date ___________________

Grad. Studies Director

[Note: This form must be accompanied by a short abstract of the dissertation research (less than 400 words).]
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

PROGRESS REVIEW EXAMINATION FORM

( TO BE INITIATED BY THE STUDENT AND COORDINATED THROUGH
GRADUATE PROGRAM OFFICE)

Student__________________________ Advisor _____________________
Date of first enrollment in the Department __________________________
Date of qualifying examination(s) _________________________________
Was M.S. degree earned/direct Ph.D. approved? Date _______________
No. of Course credits taken _________________ QPA ________________
Course deficiencies (F, N, I, U, or Y), list the course title, qtr, & grade
_________________________________________________________________
_________________________________________________________________
If not first review list the dates of previous progress reviews

Committee: Is another review recommended before final defense? Yes / No__
If yes, recommended date for the next review: (mo./ yr.) ________________
Specific Committee Thesis suggestions (on dissertation research -use extra sheets, if needed):

Thesis Committee:
Signature: _______________________ Signature: _______________________

Signature  Signature  Signature
Graduate Studies Director Approval  ___________________ Date:____________

Note: All forms to be returned to GSO, Form 09 - 11
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

PhD THESIS DEFENSE SCHEDULING

(TO BE INITIATED BY THE STUDENT AND COORDINATED THROUGH MS&E
GRADUATE PROGRAM OFFICE)

Name of student _____________________________________ Date: ________

Date of defense _____________ Time _____________ Room _____________

Dissertation Title:
______________________________________________________________
______________________________________________________________

Committee members: _________________________________ Advisor

______________________________________________________________
______________________________________________________________

Dates of Progress Review _____________ ________________

Title and full reference of a publication a refereed journal. (Cite the most
Important publication if there are more than one. If no publications available, give the title of a manuscript
ready for submission). A reprint (or the manuscript) has to be attached.

______________________________________________________________

Signature of Advisor ________________________ Date: _______________

Certification of fulfillment of all other requirements by:

Program Coordinator ________________________ Date: ______________

Graduate Studies Director approval ________________________ Date: ______________

Note: All forms to be returned to GSO, 665 Baldwin

Form 09- 12
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

PhD DISSERTATION EXAMINATION REPORT

(FORM TO BE INITIATED BY THE STUDENT AND COORDINATED THROUGH
GRADUATE PROGRAM OFFICE)

Name of Student: ___________________________ Date: ______________

Advisor: ___________________________________________

Dissertation (Thesis) Title:
________________________________________________________________________________________
________________________________________________________________________________________

Committee Thesis Approval.  Thesis Approved: ______  
Approved Pending Revisions: ______

Final Thesis Course Grade:  
Suggested Revisions:

Thesis Committee Signatures:

Advisor:

Signature      Signature      Signature
________________________________________________________________________

Signature      Signature      Signature

Graduate Studies Director Approval _______________________ Date: _____________

Note: All forms to be returned to GSO, 665 Baldwin Hall    Form 09 – 11

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Official Advisor Selection Form

To: Graduate Studies Office and MSE Graduate Program Director

From: Faculty Advisor

Pleased be advised that I have agreed to be the academic advisor for the graduate student below, who will be working towards his/her MS/PhD degree objective in the MSE Program.

____________________________________________________________________

Students Last Name First Name

ML#: _______ Student ID_________________ Email: ______________________

Pursuant to this agreement, I will provide the needed guidance, laboratory facilities, and financial support, as detailed below, and as discussed with and agreed to by the student.

____________________________________________________________________

Advisor Name:

The above named advisor intends to offer the student the following financial aid:

☐ University Graduate Scholarship (tuition only; does not include fees)

☐ Graduate Assistantship (includes University Graduate Scholarship and fees)

☐ Graduate Research Assistantship (Funding Agency and Grant #___________)

☐ Other (explain) ______________________________________________________________________

☐ Advisor does not intend to offer the student financial aid

____________________________________________________________________

Student signature Date

Advisor signature Date

____________________________________________________________________

Graduate Studies Director signature Date

Forms should be returned to GSO office, 665 Baldwin.
MS. THESIS COMMITTEE APPROVAL FORM

(Action to be initiated by the student and his/her advisor)

Name of Student: _______________________________ Date: _______________

Area: Polymers / Ceramics / Metals

Proposed Thesis Title:
____________________________________________________________________

____________________________________________________________________

Suggested Committee Members: ___________________________ Advisor

________________________________________________________

________________________________________________________

Signature of Advisor: ___________________________ Date: __________

Additional Committee Members Suggested by MSE Graduate committee

____________________________________________________________________

____________________________________________________________________

Approval Graduate Studies Director: ___________________________ Date: __________

Note: All forms to be returned to Graduate Student Office, 665 Baldwin Hall

Form 12-14
MATERIALS SCIENCE AND ENGINEERING GRADUATE PROGRAM
UNIVERSITY OF CINCINNATI

MASTER OF SCIENCE THESIS EXAMINATION FORM

(To be initiated by MSE Graduate program office at the time of thesis defense)

Name of Student: __________________________________ Date: ______________

Area: (circle one) Polymers / Ceramics / Metals

Degree Held: _______________ Universities: ________________________

Final Thesis Title:

______________________________________________________________________

Thesis Title (circle one)………………………..Approved/ Not Approved

Final MS Thesis Defense Examination

Examination (circle one) …………Approved/ Pending Revisions/ Not Approved

Date: _________________ Final Grade: _________________

Committee Suggested Revisions:

Does the Graduate committee recommend that the candidate continue for the PhD degree by
taking the Qualifying Examinations? (Circle One)……………………..Yes/No

Signature of Graduate Committee: ________________________ Chair/Advisor

_________________________________ ___________________________ __________________

Approval Graduate Studies Director: ________________________ Date: __________

Degree Granted: __________________ Date: ___________________

All completed forms must be returned to the GSO office, 665 Baldwin Hall
M.S. NON-THESIS APPROVAL FORM

(To be initiated by the student and coordinated through MSE graduate program office at the time of thesis defense)

Name of Student: ________________________________ Date: __________________

Area: (circle one) Polymers / Ceramics / Metals

Advisor: ________________________________________________

Title of Report Title:
_____________________________________________________
–
_____________________________________________________

Approved / Approved Pending Revisions

_____________________________________      ___________________
Advisor                      Date

Suggested Revisions

Graduate Studies Advisor: ________________________________ Date: _________

Return all completed Forms to GSO office, 665 Baldwin Hall