Graduate Student Handbook

M.S. & Ph.D. Degrees in Chemical Engineering

Chemical Engineering Program

Department of Chemical & Materials Engineering
University of Cincinnati

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PREFACE

This Handbook provides a statement of admission practices and the requirements for a graduate degree in Chemical Engineering as approved by the Chemical Engineering faculty and in accordance with College and University guidelines. This handbook does not supersede any provision of the University Graduate Handbook of the Division of Research and Advanced Studies (http://www.grad.uc.edu/file_pdf/handbook.pdf), published by the Office of the University Dean, but is intended to augment and interpret statements of policy as required by the specific needs of the graduate program in Chemical Engineering. All graduate students in Chemical Engineering are expected to thoroughly review the contents of this Handbook and to follow all regulations and requirements fully. No student may receive a graduate degree in Chemical Engineering without satisfying the general rules of the Division of Research and Advanced Studies and the specific requirements of the Chemical Engineering Program as described in this Handbook.
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IP IN PROGRESS. AN IP GRADE MAY BE ASSIGNED ONLY TO A FEW PREVIOUSLY APPROVED
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I. APPLICATION AND ADMISSION TO THE GRADUATE PROGRAM

I.1. Application

Students seeking admission to the graduate program in Chemical Engineering must submit an electronic UC application and relevant supporting documents including a non-refundable application fee. The electronic UC application is available at website https://apply.uc.edu/OnlineApply/LogIn.iface?applicant=Grad.

It is the applicant's responsibility to provide complete and timely documentation including official transcripts, GRE and TOEFL (as applicable) scores, and two letters of recommendation, preferably from chemical engineering faculty familiar with the applicant's credentials. Applications received by the College of Engineering Graduate Office are reviewed for both an admission decision and for awards of financial aid including tuition scholarships, teaching and research assistantships, and fellowships. Students seeking governmental loans, work-study, and other forms of financial aid, should make an application to the Student Financial Aid Office.

I.2. Admission

Full Graduate Standing:

To be eligible for admission to the graduate program in chemical engineering, a student must possess a minimum of a bachelor's degree in any branch of engineering or physical science. For admission to full graduate standing, a student must have a bachelor's or master's degree in chemical engineering from a recognized university or college with a traditional program in chemical engineering. The student should have at least a "B" grade average or its equivalent in relevant undergraduate course work, or otherwise give evidence of promise satisfactory to the Chemical Engineering program. Such evidence would include official Graduate Record Examination (GRE) General Test scores (verbal, quantitative and Analytical Writing) which are required for all applicants. (Information concerning this examination may be obtained from Graduate Record Examinations (http://www.ets.org/gre/). International students must also submit scores on the Test of English as a Foreign Language (TOEFL, http://www.ets.org/toefl). The minimum score acceptable for admission to the Chemical Engineering program is 580 (paper based test) or 237 (computer based test) or 92 (Internet based).

Provisional Admission:

Applicants with strong academic records, or otherwise showing promise for successful graduate study, but lacking adequate preparation in chemical engineering, including those holding undergraduate degrees in areas other than chemical engineering, may be offered Provisional Admission and required to either (A) complete a structured program of course work in chemical engineering, without graduate credit, to make up deficiencies, or (B) successfully pass written tests in all or some of the following "core" courses:

- Transport I (20-CHE-3022)
- Chemical Engineering Thermodynamics (20-CHE-3062)
- Transport II (20-CHE-3023)
- Chemical Reactor Engineering (20-CHE-4062)

Options A or B must be complete by the end of autumn quarter of first year of graduate studies. Specific make-up courses or tests for these students are decided by the admission committee and indicated in the admission offer letters to the students. Students holding undergraduate degrees in areas other than chemical engineering must have demonstrated proficiency in chemical engineering by completing the prescribed
program with good grades (normally, no grades below C) and having maintained a minimum "B" average overall. At the completion of the prescribed program, the student must submit a written petition for review of his or her status to the Graduate Studies Director.

**Unclassified Graduate Status:**
Students with a recognized baccalaureate degree may enroll as an Unclassified or Special Graduate Student for graduate courses with credit without admission to the graduate program. An application for regular full-time or part-time admission may be made at a later date; however, the number of graduate credits that will be accepted for a degree program in chemical engineering is normally limited to 9.

**Foreign Student Admission:**
Foreign students are normally not granted admission on any basis other than full graduate standing. The Test of English as a Foreign Language (TOEFL) is required of all applicants whose native language is other than English. This requirement may be waived for a foreign student who has completed an academic program of two or more years at an accredited American college or university. A minimum TOEFL score of 580 (paper based test) or 237 (computer based test) or 92 (Internet based) is required for graduate admission in chemical engineering.

Before admission is completed, all foreign students must fulfill U.S. Immigration Service requirements and register with the International Student Services Office (ISSO). All foreign students must be certified for their oral English proficiency by passing an Oral English Proficiency test given by the University Dean's Office or by receiving a minimum score of 230 (old-scale) or 50 (new-scale) on the Test of Spoken English (TSE) administered by Educational Testing Service (ETS). Students who are not certified by the end of their second quarter after the initial enrollment may have some financial constraints applied until their oral English proficiency is certified.

All foreign 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.

**I.3. Financial Aid and Categories of Financial Awards**

All awards for financial aid are made in accordance with the Graduate Awards Manual of the Graduate Division of the University. Normally, these are awarded for the initial academic year contingent upon continuing satisfactory performance towards a degree, as judged by the faculty and Director of Graduate Studies in Chemical Engineering. Additional support for the subsequent academic years depends upon satisfactory academic and research accomplishments and upon the availability of funds. The financial aid is given in the following categories.

**University Graduate Scholarships (UGS)** provide full or partial tuition remission and may include remission of the general fee required for each quarter of enrollment.

**Doctoral Graduate Scholarships** provide remission of both tuition and the general fee but may be awarded only to students who have completed their Ph.D. qualification, have completed all course work, have accumulated no more than 174 graduate credit hours, and have achieved a minimum "B" average grade point average in their graduate course work. Students awarded a Doctoral Graduate Scholarship must register for 15 credits of Ph.D. Dissertation only.

**University Graduate Assistantships (UGA)** provide a monthly stipend in addition to remission of tuition and the general fee.
**Research Assistantships** (RA) provide a monthly stipend for a student to assist in research projects sponsored by a corporation or governmental organization. In some cases, restrictions as to eligibility (e.g., U.S. citizenship) may apply. Normally, a RA award would be accompanied by an award of a Graduate or Doctoral Scholarship.

**Fellowships** sponsored by industry, governmental agencies, or endowment funds may be available. The University sponsors a limited number of Distinguished Doctoral Fellowships open to competition for Ph.D. candidates in their final year of study. Some fellowships may be subject to eligibility restrictions. An award of a University Graduate Scholarship or Doctoral Scholarship would normally accompany a fellowship.

Determinations of the tax status of stipends and scholarships is made by the Internal Revenue Service of the United States and the corresponding authorities for the state of Ohio and the city of Cincinnati. The University maintains a position that all income from whatever source is taxable and subject to withholding. In addition, students, not the University, are responsible for the withholding information which they submit on their W-4 forms at the time of appointment.

**I.4. Conditions of the Financial Aid**

Awards of financial aid are contingent upon the following specific regulations adopted by the faculty:

a. All graduate students have the responsibility to assist in one or more courses per year during their academic residency (see III.3)

b. Graduate students supported from University General Funds are required to be full-time students. Normally, this requires registration for a minimum of 15 graduate credits for the Autumn and Spring Semesters and 12 graduate credits for the Summer session (exclusive of audit credits) for each semester they are supported.

c. Any full-time graduate student whose semester quality point average falls below 3.0 (B) for any two out of three consecutive semesters, shall either be denied further financial support, or be dismissed as a degree candidate in chemical engineering, at the discretion of the faculty. A graduate student whose financial support has been withdrawn may petition reinstatement of Departmental support.

d. Financial aid awarded to doctoral students may not exceed four calendar years in duration for those entering the program with an M.S. degree.

e. The maximum number of months for which a stipend (i.e., a GA, RA, or fellowship) may be provided in any one calendar year is 12.

f. Since the purpose of stipend support is to enable a graduate student to concentrate on his/her studies and research, no full-time student receiving a stipend award during any semester is allowed to be employed either part-time or full-time in or outside the University or receive stipend support from another program or department within the University. International students may have additional Immigration restrictions governing such activities as defined by the International Student Services Office (ISSO).
g. It is University policy that any student with more than 174 graduate credits at the beginning of the appropriate Autumn Semester cannot be supported from University General Funds (i.e., University Graduate Scholarship or Graduate Assistantship).

Any graduate student may, at any time, request an exception of these provisions by submitting a written petition to the Graduate Studies Director indicating reasons why he or she believes that circumstances are exceptional.

I.5. Pre-Registration Procedure and Requirements

As soon as the applicant accepts an offer of admission, the student should send the completed Supplementary Information Form directly to the Graduate Office. Not until this form has been received and processed is the student officially admitted to graduate study and eligible to register for courses.

A physical examination is required of each applicant. A tuberculin Tine Test or chest X-ray is required within three months of registration for international students.

Original copies of degree certificates/diplomas must be verified by the Graduate Office within three months of the student’s first registration.

II. REGISTRATION AND GRADING PRACTICES

II.1. Registration Procedure

To receive graduate credit, a student must register each quarter by properly submitting the appropriate registration form and making any required payment for tuition and fees as applicable. The registration is on-line and every student can print a sheet (registration form) with the courses he/she is planning to take. The registration forms must be approved and signed by the Graduate Studies Director of Chemical Engineering, student's thesis or dissertation advisor, or Head of the Chemical Engineering Department. During a student's first semester of full-time registration, the Graduate Studies Director would normally sign the registration form. For subsequent semesters, the thesis advisor would approve all registrations subject to all Program requirements. A student may not attend classes until registration is completed.

Registration at the University of Cincinnati takes place in two stages - Priority Registration and Final Registration. Priority Registration begins well in advance of the semester for which registration is sought. The semester publication "Learning Opportunities" and the Registration Form may be obtained from the Department Office or Registrar of the College of Engineering. Students who do not participate in Priority Registration must participate in Final Registration which begins approximately ten days after Priority schedule/bills have been mailed. This form must be approved and signed by the appropriate Department official as in Priority Registration and submitted to the Registration Office. If a student is to register on-line, the student should discuss with the thesis advisor, Graduate Studies Director or Department Head the courses he/she plans to take. An on-line registration printout listing all courses the student registered in the quarter should be given to the student's thesis advisor (or Graduate Studies Director/Department Head) for signature.

Three weeks before the semester starts, all graduate students are required to give to the Graduate Studies Secretary a copy of the registration form or the on-line registration printout listing all courses the
student has registered in the semester, with the signature of advisor, Graduate Studies Director or Department Head. Failing to do so may result in removal of UGS support for the student's tuition.

II.2. Registration Change Procedure (Add/Drop)

Once a student has completed registration, the official record can be changed only with a registration change form secured from the College Graduate Office. Courses may be dropped, changed from credit to audit or vice versa, and from undergraduate to graduate credit or vice versa. Section changes and credit hour changes in variable credit hour courses are also accomplished using the add/drop form. Such changes must be approved by the academic advisor or Director of Graduate Studies and processed through the Office of Registration and Scheduling by the twenty-second calendar day of the semester. After the twenty-second calendar day of the quarter, only withdrawals or drops of courses will be accepted. In the case that a class has been closed, the student must obtain an add/drop form and a completed and signed Petition to Enter a Closed Class. This petition must be signed by the instructor and the Department Head, and the assistant or associate dean of the college offering the course.

II.3. Audit Regulations

The audit option is intended for cases in which course work is desired or advised but in which a grade for credit purposes is deemed unnecessary by the student in consultation with the advisor or Department. Admission 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 the 174 credit limit nor are included in the determination of full-time status. Such hours may be charged to a UGS only if at least 12 graduate credits are taken that same semester and if the total is less than 174 credit hours. A maximum audit registration of one course per semester is recommended. The auditor is expected to withdraw officially if he/she wishes to cease attending. A grade of T is assigned to audited courses except that the instructor may override this by a grade of W in the case that a withdrawal is officially processed or a grade of F if the student has not met the instructor's expectations.

II.4. Pass/Fail and Withdrawals

With the approval of both the advisor and the instructor, a graduate student may take any course on a Pass/Fail basis, but no instructor is obligated to accept a student on this basis. A grade of either P (passing) or F (failing) is assigned to courses taken on a pass/fail basis.

Every withdrawal slip must be signed by the student's academic advisor and by the Associate Dean for Graduate Study and Research, College of Engineering. For withdrawals on or before the third Saturday of the quarter, the grade of "W" is assigned by the Registrar's Office and the course is deleted from the student's official record. For withdrawals after the third Saturday and on or before the eighth Saturday, the grade of "W" is required to be assigned by the instructor. For withdrawals thereafter, the instructor is required to submit a grade of "W" for students whose work has been of passing quality and "F" for students whose work has been of failing quality up to the time of withdrawal. No withdrawals are permitted after the eighth Saturday of the quarter, except for reasons beyond the control of the student, such as sickness or accident.

If a withdrawal lowers the student's total registered credits below that required for full-time study (currently 12 credits exclusive of audit credits), the student jeopardizes any UGS support and becomes liable for the tuition of the semester. Moreover, international students must maintain full-time status. Students requesting a waiver of this rule must supply detailed and adequate justification, such as a physician's written, dated, and signed statement if a medical reason is claimed.
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.

II.5. Graduate Credit in Dual-Level Courses

A graduate student who is registered in 500, 600, or 700 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, such as the instructor in charge of the course deems advisable. It is important for graduate students taking these dual-level courses to indicate "G" in the registration form.

II.6. Grading Practices

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

- **A** Outstanding work (quality point: 4.00)
- **A-** Excellent work (quality point: 3.67)
- **B+** Work of good quality, closed to outstanding (quality point: 3.33)
- **B** Work of good quality, commendable but not outstanding (quality point: 3.00)
- **B-** Work of good quality, but not outstanding (quality point: 2.67)
- **C+** Work of acceptable but not distinguished quality (quality point: 2.33)
- **C** Work of acceptable (quality point: 2.00)
- **P** Pass
- **F** Fail. Graduation with F on the transcript will be permitted only if:
  1. The student meets all Departmental standards for the degree program
  2. A grade of F in a required course is superseded by a grade of C or better in the same course retaken by the student
- **U** Unsatisfactory work for non-credit graduate course.
- **I** Incomplete
  1. The I grade is awarded only when the student fails to complete one or more course requirements, such as the final examination or a paper or project.
  2. Conversion of I grades:
     a. A grade of I will automatically be converted to an F one calendar year after the initial grade was given. Normal appeal channels are open to students documenting hardships cases.
     b. Graduation will not be permitted if a student has a grade of I on the transcript. Course work must be completed or the grade will be changed to an F.
- **W** Official withdrawal: indicates that the student or instructor processed a drop or official withdrawal. See Section II.
- **T** The audit option is intended for the student who desires, or is advised, to do work in a course in which a grade is deemed unnecessary by the student in consultation with the advisor or Department.
- **IP** In progress. An IP grade may be assigned only to a few previously approved courses, such as thesis, dissertation, seminar and research in which no basis of evaluation existed or was required by the time grades were due for that quarter. The last course taken before graduation should carry a normal grade and no grade conversion is required for all the previous IP grades.
III. GENERAL REQUIREMENTS

III.1. Full/Part-Time Students (Full/Part-Time Course Load)

All students enrolled in a full-time program of graduate study must be registered for 10 or more graduate credits each quarter. Foreign students, under terms of their visas, must be enrolled as full-time students for Autumn and Spring semesters.

Students with outside work, or those who for other reasons devote less than full time to graduate study, will be allowed to register for the number of graduate credits judged by the Graduate Studies Director or thesis advisor to represent the appropriate fraction of a full-time load. Part-time graduate students are not eligible for UGS or GA awards.

Graduate Assistants and UGS Recipients must carry 12 credits or more each semester, exclusive of audit credits. Furthermore, students receiving support from University General Funds (e.g., UGS and GA) are required to register for a minimum of 15 credits during the Autumn and Spring semesters. Note: For any given semester, the minimum number will be determined by the Graduate Director and the faculty.

In order to maintain status as a graduate student and thus be eligible for a graduate degree, a student must register for at least one (1) credit each academic year during the Autumn semester after having met minimum degree course requirements as specified in Sections V and VI for M.S. and Ph.D. students, respectively.

III.2. Residency, Credit Transfer and Total Credit Hour Requirements

All graduate students, regardless whether he/she has received credit transfer, must satisfy all degree requirements including minimum residency as determined by the Graduate School of the University. These are one year's full-time graduate study or its equivalent for an M.S. degree with a minimum of forty-five (30) graduate credits being completed while in residence at the University of Cincinnati. For the Ph.D. degree, the residency requirement is three years of full-time graduate study or its equivalent, of which the last year must be in residence in the University of Cincinnati or under the University's direction. Eligibility for graduation requires a minimum of 90 graduate credits, 30 of which, exclusive of research credits, must be completed at the University of Cincinnati.

A limited number of graduate credits obtained at another approved college or university may be transferred to satisfy degree requirements, as determined by the Graduate Student Director and faculty of the Chemical Engineering Program. Due to the residency requirements, the maximum credits that are allowed to transfer for Ph.D. students are 30. No credits are allowed to transfer for the M.S. students.

III.3. Teaching Assistant Assignments

One of the important educational goals of the Department is for every student in the graduate program to achieve competence in both teaching and research. Therefore, each graduate student must satisfy both a teaching and a research requirement as part of the graduate training. For this reason, all graduate students have the responsibility to assist in various courses during their academic residency.

Students who are non-native speakers of English must be certified for their oral English proficiency during the first semester registered for classes. Those who continue to fail to be certified may have some financial constraints applied until their oral proficiency is certified. Cases of prolonged failure will be subject to review by the faculty and immediate termination of UGS, UGA or other form(s) of stipend. It
must be noted that those who have not had their oral English proficiency certified cannot legally be assigned duties of a Teaching Assistant. Instead, they will be assigned to “Grading Only” duties for one or more classes. A “Grading Only” designation means that the individual will be given grading tasks by the class professor and/or Teaching Assistant.

There are two methods to have the oral English proficiency certified.

1. Take the Oral English Proficiency Test (OEPT) test given by the University Dean's office and receive a passing score.

2. Take the TSE test administered by Educational Testing Service (ETS) four times a year. Application forms may be obtained from: TSE, P.O. Box 6157, Princeton, NJ 08541-6157. Have the scores sent to The Center for ESL, 505 Teachers College, Mail Location 2, University of Cincinnati, Cincinnati, Ohio 45221. A score of 230 (old-scale) or 50 (new-scale) is required for certification.

For those who take the English as a Second Language (ESL) courses according to the recommendations of the testing board and perform up to the instructors' satisfaction, the instructors' written statement would satisfy the departmental requirement until the next available OEP test or ETS test. If the student fails to receive a passing score, the financial constraint will be reinstated.

III.4. Graduate Seminars

All graduate students are required to register and attend the department graduate seminars (20-CHE-8070) for each semester of full-time residence (see III.1 for its definition). One credit is assigned for each registration.

IV. ADVISOR AND COMMITTEE ASSIGNMENT

IV.1. Advisor Assignments for New Students

Academic (thesis/dissertation) advisors will be assigned to all full time graduate students. A series of mini-seminars are given in the Autumn Semester by the faculty on their current research interests. During this period of the seminars, it is expected that those new students will select thesis topics of interest from (at least) three different professors and arrange meetings to discuss them on an individual basis. Only full-time University of Cincinnati chemical engineering faculty can serve as academic advisors. The purpose of such meetings is twofold. First, it serves to identify areas of mutual interest, and secondly, it provides both the professor and student a chance to assess and gauge their respective abilities to collaborate with one another and to perform synergistically to solve a problem which will constitute the thesis. This is clearly a matter of utmost importance and therefore more than one meeting may be desirable on any one topic.

In the Autumn semester, all unassigned graduate students will be asked to submit a list of three topics (each with a different professor) in order of preference. A form for this purpose is available in the Department office or from the Director of Graduate Studies. The faculty will consider these lists and provide a final assignment of topics by November 1 of the Autumn Semester. The Department will strive to match up students and advisors based upon first choices. In some cases, when there is competition for a particular topic, this may not always be feasible. As soon as the student is notified to which topic (and professor) he or she has been assigned, the student must meet with that professor to begin planning the
thesis proposal. This professor will also become the student's academic (thesis/dissertation) advisor from that time on.

**IV.2. Advisor Change**

Graduate students are strongly discouraged to change advisors. If an advisor change is absolute needed, such a change requires the written consent of the student and his or her current advisor. Requests for advisor changes will be reviewed by the entire Chemical Engineering Faculty. In the case of first year graduate students requesting advisor reassignment, following approval for a change of advisor by the faculty, a new advisor will be appointed by the Department Head. Any subsequent request for reassignment will not be considered unless the student has completed their initial, specified degree objective. All reassignments must have written consent of the new advisor before the matter is finalized.

Faculty members having available research assistantships for funded projects may submit their requests to the Director of Graduate Studies who will then advertise the openings to all students and faculty members in the Department. However, students already committed to other projects will not be allowed to change to the new project until the terms of their existing contracts are fulfilled. Students committed to a GA may be allowed to change to a new funded project at the end of a semester.

**IV.3. Thesis/Dissertation Committee**

The M.S. thesis committee for an M.S. student should be composed of at least three persons appointed by the Graduate Studies Director. At least half of the committee (e.g. two of the three) must be members of the faculty holding full-time appointment in chemical engineering. The Chairman of the Committee will be the student's research advisor. The M.S. thesis committee could be formed as soon as the student has been assigned an academic advisor.

Ph.D. students must submit a dissertation proposal to the Ph.D. Qualifying Committee as described in section VI.4 Candidacy Examination. The Qualifying Committee will be appointed by the Graduate Studies Director after consultation with the dissertation advisor. The Qualifying Committee will normally become the Ph.D. dissertation committee upon approval of the research proposal (see section VI.4). A formal appointment of the dissertation committee shall be made by the University Dean. This committee shall consist of at least four persons, of whom at least three shall be members of the faculty holding full-time appointment in chemical engineering, and at least one of whom should be outside the chemical engineering program. The Chairman of the Committee will be the student's dissertation advisor.

The thesis/dissertation committee is responsible for approval of the M.S. or Ph.D. research proposal and thesis/dissertation. If the Committee does not approve the proposal or thesis/dissertation, it shall be returned to the student for revision and resubmission to the Committee. At least 3/4 of the voting members of a thesis/dissertation committee must approve a proposal of thesis/dissertation. The Graduate Faculty of the University has interpreted the "at least 3/4" rule to require 3 out of a committee of 3, 3 out of 4, 4 out of 5, 5 out of 6, 6 out of 7, and 6 out of 8. If a committee does not give approval to a proposal or thesis/dissertation, the research advisor has the privilege of referring the question of approval to the entire ChE Faculty for a decision. A decision to override the committee must be a 3/4 vote of the entire ChE Faculty.
V. MASTER'S DEGREE PROGRAM

V.1. Course and Credit Hour Requirements

All candidates for an M.S. degree in Chemical Engineering must fulfill a minimum of thirty (30) graduate credits which must include six (6) credits of M.S. Thesis and twenty-four (24) credits of graduate courses in each of the following categories:

**Required Chemical Engineering Courses** (12 credits)
- Advanced Thermodynamics, 20-CHE-7041, 3 credits
- Transport Phenomenon I, 20-CHE-6043, 3 credits
- Transport Phenomenon II, 20-CHE-6044, 3 credits
- Chemical Reactor Design, 20-CHE-7077, 3 credits
  (registered for the first Autumn semester of full-time residence.)

**Chemical Engineering and Other Technical Electives and Graduate Seminar** (6 credits)
- Any dual-level (normally 6000 level) or graduate level Chemical Engineering (20-CHE-XXXX) courses and other technical electives; graduate seminars (1 credit each semester, required for each semester of full-time residence); but excluding Thesis/Dissertation (20-CHE-9071), Graduate Research (20-CHE-9000), Special Projects (20-CHE-9072), and Readings (20-CHE-9073).

**M.S. Research, Special Projects in Chemical Engineering and Readings** (9 credits)

V.2. M.S. Thesis and Special Project

All full-time students enrolled in the M.S. program in Chemical Engineering are required to complete and defend a satisfactory master's thesis. The minimum number of credits of thesis required is six (6). Students should therefore enroll in Thesis/Dissertation (20-CHE-9071) for a minimum of six (6) credits. If additional credits are required to finish the thesis, the student should enroll in Graduate Research (20-CHE-9000). The M.S. students should not enroll in Thesis/Dissertation (20-CHE-9071) and Graduate Research (20-CHE-9000) until approval of their M.S. research proposals by their thesis committees (see V.3).

Only part-time students may indicate their intention for a non-thesis option for an M.S. degree at the time of admission. Full-time students are not allowed to switch to this option. To elect this option, the student must have completed a minimum of 10 credit hours of required course work in the M.S. program and have a cumulative grade point average of 3.0 (B) or better. Qualified applicants should apply in writing to the Graduate Studies Director indicating their intent to elect the non-thesis option program. To be awarded the M.S. degree, the non-thesis candidate must have satisfied the above minimum course requirements and also must satisfy the following two additional requirements:

a. a minimum of 34 credits of graduate course work with a cumulative quality point average of 3.0 (B) or better
b. completion of six (6) credits of special project work with a written report summarizing the work. The special project will be supervised and evaluated by a faculty member.

For students admitted in September, a formal, written M.S. thesis proposal prepared in coordination with his/her advisor must be submitted before the end of the first academic year and be approved by the student's thesis committee (see IV.3, for committee assignment) before the end of the Spring semester. (For students admitted at other times, a corresponding deadline will be determined by the Graduate Studies Director.) If the student fails to meet the established deadline, it will be necessary for him/her to submit to the ChE Faculty a petition for permission to continue in the Program.

The proposal shall be a written statement of the proposed thesis in some detail. It should outline the work the student proposes to do. It need not be extensive but should contain: (a) a statement of the problem; (b) a short background of the topic of interest; (c) the plan of approach in the research; (d) a specific statement of the objectives to be accomplished during the research on the thesis; and (e) an estimate of the timeline for the proposed work. In addition, a bibliography of pertinent literature should accompany the thesis proposal as an appendix. The proposal should be written in such a manner as to convince those reading it, of the desirability for doing the work and of the adequacy of the student's preparation for the research.

Copies of the proposal are then presented to the members of the student's thesis committee for their review. The Committee will meet with the student and evaluate the written proposal. Questions may be asked concerning the proposal and other material in the major field. When this evaluation is considered satisfactory by the Committee, the proposal is approved and the student is permitted to continue with the thesis project. If the Committee does not approve the statement, it shall be returned to the student for revision and resubmission to the Committee.

Once all work for the thesis has been satisfactorily completed and with approval of the thesis advisor, the student will prepare a draft of his or her thesis. Copies of the rough draft of the thesis should then be submitted to all members of the thesis committee in a timely manner (see VII for graduation timeline). The Committee will evaluate the thesis and, if deemed necessary, suggest appropriate changes, which may include changes in grammar and writing. It is the student's responsibility to insure that the written thesis is technically sound and also written in a clear, concise manner and free of all spelling and grammatical errors. The thesis is accepted when at least 3/4 voting members of the committee recommend its acceptance (see IV.3 for the interpretation of the "3/4" rule).

A candidate for the master's degree will be examined orally by his/her thesis committee and by other members of the faculty at the time of the final thesis defense. This examination will be limited to questions covering the thesis and "immediate related fields" as defined by the thesis committee at the time of the original proposal. This examination is open to other students and faculty. Public notice of it must be posted at least one week in advance of the defense date. In order to meet this deadline, the student must inform the graduate office seven working days prior to the examination when it is to be scheduled. The office staff will then prepare the formal notice for posting.

On the basis of this oral examination and such further investigations or examinations as it finds necessary, the committee will recommend to the Graduate Studies Director (assuming that all other requirements for the degree have been satisfied) whether awarding of the degree should be recommended to the Graduate Division. In passing upon the committee's endorsement, the Graduate Studies Director may also arrange such additional examinations to the chemical engineering faculty as the case requires.

**V.4. Minimum Academic Performance, Residency and Time Limitation**

A minimum grade of C or P must be earned on all course work in order to obtain graduate credit. It is a University requirement that in order to obtain a master's degree, a student must maintain a B (3.0)
average. In addition, at least 2/3 of the minimum graduate credits necessary for the degree must be at a level of B or higher. (This applies to formal course work which carries a letter grade other than P.) Furthermore, the Chemical Engineering program requires a minimum of a B average in all chemical engineering courses.

Any student with Regular Admission either full-time or part-time, who fails to maintain a semester QPA of at least 3.0 in all graduate and ChE courses taken in each of two semesters (whether consecutive or not), may be dismissed from the Program at any time by a simple majority vote of the full-time Chemical Engineering Faculty. In addition, any student with Provisional Admission, who in the judgment of the Head of the Department or the Graduate Studies Director, fails to maintain an adequate academic performance may also be dismissed from the program at any time by a majority vote of the Chemical Engineering Faculty.

Students are not required to submit formal applications for master's candidacy. A student becomes a candidate for the master's degree upon matriculation in the master's program. 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 credits, while enrolled in the Chemical Engineering program. All requirements must be completed no later than seven (7) years from the date of first registration in the program. Under extenuating circumstances, a student may petition the University Dean, through the Department and College, for extension of the time limit. Petitions shall be submitted on the approved form.
VI. DOCTORAL DEGREE PROGRAM

VI.1. Doctoral Students

Graduate students (with or without an M.S.) admitted to our graduate program who intend to obtain a Doctor of Philosophy degree in Chemical Engineering are considered as doctoral students. These doctoral students must satisfy the basic University requirements for the Doctoral Degree as given in the "Handbook of the Division of Graduate Studies and Research." To receive a Ph.D. degree in Chemical Engineering the doctoral students need to be admitted to Ph.D. Candidacy (see VI.4), and fulfill the course, dissertation and residency requirements described below.

VI.2. Course and Credit Hour Requirements

Credit hour requirements for the doctoral degree include the equivalent of three years of full-time graduate study, that is, a minimum of 90 graduate credits (60 credits exclusive of research/dissertation). Doctoral students are required to satisfy the course requirement described below for two different cases. Most of the courses described below can be taken any time while the doctoral student is enrolled in the graduate program. However, only doctoral students who have officially been admitted into Candidacy are permitted to register for Ph.D. Dissertation (20-CHE-9071) or Graduate Research (20-CHE-9000). Any Dissertation or Graduate Research credits taken before the official candidacy will not be considered as a part of the credit hour requirements.

Case I (for Students without a M.S. Degree or with a M.S. Degree from UC)

Students without an M.S. degree are required to take a minimum of ninety (90) credits including twenty-four (24) credits listed in Section V (excluding M.S. Thesis) and a minimum of sixty-six (66) credits listed below. Students holding an M.S. degree in Chemical Engineering from the University of Cincinnati are required to take a minimum of sixty-six (66) additional credits in the following categories as approved by his/her dissertation advisor:

a. Twelve (12) credits of required graduate level Chemical Engineering courses (20-CHE-XXXX) but excluding Ph.D. Dissertation (20-CHE-9071), Ph.D. Research (20-CHE-9000), Special Projects (20-CHE-9072), Readings in ChE (20-CHE-9073), and Graduate Seminar (20-CHE-8070).

b. Three (3) additional credits selected from graduate level math/statistics or equivalent courses (15-MATH-XXXX, 15-STAT-XXXX, 20-XXX-XXXX).

c. Fifteen (15) credits including: Graduate Seminar (20-CHE-8070) required for each semester of full-time residence, and courses selected from graduate level Chemical Engineering courses and Technical Electives (20-CHE-XXXX) (see Section IV, Course of Study) but excluding Ph.D. Dissertation (20-CHE-9071) and Ph.D. Research (20-CHE-9000).


e. The balance of required 90 credits may be taken from Technical Electives, Special Projects and Readings in consultation with student’s advisor.

Case II (for Students with a M.S. Degree in ChE from Outside UC)

A student holding an M.S. degree from a Chemical Engineering program which holds an ABET accreditation for its undergraduate degree, other than the University of Cincinnati, will be allowed to transfer a maximum of the equivalence of thirty (30) semester credit hours excluding M.S. thesis research credits upon approval of the Graduate Studies Director (see VI.3). With a full thirty credits
transferred, the minimum credit requirements as approved by her/his dissertation advisor would be the same as in Case I except for the courses replaced by the transferred credits. Note: Transfer of graduate credits from any other Institution or Degree Program will be at the discretion of the Graduate Studies Director, following review of submitted materials, such as, detailed course descriptions, grades, syllabi, and faculty input.

VI.3. Transfer of Credits

A limited number of graduate credits obtained at another approved college or university may be transferred to satisfy degree requirements, as determined by the Graduate Studies Director and the faculty in Chemical Engineering. It is the responsibility of the student to initiate a petition, using the standard credit transfer form available from the graduate office, to the Graduate Studies Director for a transfer of credits. The student should also provide all documentation required for a decision on acceptable credits. Such documentation would include complete and official academic transcripts and a detailed outline or course description of all courses for which transfer credit is desired.

Normally, credit hours allowed for a transfer course will not exceed the semester credit hours of any U.C. course(s) which covers equivalent material. In addition, courses eligible for transfer credit should have been taken within the five years prior to the application. Credits may be transferred at any time during the academic program; however, an entering student is advised to discuss his or her particular situation with the Graduate Studies Director prior to initial registration in the program. Due to the residency requirements (see VI.7), the maximum credits that are allowed to transfer for Ph.D. students are 30.

VI.4. Candidacy Examination

The Ph.D. Candidacy (or qualifying) examination consists of the defense of a dissertation proposal. To be eligible to take the Ph.D. Candidacy Examination, a student must have achieved at least a 3.0 average in graduate level chemical engineering courses (exclusive of Graduate Seminar, Special Projects and Readings) and a 3.0 average in all other doctoral course work and petition the Graduate Studies Director for admission to this examination. Students admitted to the Ph.D. program are expected to begin the qualification procedure during their first year of residence and to select a dissertation advisor during the first half of the Autumn semester of residency (see IV.3). The Ph.D. Candidacy examination is outlined below:

The students admitted to full graduate standing will be required to submit their Ph.D. dissertation proposal to the Qualifying Committee by the end of autumn semester of their second year of graduate study. The composition of the Qualifying Committee consisting of at least four persons, of whom at least three shall be members of the University of Cincinnati faculty holding full-time appointment in chemical engineering, and at least one of whom should be outside the chemical engineering program, will be recommended by the dissertation advisor to the Graduate Studies Director after consultation with student. The Qualifying Committee will normally become the student’s Ph.D. dissertation committee upon approval of the Ph.D. dissertation proposal (see section IV.3).

The Ph.D. dissertation proposal should strictly adhere to format described in the National Science Foundation Grant Proposal Guide (e.g., http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg) and include the following: (a) 1-page Project Summary; (b) Project Description containing general background and a concise review of the literature work; problem statement and the significance of addressing the problem; proposed ideas, goals, methodology and approach to solving the problem; evidence (preferably student’s own work, combined with work published in the literature) to support the feasibility of the proposed work and the student’s ability to finish the proposed research; proposed research activities; timeline (NOTE: total 15 page limit for section (b)); (c) References; and (d) Budget and Budget
Justification using the templates locates at http://www.srs.uc.edu/index.cfm?fuseaction=home.srsBudgetSheets. The proposal should emphasize proposed (future) work, not the work that has been accomplished. The student will be required to present and defend the proposal before the committee. The student is expected to present original work in the proposal including an organized literature search and answer general questions from core chemical engineering curriculum related to proposed research. The committee will make a recommendation whether the student is qualified to proceed to Ph.D. research. The Chemical Engineering Faculty will then decide if the student has passed or failed the entire PhD Candidacy examination.

Retaking Candidacy Examinations: A student who fails the Ph.D. Candidacy examination may petition to retake this examination.

VI.5. Candidacy

Formal admission to Candidacy for the Ph.D. in Chemical Engineering is by a majority vote of the Chemical Engineering faculty. The decision is based on the student’s total academic performance (including GRE scores), and especially with respect to the results of the Candidacy Examination outlined above. Students who fail to complete candidacy examination within the period outlined will no longer be considered as "qualified" for the Ph.D. program. To be reinstated in the Ph.D. program, such a student must either successfully repeat the qualifying procedure, or successfully petition the Department (through the Graduate Studies Director) stating the exceptional circumstances of his/her case. Candidacy for the Doctorate automatically terminates if the student fails to register during the academic year.

The date of the admission to the Candidacy will be the date of the letter from Graduate Studies Director informing the student of the approval of the Candidacy by the faculty. Immediately after being admitted to candidacy, the student must submit the candidacy form to the graduate office. The student will receive a letter from the University Dean's Office to confirm his/her Candidacy and the dissertation committee composition. These two letters are important in order to graduate with a Ph.D. degree, and the students are required to keep these letters until graduation.

Students who have officially been admitted into Candidacy are permitted to register for Ph.D. Dissertation (20-CHE-9071) and Ph.D. Research (20-CHE-9000). During the course of the candidate's research, it is the responsibility of the student to keep the committee (not just his or her research advisor) informed of his/her progress. Each committee member is expected to maintain an active interest in the student's work. To maintain this necessary communication, it is required that dissertation committees meet formally with their student at least once each academic year to review progress and to re-evaluate "direction" and "objectives. An Annual Progress Review Form (see Appendices) must be signed by the dissertation committee which will become part of the student’s file.

Departmental Seminar: All candidates for the doctorate are required to give a seminar in the departmental graduate seminar series, preferably in the final year of the residence. The audience at these seminars is composed primarily of chemical and materials engineering graduate students and faculty. These seminars usually consist of a ~45 minute research presentation and a 15 minute question-and-answer period. After a student consults with his/her research advisor about presenting in a departmental graduate seminar series, the advisor should inform both Graduate Studies Director and seminar coordinator(s) about the student’s intention to give a seminar approximately 3 months before intended seminar date in order to accommodate it in a seminar schedule. Students will be given priority over invited speakers. A documented evidence of an oral presentation by a student at a national or international technical meeting may be used instead to satisfy this requirement. This evidence should be provided to Graduate Studies Director.
VI.6. Final Defense of Dissertation

All candidates for the doctorate will be examined on their research work and other topics by their committee and other faculty members during the final oral examination required for that degree. The dissertation examination should be scheduled at least seven (7) months after the candidate successfully defended his/her research proposal. It is a University requirement that this examination will take the format of an open seminar which all members of the University Community may attend. Public notice of this Ph.D. Dissertation Seminar must be posted at least two weeks in advance. In order to meet this deadline, the student must inform the graduate office two working weeks prior to the examination when it is to be scheduled. The office staff will then prepare the formal notice for posting. At this examination, the candidate is expected to defend successfully the work embodied in his/her submitted dissertation. The candidate may be questioned to determine his/her command of specialized topics related to the dissertation and competency in his/her major and related fields.

VI.7. Residency and Other Requirements

Residency: All doctoral students must remain enrolled for at least twelve (12) graduate credits during each of two semesters within a span of four consecutive semester, so long as they register for each semester involved. (Note: This would permit a residence pattern of in-out-in-out-in during four consecutive semesters excluding summer sessions.)

Minimum Academic Performance: In order to be awarded the degree of Doctor of Philosophy, the candidate must complete his/her graduate course work with an overall average of 3.0 or better (exclusive of thesis and dissertation-related credits) and an overall average of 3.0 or better in ChE courses and Technical Electives.

Time Limitations: The doctoral degree will be granted for no less than the equivalent of three years of full-time graduate study. The period of time from the first enrollment into the doctoral program (normally the initial enrollment to our graduate program) to candidacy will not exceed five (5) years. A period of seven (7) months must elapse between the successful defense of the Ph.D. research proposal (after admission to doctoral candidacy) and receipt of the degree. Candidacy for the Doctorate automatically terminates after four (4) consecutive calendar years from the time the student has been admitted to the Ph.D. candidacy.

Maximum Credit Hours for UGS Support: It is University policy that any student with more than 174 graduate credits at the beginning of the appropriate Autumn Quarter cannot be supported from University General Funds (i.e., University Graduate Scholarship for tuition and Graduate Assistantship for stipend).

Foreign Language Requirement: The Chemical Engineering program has no language requirement for the Ph.D. degree.
VII. GRADUATION

VII.1. Application for Graduation

After having met minimum degree course requirements as specified in Sections V and VI respectively for M.S. and Ph.D. students, the student should be prepared for graduation while trying to fulfill the thesis/dissertation requirements. In order to maintain status as a graduate student and thus be eligible for a graduate degree, a student must register for at least one (1) credit each academic year during the Autumn Semester (see III.1) before graduation. Failing to follow this minimum credit hour requirement will result in a termination of the status as a graduate student in the ChE program.

The University of Cincinnati has four graduation dates each year, usually around the end of each semester (important dates and deadlines can be found at http://www.grad.uc.edu/index.cfm?fuseaction=home.graduationInfo). The students who intend to graduate on a specific date need to apply for graduation before the deadline which usually is about three (3) months before the graduation date. The students should inform the college graduate secretary of their intention to graduate after they have submitted their online graduation application.

VII.2. Graduation Procedure and Requirements

The prospective graduate who wishes to graduate should follow the procedure listed below in order to graduate on the intended date (dates in parenthesis are various deadlines for graduation):

a. The student should complete the online graduation application which is available at website, http://www.grad.uc.edu/index.cfm?fuseaction=home.graduationInfo about three months before the graduation date.

b. The student should send the form (go to the College Web address for the form: http://www.eng.uc.edu/graduatestudies/currentstudents/forms/) to apply for final defense of dissertation to the Graduate Studies Office (701 ERC) at least 6 weeks before the graduation date.

c. The student should defend the dissertation/thesis at least 3 weeks before the graduation date.

d. All the I, F grades are changed and removed by the instructors at least 3 weeks before the graduation date.

e. The graduation checklist indicating that the student has completed all the course credit hours, seminar presentation, dissertation/thesis and residence requirement is submitted to the Office of the University Dean's Office by the Graduate Studies Director at least 2 weeks before the graduation date.

f. Complete the Departmental Exit Check List and provide the evidence that a bound copy of his/her dissertation/thesis will be sent to the department (such as receipt from the outside binder) at least 2 days before the graduation date.

VII.3. Thesis/Dissertation

The website at the Office of the University Dean contains details about the format required for the dissertation/thesis, including preparation of electronic dissertation/thesis.

All approved dissertations/theses will be published in the form of a master microfilm negative that will remain on deposit with University Microfilms (Ann Arbor, Michigan). Microfilm copies will be available from University Microfilms at a nominal charge. In addition, a 350-word abstract of the dissertation will be published in Dissertation Abstracts and listed in its cumulative and annual indexes. One
microfilm copy of the complete dissertation will also be deposited with the Library of Congress and listed in its subject and author catalogs. After a dissertation has been approved, a candidate will be required to:

a. Submit to the Office of the University Dean two typewritten copies of the approved dissertation in final form along with an abstract of the dissertation. The abstract must be approved by the Thesis/Dissertation Committee and shall consist of not more than 350 words. A fee is charged for the binding of the dissertation. Each candidate is required to deposit two copies of the dissertation, one copy of the abstract and the Dissertation Approval Form with the University Dean. The dissertation and the abstract shall be submitted to the Graduate Division not later than ten days before the graduation date (see VIII).

b. The electronic dissertation must be submitted to the Office of the University Dean. The electronic copies will be kept in the College Library.

c. Pay the Cashier of the University a Publication Fee and bring the receipt to the Office of the Graduate Division.

d. Complete and sign a publication agreement with University Microfilms. Blank agreements are available in the offices of the Graduate Division.

The Department requires one bound copy of the thesis. This, and any additional copies (typically, for the student, and advisor), should be submitted directly by the student to an outside binder. The Department office will provide the necessary information concerning this procedure. The student will not be certified for graduation until the Department has received its copy of the bound thesis.

**VIII. SPECIAL RULES AND PROVISIONS**

**VIII.1. Non-Discrimination Policy**

The University of Cincinnati reaffirms its policy that discrimination on the basis of race, color, religion, national origin, sex, sex orientation, handicap or age will not be practiced in any of its activities. Complaints involving the abridgement of this policy should be addressed to the Affirmative Action Coordinator.

**VIII.2. Right to Review Records**

Students, once enrolled, have the right to review their educational records, except where certain restrictions by law may apply, such as records maintained by a physician. Requests should be made of the appropriate University office, such as the Office of Student Records, the College Dean's office, and the Department office. Copies of any portion of the record will be provided at cost, except transcripts of student's permanent academic records for which the University's transcript policy will apply.

**VIII.3. Grievance Procedures**

A graduate student may initiate a grievance procedure for any of the following allegations:

a. improper dismissal or suspension from a graduate program for disciplinary, administrative, or procedural reasons, as opposed to academic reasons.
b. improper dismissal or suspension from a graduate program for academic reasons, or the improper withholding or termination of financial support of any kind.

c. any other improper treatment by a faculty member or university agency such as allegations of discriminatory treatment.

Grievances alleging only improper evaluation of academic work or a prejudicial recommendation for employment or further graduate study are explicitly excluded from consideration under these circumstances.

Procedures for the filing of a grievance are detailed in the "Graduate Students Grievance Procedures" pamphlet on file in the Department office or available from the Graduate Studies Director.

**VIII.4. 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 Program.
### Summary of Graduate Coursework Requirement

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<th>Ph.D.</th>
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<td>Research, Special Projects, Readings and Electives</td>
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* includes 6 credits of special project and no M.S. research credits

** for M.S. student only
List of Forms Used for Graduate Study
in the Chemical Engineering Program
University of Cincinnati
Request for Advisor

Date:       ****
To:         New ChE Graduate Students
From:       **** Director of Graduate Studies

Please fill in the following table with your first three choices of research advisors, and return it to me no later than ***.

Your Name___________________,       Your Degree Objective __________

Signature__________________________

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<thead>
<tr>
<th>Choice</th>
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<th>Project Title</th>
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# Request for Credit Transfer

**Chemical Engineering Program**  
Department of Biomedical, Chemical and Environmental Engineering  
University of Cincinnati

Date: 

To:  Graduate Studies Director  

From:  Enrollment Year: 

I would like to request the transfer of the following credits:

<table>
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<th>Year Taken</th>
<th>Credit Hour</th>
<th>Grade Received</th>
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<th>Credit Hour</th>
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*This column to be filled by the Graduate Studies Director*

Graduate Studies Director Recommendation _________________. Signature__________________  
Date________________
ChE MS Student Credit Hour Checklist/Program of Study

Name: 

BS Degree: School _____________________________________________ Year ______________________

Date Admitted: ________________________________________________

Thesis Topic Approval Date: ____________________________ Thesis Final Defense Date: _______________________

Required Credit Hours:  

Advisor Signature _______________________________________ Date:  _______________________________________

GSD Signature  _________________________________________ Date:  ________________________________________

A. ChE Required Courses and Technical Electives – Minimum 18 hours  
   (20-CHE-XXXX excluding -8000, -8071, -9000, -9071, -9072, -9073)

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B. Seminar and Technical Electives – Minimum 6 hours  
   (Excluding 20-CHE-XXXX) 20-CHE-9072, -9073 are allowed

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C. Seminar (20-CHE-8070)  
   (Continuous registration required)

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D. M.S. Thesis – Minimum 6 hours

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E. OTHER

A-4
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(These courses DO NOT Count Towards your Degree Earned, for Example ESL classes)
ChE Ph.D. Credit Hour Check List/Program of Study

Name: ________________________________

BS Degree: School ____________________________ Year: ________________

MS Degree: School ____________________________ Year: ________________

Date Admitted: ________________________________

PhD Qualification Date: Oral ________________ Propositions: ________________

Candidacy Approval Date: ________________________________

Dissertation Final Defense Date: ________________________________

Required Credit Hours: Course Work (A+B+C+D) ____________ Dissertation ____________

Advisor Signature ____________________________ Date: ________________

GSD Signature ____________________________ Date: ________________

F. ChE Required Courses and Technical Electives
(20-CHE-XXXX excluding -8000, -8071, -9000, -9071, -9072, -9073)

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Total Hours

G. Advanced Math/Statistics

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Total Hours

H. Seminar and Technical Electives
(Excluding 20-CHE-8000, -8071, -9000)

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Total Hours
## I. Seminar (20-CHE-8070)  
(Continuous registration required)

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## J. Ph.D. Dissertation – Minimum 30 hour  
(Valid only after the candidacy is approved)

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**Total Hours**

## K. OTHER  
(These Courses DO NOT Count Towards your Degree Earned  
For Example, ESL classes)

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Committee Report: Ph.D. Proposal Qualifying Procedure
Chemical Engineering Program
Department of Biomedical, Chemical and Environmental Engineering
University of Cincinnati

Date: ________________________

Title of Proposal: ____________________________________________________________
_____________________________________________________________________________

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Additional Remarks

Committee: (1) ______________________
(2) ______________________
(3) ______________________
(4) ______________________
(5) ______________________

THIS FORM TO BE PLACED IN STUDENT’S FILE
CHEMICAL ENGINEERING PROGRAM – UNIVERSITY OF CINCINNATI

ANNUAL PROGRESS REVIEW FORM

Name of Student: ___________________________ Date of Report: ____________

Student Phone #: ___________________________ Email address: ___________________________

Program: ___________________________

Candidate for the degree of: ___________________________

Chairperson of Dissertation Committee: ___________________________

We testify that the candidate was examined by us and

Passed _____ Did not Pass _____

Annual Progress Review

Thesis or Dissertation Title: ___________________________

Thesis or Dissertation Advisor: ___________________________

Examiners: _____

________________________________________
Print Name ___________________________ Signature

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Print Name ___________________________ Signature

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Print Name ___________________________ Signature

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Print Name ___________________________ Signature

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Print Name ___________________________ Signature

APPROVED BY GRADUATE DIRECTOR: ____________________________
COLLEGE OF ENGINEERING – UNIVERSITY OF CINCINNATI

RECORD OF ORAL/DEFENSE FORM

<table>
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<th>Date of Defense:</th>
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Program:

Candidate for the degree of:

Chairperson of Examining Committee:

<table>
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Proposal: □ Final: □

MS Thesis □ Non-Thesis □ PhD Dissertation □

Thesis or Dissertation Title:

Thesis or Dissertation Advisor:

Examiners:

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</table>

Program of Study in File? Yes □ No □

Student will not be certified to graduate without a Program of Study.

Baccalaureate Degree Checked? Yes □ No □

Continuing to PHD? Please see Graduate Coordinator for appropriate application form.

APPROVED BY GRADUATE DIRECTOR: ________________________________
M.S. Non-Thesis Special Project Form
Chemical Engineering Program
Department of Biomedical, Chemical and Environmental Engineering
University of Cincinnati

Name of Student: ___________________________

Non-Thesis Special Project Title: _____________________________________________

_________________________________________________________________________

Total Credit Hours __________________________

Date of Written Report Received ______________________

Grade Received for the Project _________________

Faculty Advisor Name, Signature and Date ________________________________

A-11
Student Name______________________________________

Department Seminar Title ____________________________________________

_______________________________________________________________________

Department Seminar Date ________________________________

Name of Faculty Responsible for Seminar ____________________________

Signature of the Faculty _____________________________

Date of Signature _____________________________
Master of Engineering
Graduate Student Handbook

College of Engineering & Applied Science Graduate Studies Office 665
Baldwin Hall

Revised July 2017
MASTER’S of ENGINEERING (MEng) DEGREE

The Master of Engineering program provides a graduate degree that focuses on the practice of engineering in order to better serve working professionals. Rather than culminate in a research experience and a thesis, the Master of Engineering curriculum provides skills and expertise that enhance the individual's ability to contribute to the technical workforce.

The program provides advanced training to students interested in expanding their knowledge and expertise. Depending on a student's interest, the degree could add significant depth to an individual's understanding of the practice of engineering, or the program could be constructed to focus on greater inter-disciplinary breadth if that is the educational objective of the student.

MEng Program Options
Aerospace Engineering  Biomedical Engineering  Civil Engineering
Electrical Engineering  Computer Engineering  Computer Science
Environmental Engineering  Chemical Engineering  Material Science Engineering
Mechanical Engineering

Admission Requirements
Admissions are controlled by the program in which the prospective student wishes to focus their program of study.

The following are nominal criteria for admission into the MEng program:

- Must hold a BS degree from an ABET accredited program (or equivalent if from an international university) in a corresponding engineering discipline and must provide official transcripts from the institution where the degree was obtained.
- Individuals with an ABET accredited engineering technology degree may be admissible and will be evaluated on a case-by-case basis. Pre-requisite work may be prescribed.
- Minimum undergraduate grade point average (GPA) of 3.0 / 4.0 or equivalent.
- Submit GRE scores (waived for domestic students meeting above criteria).
- Two letters of recommendation.
- Statement of purpose.

International students are required to submit TOEFL scores. Students must meet minimum requirements established by the University. The TOEFL requirement is waived for international students that have earned a degree from a US institution, and for international students who earned a degree from certain countries where the medium of instruction is English.

Individuals may request a waiver of some of the above requirements (e.g., undergraduate GPA less than 3.0) if they provide evidence to the graduate program director that they have sufficient basis to warrant a waiver. It is up to the program to accept or decline this request.

Advising
The College Director of the Master of Engineering programs is available to meet with students for academic planning and to recommend courses. Each program also has an MEng Program Advisor (may be the same as the Graduate program Director) to work with MEng students who is most familiar with the curriculum in that program. The advisor will provide guidance on appropriate courses to meet the student’s educational objectives and the sequence of these courses. Since the structure of the MEng program is more flexible than most graduate programs, it is very...
important that the advisor meet with the student and work with the student to establish the program of study.

Students in the MEng program do not complete a thesis. Instead, a capstone course is completed. The student should meet with the advisor or capstone course instructor to seek guidance commensurate with the academic requirements. It is not the responsibility of the advisor to identify a project or capstone experience for each student.

Changes or exceptions to program requirements including course substitution, special topics, and credit hour distribution between core and track areas must be approved by the Program MEng advisor or Graduate Program Director, and the College Director of MEng programs.

The Department’s Graduate Program Director or the College Director of MEng Programs is required to sign off on graduation certifications for MEng students approving that they have met the MEng requirements for graduation.

**Obtaining the Degree**

The degree will be based on the successful completion of a minimum of 30 credits of graduate-level course work and does not require a thesis. The curriculum is structured to provide a foundation of advanced engineering topics while allowing students flexibility to meet their specific educational objectives. The curriculum includes:

- **Program core courses** taken by all Master of Engineering students regardless of which track they pursue (two courses providing 4-8 credit hours). The core provides skills in the effective practice of engineering recognizing that for experienced practitioners, effectiveness includes technical skills, project and task management skills, and interpersonal skills.

- **Track required courses** from the discipline of interest (4-5 courses providing 10-15 credit hours depending upon the track)

- **Elective courses** which permit breadth, depth, or interdisciplinary focus depending on student educational objectives (number of course credit hours required depends upon the track)

- **Capstone** demonstrates applications of skills and synthesis of knowledge (0-6 credit hours depending on the options described below). If additional credit hours are taken they do not count towards a course requirement. Additional details regarding capstone completion are provided in another section of the handbook.

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</tbody>
</table>
• Seminar cannot count towards course requirements. If you take seminar, it will be in addition to the 30 course credit hours required for the degree.

• **Special Topics / Independent Study** can only count for a maximum of 3 course credit hours toward the degree. Additional course credit hours of Special Topics will be in addition to the 30 course credit hours required for the degree. Students wishing to apply 3 credit hours of Special Topics toward the degree must get prior approval before taking the course. The faculty sponsoring the Special Topics must indicate the topics to be covered and verify the credit hours covered by the course.

**Typical Schedule for Full-Time MEng Program**

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Course #1</td>
<td></td>
<td>Core Course #2</td>
</tr>
<tr>
<td>Track Required Courses¹</td>
<td>Track Course #1</td>
<td>Track Course #3</td>
</tr>
<tr>
<td></td>
<td>Track Course #2</td>
<td>Track Course #4</td>
</tr>
<tr>
<td>Elective Courses²</td>
<td>Elect Course #1</td>
<td>Elect Course #3</td>
</tr>
<tr>
<td></td>
<td>Elect Course #2</td>
<td></td>
</tr>
<tr>
<td>Capstone Project</td>
<td></td>
<td>Capstone Project</td>
</tr>
</tbody>
</table>

Credit Hours

- 15
- 15

¹ *Discipline specific course*

² *At the discretion of the program, student and the advisor*

**Capstone**

A capstone experience is required for all graduate students at the University of Cincinnati. For the Master of Engineering program, this experience is expected to be around the general topic of application of engineering principles since the MEng is focused on the practice of engineering rather than research or the generation of new knowledge. The capstone experience provides a mechanism to demonstrate a synthesis of knowledge and the application of advanced concepts learned in the program.

Some programs have very specific capstone requirements. Students must consult the MEng Program advisor for specific capstone credit hour requirements for each individual program and for any specific requirements for satisfactorily completing the capstone.

Students should register for their Capstone Project in the spring term and can complete the project in spring or the summer or fall term if needed. If the capstone project is not completed in the spring term, the student may receive an “I” (incomplete), “NG” (no grade) or a “P” (pass) grade for the spring course. Note that a “P” grade does not signify successful completion of the capstone until the capstone completion form is also signed (Appendix F).

With the Program advisor’s approval, students can choose: 1) to complete a project, 2) an MEng capstone evaluation – a comprehensive written or oral exam, 3) to perform an internship or 4) to
prepare a written paper under the supervision of the advisor. If students choose the capstone evaluation, this is a zero credit-hour option and students will need an additional graduate course in order to meet the credit hour requirements for the degree. This MEng capstone evaluation can be written or oral, as deemed appropriate by each Program.

Faculty and in many cases professionals in the workforce will oversee and guide the capstone experience. Students who are working professionals will likely apply the skills developed through the MEng program to a specific issue faced within the work setting. In all cases, one of the individuals overseeing the capstone experience must be a member of the graduate faculty.

Several options are available to students, as approved by each program. These are summarized below with additional details provided later in the handbook.

- **Project** - The capstone project is focused on the application of principles and the practice of engineering and is not meant to be a mini-thesis. The capstone projects provide a mechanism to demonstrate a synthesis of knowledge and the application of advanced concepts learned in class to a specific problem. Students can apply the skills and knowledge acquired in the program to a known problem in order to develop an appropriate solution. These students could also work with faculty to develop a solution in a lab or research group.

- **Capstone Evaluation** – With permission of the Program’s Graduate Studies Director students can elect to take a comprehensive evaluation that covers the coursework completed as part of the MEng program, including both the core and track courses.

- **Internship** - Students can choose to perform an internship if this furthers their learning and career goals. The internship must be related to the student’s degree area. The internship requires approval prior to beginning work (Appendix C), and a final report is required (Appendix E). International students generally require Curricular Practical Training (CPT) to perform an internship.

- **Paper** – A written paper can be completed under the supervision of the Program advisor. The paper will address a topic related to the discipline (track) and require the integration of multiple topics within that discipline.

**Students Electing a Project for the Capstone**

Students electing to perform a capstone project must submit a proposal for their project using the form in Appendix A. The form can be submitted at any time but full time students should submit the proposal no later than the last day of classes in the spring semester of their 1st year of study. Part-time students should submit the form by the end of the first week of the term in which they register for the capstone. Students can proceed with the capstone once they have approval from the faculty member overseeing the capstone project.

The following guidelines apply to the project:

- The project should be commensurate with a three credit hour graduate course. Projects that include significant data collection, extended collaborations, travel, and / or extensive analysis can be more than three credit hours (this is the exception).
- The project is not a thesis addressing a research issue. It is an application of knowledge and skills gained as part of the Master of Engineering program.
- The project should demonstrate a synthesis of knowledge and an application to a practical engineering or science problem.
- The capstone project includes a written report and an optional presentation. The report will be read by the faculty advisor and a representative from the Office of the Associate Dean for
Research and Graduate Studies. If the project is performed in conjunction with work duties, the report and presentation should also be given to the student’s employer.

- The topic and scope of the project shall be agreed upon by the student and the capstone advisor. If the project is performed in conjunction with work duties, the scope shall also be agreed upon by the student’s employer.
- Students should provide capstone advisors periodic updates on work performed and progress on project completion. The format and schedule should be determined between the advisor and the student.

**Guidelines for the Project Report**
The final report for a capstone project must follow the guidelines outlined in Appendix B. The form shown in Appendix B is submitted along with the report as described.

- The report is not graded on length but the report is a significant part of the grade for the Capstone and as such should be of sufficient detail to demonstrate a student’s application of knowledge and skills to a problem of significance.
- Inclusion of tables and figures is encouraged. These should be numbered, labeled and referenced in the text.
- Students must submit original material. The work of others must be properly cited.
- The report will be graded on completeness, clarity, and grammar.

**Guidelines for the Project Presentation (If Required by Capstone Advisor)**
Professionals in the workforce are often called upon to present their work or recommendations regarding technical issues. In many instances, the amount of time a manager can allow is limited and it is necessary for the technical professional to present a clear and compelling description in a condensed time frame. The project presentation provides an opportunity to give such a presentation. It is important that the students carefully plan the presentation and rehearse it in order to do a professional job.

- The presentation should be prepared for a general technical audience unfamiliar with the particular topic addressed.
- Presentation materials are to be prepared and copies made available during the presentation.
- The presentation should be approximately 20 minutes in length and address the same points as the report.
- The student will be expected to answer questions after the presentation.
- The presentation will be graded on clarity, completeness, timeliness and proper preparation.

**Capstone Project Grading**
The faculty advisor will assign a grade for the project. The following is a recommended grading scale but final grading is determined by the faculty advisor:

- 50% for successful completion of the project
- 30% for the report
- 20% for the presentation

Projects will be eligible for Pass/Fail Grading based on the above criteria. A grade of 70 and above will be considered passing.

**Students Electing Internship as the Capstone**
Students electing to perform an internship to satisfy capstone requirements must submit the form in Appendix C. The form must be sent to the capstone faculty advisor and to Anita Todd.
Internships will be approved for 3 months and can be extended for an additional 3 months with the approval of the advisor and if this does not extend a student’s time in the program beyond a 5th semester. Additional documentation is needed for the extension if requested.

International students can be approved for CPT work authorization to participate in an internship; Appendix D provides the information regarding CPT Work Authorization and the approval process for an MENG Capstone Internship for international students. CPT cannot be approved until two full-time semesters of study are completed. CPT work authorization can only be approved prior to or up until a graduation date. CPT will be terminated upon graduation.

The minimum time for the experience to count as a capstone internship is 400 hours (10 weeks full-time or about 20 weeks part-time). This to ensure that students get an extensive experience that serves as a capstone. For international students, the maximum amount of time that the College will approve CPT is six months.

At the completion of the internship, students submit a final report per the instructions in Appendix E. **Note, some programs may require a more substantial written report. In all cases students should confirm the requirements with the faculty advisor for the capstone.** In addition, students are asked to complete an internship survey; this survey is found in the Blackboard Community “MEng Internship Program”. All students who do an internship are automatically enrolled in this Blackboard community.

Students can perform the internship any time after completion of 15 credits of coursework (note that for international students who require CPT work authorization, students must first complete two full-time semesters of study). It is generally not possible to complete an internship while also completing a full-time academic term; it may be possible to participate in a part-time internship while completing a full-time academic term. Students who start the program in the fall semester typically perform an internship the summer semester (3rd semester of residency) or the following fall semester (4th semester of residency).

Full-time students are limited in the number of terms they can seek an internship. If a student seeking to do an internship has not identified an internship by the start of the 4th semester (typically the second fall of residency) the student must start a paper or project during the fall semester. The student can continue to look for an internship but they must work on a paper or project in order to make progress toward the degree. A student may be allowed to start an internship during the 4th or 5th semester depending on the timing of the performance of the work (see Appendix D for more details). In most cases, students will graduate in summer (3rd semester) or fall (4th semester). If an exception is made and an extension granted to allow a student to continue to the 5th semester, the student must be finished with the capstone requirements at the completion of the 5th semester of residency. No further extensions will be given.

The MEng program provides students the opportunity to earn a graduate degree. The program does not guarantee a student the opportunity to do an internship. The program also does not allow students to remain in the program and continue to search for an internship for an extended period of time. Students must be making progress toward their degree each academic semester (see further explanation in section on Academic Progress Standards).

**Students Electing a Capstone Evaluation**
The capstone evaluation can take several forms as deemed appropriate by the Program. The evaluation can be in the form of a written exam, an exit interview, or a summary essay. The Program will determine what is appropriate. The evaluation itself is not a course with any credit
hours (0 credit capstone) so students taking this option must ensure that they meet the minimum program requirements for credit hours completed.

**Students Electing a Paper to Fulfill Capstone Requirements**

Students electing to perform a capstone project must submit a proposal for their project using the form in Appendix A. Once the capstone advisor has approved this proposal, work on the paper can begin. The paper should provide an indication of the student’s mastery of content and the ability to synthesize information. Students must submit original material with the work of others properly cited. The paper will be graded based on thoroughness, accuracy, formatting and grammar.

The final report for a capstone paper must follow the guidelines outlined in Appendix B. The form shown in Appendix B is submitted along with the report as described.

**Verification of Capstone Completion**

A verification of capstone completion is required; students cannot be certified for graduation until this form is completed and approved. This form is provided in Appendix F and shall be signed by the College Manager of the Master of Engineering Programs (or designee) and one or more faculty members from the program. For students who perform a work-based project, an individual (typically a manager) familiar with the work will also sign the form indicating the student was the individual completing the work.

**Transfer from MEng to M.S. or Ph.D.**

Students may be allowed to transfer from MEng status to M.S. or Ph.D. status. Students must **first complete two academic semesters of residency as a MEng student** and with the proper written approval as follows:

- A written application indicating the proposed objectives of the transfer.
- Signature from a faculty member who will serve as graduate thesis advisor.
- Signature of the Program’s Graduate Program Director.

Transfer petitions may be considered only within certain time frames. Consult the Program Advisor or Graduate Program Director for additional information.

MEng to MS transfer applicants must be in academic good standing and meet all MS admission criteria, as established by the program. Individuals admitted to the MEng program with certain deficiencies (e.g., undergraduate GPA below 3.0 or undergraduate degree in non-qualified discipline) may not be eligible for transfer. Consult the Graduate Program Director for additional details.

The MEng program is not generally intended as a pathway for doctoral study. A student interested in a doctoral program needs to consult the Graduate Program Director in that program early in their course of study so as to be properly advised. Ph.D. admission in some programs requires specific coursework at the Master’s level.

Once the approvals are obtained, a student can follow an MS program of study but they will still be a MEng students until the two academic semester are complete.
Transfer from M.S. to MEng
Students who are in academic good standing may be allowed to transfer from an MS program to MEng with the proper written approval as follows:

• A written application indicating the proposed objectives of the transfer and provide justification.
• Signature from the student’s graduate thesis advisor. Faculty invest significant time in advising a thesis student and are not obligated to approve the transfer.
• Signature of the Program’s Graduate Program Director.

Except in exceptional cases, students who have been funded as a research or teaching assistant will not be permitted to transfer to a MEng program.

Thesis and research hours do not count toward the MEng degree.

Students who are either full-time or who initially matriculated as full-time students who transfer from an MS program to an MEng program are required to complete at least one full-time academic term after the transfer is approved. All remaining MEng academic requirements are expected to be fulfilled during this one additional semester.

Academic Progress Standards

Academic Good Standing
In order to be in academic good standing students must be making progress toward degree completion and demonstrate mastery of course content and program learning objectives. A student must accumulate a grade point average (GPA) of at least 3.0 to obtain a master’s degree at the University of Cincinnati. At the graduate level, the lowest passing grade is a C.

To remain in good academic standing, full-time students must maintain a minimum 3.0 cumulative grade point average each semester in all graduate-level work in the Master of Engineering program. Part-time students must have a cumulative GPA of 3.0 or higher after the completion of four courses in the MEng program.

Failure to maintain a minimum 3.0 GPA will result in academic probation and/or dismissal, regardless of the number of credit hours already completed with a passing grade. A student who receives an F grade in a course will also be on academic probation.

Continuous Enrollment
The Graduate School requires all students to be enrolled (and earn a successful completion grade) in at least one (1) graduate-level credit hour in the student’s degree program during each academic year from the first term of enrollment to the last term of enrollment (degree completion/graduation). Students who fail to enroll in each academic year from start to finish lose “active” student status. International students must register in Fall and Spring semester for 1 credit hour minimum until they graduate or are on OPT, students on CPT must register for 1 credit each academic semester.

Students who become inactive while on academic probation may not be permitted to re-enroll in later terms and complete the degree.
Specific policies and procedures regarding reinstatement can be found in the Student Handbook of the University of Cincinnati Graduate School.

Progress Toward Degree
Students are expected to make progress toward their degree during each academic semester they are registered (summer is an academic semester if a student is registered for any coursework). Students typically enroll full-time during the 1st and 2nd academic semesters (typically fall and spring). Students may complete a capstone (project, paper or internship) during the 3rd semester (typically summer).

If a student seeking to do an internship to satisfy the capstone has not identified an internship by the start of the 4th semester (typically the second fall of residency) the student must start a paper or project during the fall semester. The student can continue to look for an internship but they must work on a paper or project in order to make progress toward the degree. Looking for an internship is not making progress toward the degree.

International students should refer to Appendix D for more complete details on the requirements for an internship and CPT approval.

Course Completion
Students are expected to complete all courses in which they enroll. Official withdrawals (W or WX) do not calculate into the cumulative GPA and are acceptable to an extent. Multiple withdrawals over successive terms suggest that a student may not be completing coursework at a sufficient pace for satisfactory progress toward the degree.

Failing and non-participation grades (F, UW, and X) indicate a student is not successfully completing courses, and therefore not making satisfactory progress toward the degree. Students who earn more than one failing grade in any single term, or more than two failing grades over any number of terms, may be dismissed without further opportunity for redemption.

Students in academic jeopardy may be denied enrollment until these grades are resolved. Enrollment may be denied to any student with more than one unresolved grade on record until all grades are resolved.

Note: Grades are not replaced at the Graduate Level at UC. If a course is taken more than once, all grades earned are calculated into the cumulative GPA.

Academic Probation
Academic Probation is defined as the period during which a student’s ability to meet minimum academic standards is tested. The goals of academic probation are: (1) to ensure students are aware they are not meeting minimum requirements for their degree and (2) to give students a reasonable opportunity for academic redemption. Enrollment, participation, and grades are closely monitored while on academic probation. Students are expected to earn their highest grades while on academic probation; these grades will be used as an indicator of future student progress, and to determine whether a student can reach a minimum cumulative GPA of 3.0 without the need for coursework beyond that which is required for the degree.

Causes for probation include:
1. Any student who does not meet the GPA requirement;
2. A student fails to adhere to the University’s Student Code of Conduct
3. Multiple course withdrawals and / or incomplete (I or NG grades assigned) courses
4. Receiving an F grade

Part-time students on academic probation have up to two terms of part-time (maximum six hours per semester) enrollment to achieve a 3.0 GPA. If after this period a student’s cumulative GPA in program coursework is not above 3.0, the student will be dismissed from the program.

Full-time students on academic probation are required to meet with their academic advisor and present a plan for returning to good academic standing. Students should consider reducing the number of credit hours taken in a term so that they achieve grades that help return them to good academic standing. If a student achieves a GPA of lower than 3.0 for two consecutive semesters, the student will be restricted to part-time (maximum six semester hours) of enrollment while on academic probation. Students on academic probation for a second term will be blocked from future enrollment pending the outcome of their grades for the second term of probation.

Repeating Courses
If a student does not successfully complete a program course (C or better), the student may repeat the course once. If a student is unsuccessful in the course the second time, the student may be eligible for dismissal.

Academic Dishonesty
Academic dishonesty in any form is a serious offense that cannot be tolerated in an academic community. Dishonesty—including cheating, plagiarism, deception of effort, and/or unauthorized assistance—may result in a failing grade in a course and/or suspension or dismissal from the university.

Time to Degree
Students are required to complete the degree after no more than five semesters of residency; most will complete the degree sooner. Students seeking to do an internship to satisfy the capstone are referred to the section above on “Progress toward Degree”. Capstone requirements will typically be completed by the fall of year two, but with exception may be completed by the spring of year 2.

<table>
<thead>
<tr>
<th>Fall year 1</th>
<th>Academic Term</th>
<th>Academic Term</th>
<th>Academic Term</th>
<th>Academic Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring year 1</td>
<td>Academic Term including capstone project</td>
<td>Academic Term</td>
<td>Academic Term</td>
<td>Academic Term</td>
</tr>
<tr>
<td>Summer year 1</td>
<td>Internship or project/paper</td>
<td>(search for internship)</td>
<td>(search for internship)</td>
<td></td>
</tr>
<tr>
<td>Fall year 2</td>
<td>Internship or project/paper</td>
<td>(search for internship)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring year 2</td>
<td>Internship or project/paper</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appeal of Decisions
Students will be informed of all decisions affecting their status in the program and each has a right to appeal under the grievance procedures drawn up by the Graduate Division of the University. The process and procedures for appeal are described at [http://grad.uc.edu/studentlife/policies/grievances.html](http://grad.uc.edu/studentlife/policies/grievances.html).
Notification
The Manager of the Master of Engineering Program or a representative of the College Graduate Studies Office will notify students via email of their probationary status and any specific progress requirements. Notices are sent at the conclusion of each academic term, and only to UC student email addresses.

Graduation Requirements

Students must complete all the academic requirements of the program to graduate including:

- Minimum of 30 credit hours with no grades below a C
- Capstone requirement
- Minimum of 3.0 GPA
- Program of study approved by Graduate Program Director or college Graduate Studies Office

In addition, students must complete the following forms, have them signed and return to the CEAS Graduate Studies Office (665 Baldwin):

- Final program of study form (Appendix G)
- Capstone Completion form (Appendix F)
- Student Code of Conduct Verification Form (Appendix H)

Students must apply online for graduation [http://grad.uc.edu/student-life/graduation.html](http://grad.uc.edu/student-life/graduation.html) and pay the graduation application fee even if a student does not intend to attend graduation ceremonies.

Graduation deadlines are set by the Graduate School. Failure to meet the deadlines will result in delaying graduation until the following semester, requiring submission of a new application for graduation.

All students applying for graduation will be assessed a non-refundable graduation application fee. The fee will be assessed each semester a student applies for graduation.
Appendix

A: Capstone Proposal: Project or Paper
B: Capstone Final Report: Project or Paper
C: Capstone Proposal: Internship
D: CPT Fact Sheet
E: Capstone Final Report: Internship
F: Record of Master of Engineering Capstone G:
   Program of Study Form
H: Student Code of Conduct Verification Form
MEng. Capstone Proposal: Project or Paper

Student name: _______________________________ M number: M ____________
[last name, first name]

UC email address: ____________@mail.uc.edu Type [check one]: □ Project □ Paper

Degree area: _________________________________________________________________

Academic year admitted: ____________ [e.g., 2016-17]

---------------------------------------------------------------------------------------------------------

Capstone Advisor’s name: ________________________ email: ________________________

Department: ________________________________ Phone: _________________________

---------------------------------------------------------------------------------------------------------

Project/Paper title: _________________________________________________________________

Expected start date: ______________________    Expected end date: ____________________

Topic description (please provide sufficient detail; the boxes only serve to indicate what
information is required):

Work expected:

Expected outcomes:

Faculty Advisor Signature: ____________________________________________________________

MEng. Capstone Final Report: Project or Paper

Student name: _______________________________ M number: M __________
[last name, first name]

UC email address: ___________@mail.uc.edu Type [check one]: □ project □ paper

Degree area: ________________________________________________

Academic year admitted: _____________ [e.g., 2016-17] Completion date: ________________

List all terms and course numbers / sections for all capstone courses enrolled in (e.g. 16FS MECH 9011 003) ______________________________________________________________
........................................................................................................................................

Advisor’s name: ______________________________ email: ____________________________

Department: ______________________________ phone: ____________________________
........................................................................................................................................

Project/paper title: ________________________________________________

The report must contain the following:
• **cover page** as shown on the next page,
• **abstract** that succinctly describes the problem addressed, the methods used, and the results,
• **introduction** that provides sufficient background to allow the reader to understand the problem, the constraints and relevant characteristics of the project,
• **methods** (approach or analysis, as appropriate) that describe how the problem was addressed; this section should provide some details on how the skills and knowledge gained through the MEng program contributed to the solution,
• **results** obtained through the project,
• **discussion** of the efficacy of the approach, lessons learned through the project, areas for improvement, additional work that could be performed, and
• **bibliography** of references cited.

Project reports should not exceed 10 pages, double-spaced, 11pt font, and one-inch margins. Appendices with code or graphs, for example, can be included and cited in the body of the report.

Capstone papers can be up to 25 pages in length, not counting appendices.  p. 1 of 2
Title of Project

A capstone project report submitted in partial fulfillment of the requirement for the degree of

Masters of Engineering

In the Name of Department Graduate Program, College of Engineering & Applied Science

Date

Student Name
MEng. Capstone Proposal: Internship

Student name: _______________________________
M number: M____________
[last name, first name]

UC email address: _________________________@mail.uc.edu

Degree area: ________________________________

Academic year admitted: ___________ [e.g., 2016-17]

Internship Company or organization: ________________________________

Location (city, state, country if not US): ________________________________

Supervisor's name: _______________________, email: ________________________
Phone: ________________________________

Position title: ________________________________

Expected start date: _______________ Expected end date: _______________

Job description/duties:

Faculty Advisor Signature: ________________________________
Completing a Capstone Internship and using CPT Work Authorization

Definitions:

CPT – *Curricular Practical Training* – Training available to F-1 scholars as part of a degree program. The MENG capstone internship is an approved CPT program.

CPT Work Authorization – Approval from CEAS and UC for a student to work under CPT.

Registration – for the purpose of this document, registration means being registered for one or more credits through the University of Cincinnati. After completion of the first full year of full-time studies, graduate students are required to be registered with UC for a minimum of one credit every fall or spring term that they continue until the semester of graduation. This maintains student status for F-1 visa purposes and student status for UC purposes.

Full-time Employment – for the purpose of this document, full-time means working 21 or more hours per week (Typical US work week is 40 hours)

Part-time Employment - employment that is less than full-time, therefore, it is 20 hours or less per week.

Capstone Internship – a capstone internship is a work experience used by MENG students to meet the capstone requirement. Either an internship or permanent employment experience can be used for the capstone internship. Capstone internships will have a defined end date (will be defined based on the terms of employment or the CPT MENG requirements when a student submits the CPT registration).

Internship – An internship is a full-time or part-time work experience, the work must be related to the degree, should be paid, and is typically for a set time (usually three – six months). Internship students typically do not get benefits. The experience is considered a chance for students to get experience and for employers to “try out” the student before deciding to hire them on a permanent basis.

Permanent job/permanent employment – sometimes called a full-time job, a permanent job is a paid, career-related, work experience with no set duration. Employees are hired by an employer and will typically get benefits (insurance, time off, etc.) as well as a salary.

Semester – Fall, spring, or summer terms though UC. During fall and spring terms, you must be registered with UC in order to maintain your student status. In summer terms, you do not have to registered with UC.
CPT/Internship Process

The MENG Program was designed for completion in one or two years.

- Students will have not more than five semesters (fall, spring, summer, fall, spring) to complete the MENG degree; this includes the time to complete the internship.
  - Therefore, students who start in fall 2017 can graduate as late as spring 2019 (April 2019), but no later, and must complete an internship or project before the end of spring 2019. Most should complete all requirements by December 2018.
- Students who start fall of 2017 and are able to identify an internship for summer 2018 may complete the internship and graduate at the end of summer.
- Students who start fall of 2017 and are unable to secure a job by the end of the 3rd semester (summer of 2018) must initiate a project in the fourth semester.
  - Therefore, if you started in fall 2017 and you do not secure an internship by August 2018, then you need to initiate a project and plan to graduate in fall or (if approved) spring.
  - You can continue to look for an internship during the fall while working on the paper or project. Here are a couple of scenarios:

1. A student identifies an internship during the spring, summer or fall semester 2018. The student starts the internship before Sept. 18, 2018. The student completes the internship during the fall of 2018 and graduates at the end of the fall term 2018.
   - Submit a Capstone proposal form before the start of internship
   - Submit a request for CPT a minimum of 10 days before the start of internship.
   - Submit the Capstone Completion Form and Report – Nov. 17
   - CPT end – Dec 1 (latest date for Dec. grad) or at 6 months, whichever is earlier.
   - Apply for graduation prior to the deadline
   - If desired apply for OPT (90 days before you want OPT to start)

2. A student identifies an internship during the summer or fall semester 2018. The student starts the internship after Sept. 18, 2018 but before Nov. 1, 2018. The students must get approval to complete the internship in the spring semester. If approved, the student will complete the internship in the spring semester and graduate in spring 2019. The student must get approval from the Graduate Program Director to complete the internship in the spring semester. Once approved:
   - Submit a Capstone Proposal form before the start of internship
   - Submit a request for CPT a minimum of 10 days before the start of internship.
   - Submit the Capstone Completion Form and Report – Apr. 13
   - CPT end – April 20 (latest date for spring grad) or at 6 months, whichever is earlier.
   - Apply for graduation prior to the deadline.
   - If desired, apply for OPT (90 days before you want OPT to start)
Very important rules about CPT

- Students must complete two full-time semesters of classes at UC before they are eligible for CPT Work Authorization.
  - Therefore, students who start at UC in fall 2017 are not eligible to start work until classes end in spring 2018.
- CPT Work will only be authorized for a maximum of six months consecutively or in total if needed to meet the capstone requirement. The capstone requirement may be met with less than six months total being approved.
- CPT Work authorization must be approved by CEAS (Anita Todd) and UC International.
- CPT work authorization approval takes 7 – 10 business days for approval. Please make sure you apply early or set a start date to allow time to for the authorization to be approved.
- Regardless of the circumstances, CPT will not be extended beyond six months.
- Your I-20 end date cannot be earlier than a requested CPT Work authorization end date. You may have to extend your I-20 end date to cover the length of your internship. This will only be approved if there is a valid curricular reason to extend your I-20 and your internship into a new semester.

Capstone Internship / CPT Work Authorization

- Work experience must be related to the students major.
- Work can be full-time (20+ hours per week) or part-time (less than 20 hours per week).
- Students can use an internship or permanent employment towards their Capstone Internship.

Capstone Internship / CPT Work Authorization Duration

- Whether full-time or part-time, the maximum time that CEAS will approve for CPT is six months.
- The CPT six months does not have to be consecutive, but it must be completed by the end of the sixth semester.
- The minimum time for the experience to count as a capstone internship is 400 hours (10 weeks full-time or about 20 weeks part-time). This to ensure that students get an extensive experience that serves as a capstone.

CPT Work Authorization

- Once a student accepts a job, they should apply for CPT Work Authorization.
- It will take 7-10 business days for CPT to be approved through CEAS and UC.
- Any semester (summer, fall, or spring) that you are working, you must have the proper CPT work authorization.

Documents needed to apply for CPT Work Authorization

- You will need the following documents to apply for CPT Work Authorization
  - An offer letter from the company on company letterhead with the start date, company location, and contact information.
  - A completed CPT for MENG document
  - A completed CPT Policy Form
  - A capstone internship proposal form
Instruction to apply for CPT Work Authorization

1) Once you have accepted a job, you can apply for CPT at any time.
2) Before you apply for CPT, make sure your I-20 dates extend beyond the end date of your planned internship. If they do not, then you first need to put in for an I-20 extension so that you are authorized for the extended time. Once this is done you can complete the CPT registration.
3) Before you apply for CPT, you must have the following ready (CPT will not be approved without the forms):
   a. A copy of an offer letter from the company on company letterhead that shows a start date and end date, if applicable. (For example, a full-time job will not have an end date)
   b. The company name and address, the name and contact email (preferred) or phone number for the HR contact or Hiring Manager at your employer
   c. A completed “CPT for MENG” Approval Form (available in iEngineering eForms)
      i. Note: In the Pre-Approval section, it says “Advisor Signature” – For a capstone internship, for this purpose – Anita Todd will be the advisor, so just put “Anita Todd” in as the advisor and do not worry about the signature, when it is reviewed on line, it will be signed electronically.
   d. A signed CPT Policy Form. (available in iEngineering eForms)
   e. The capstone internship proposal form
   f. Review CPT information at the UC International website http://www.uc.edu/international/services/students/employment/cpt.html
4) Go to iBearcatsGlobal (https://ibearcatsglobal.uc.edu/istart/controllers/start/start.cfm) and click on the "login" button.
   a. Note – this is the UC international portal
5) Complete and submit your request through the international portal.
   a. When asked for your advisor – indicate it is Anita Todd email: anita.todd@uc.edu
6) Go to “iEngineering eForms” https://www.ceas3.uc.edu/iEngineering/.
   a. This is the CEAS portal
   b. Note: your advisor might show us as Eugene Rutz, this is fine, Anita Todd can still view and approve it
7) Complete and submit your request through the CEAS portal.
8) Make sure the dates and information match in both systems.

Once everything is submitted, the following will occur:
1) Anita Todd will receive an email notifying her that you have submitted a request. She will review the submission and, assuming everything is in order, she will approve the submission in “iEngineering eForms”.
   a. Note: If there is a problem with your submission, Anita will call or email you and you may have to resubmit information in one or both systems.
2) You will receive an email when Anita has approved the submission in “iEngineering eForms”.
3) A representative from UC International will review the submission and, assuming everything is in order, approve the submission in iBearcatsGlobal.
4) You will receive an email when everything is complete.
5) Once everything is approved, you are eligible to start work.
Staying registered with UC

- During the spring term of your first year (second semester), you will register for your capstone course per your degree plan/syllabus. However, you will not do your actual capstone internship until after the end of the spring semester.
- If you do your capstone internship during the summer semester, you do not have to be registered with UC.
- If you do your capstone internship during any part of the following fall or spring semester, you must be registered for a minimum of one of the MEng Capstone course during the semester.

Completing your Capstone Internship and obtaining a passing grade

- In order to get a passing grade for your capstone internship, you must
  - Successfully complete your internship experience (minimum 400 hours)
  - Complete an internship report
  - Complete an internship evaluation in Blackboard MENG Internship Community.
- Deadline for completion of this evaluation/report is the last day of your CPT Capstone internship, or the “MENG Final Submission” date for the semester in which you graduate (if your CPT/Capstone Internship ends at the end of the semester in which you graduate).

The Capstone Internship Grade

- Capstone internships will be graded on a pass/fail basis. You will receive a P or F grade. A grade of P is required for graduation. The P grade does not affect a student’s GPA.

Working beyond the Capstone Internship or working more than six months

- Work beyond six months of CPT will be under OPT work authorization.
- Students can work for longer than six months, or continue working on a permanent basis beyond their capstone internship, however, once CPT is complete, students must have OPT work authorization to continue employment.
- It takes up to 90 days to get OPT authorization. Students wishing to work beyond the end of their CPT work authorization must apply for OPT three months in advance with a scheduled OPT start date the day after completion of their CPT.
- If students neglect to register for OPT on time, CPT WILL NOT be extended to fill the gap in time between the original end of CPT and the beginning of OPT.
- More information about OPT can be found here:  
  http://www.uc.edu/international/services/students/employment/opt.html
MEng. Capstone Final Report: Internship

Student name: _______________________________  M number: M____________
[Last name, first name]

UC email address: __________________________@mail.uc.edu

Degree area: ___________________________________________________

Academic year admitted: ________________ [e.g., 2016-17]

List all terms and course numbers / sections for all capstone courses enrolled in (e.g. 16FS MECH 9011 003) __________________________________________________________

Internship Company or organization: ________________________________________________

Location (city, state, country if not US): ______________________________________________

Supervisor's name: ___________________________  email: ___________________________

Phone: _____________________________________

Position title: _______________________________

Start date: ______________________    End date: ____________________

Description of duties performed: [paragraph form, not sentence fragments. Typically 1-2 pages including details of technical aspects of duties performed]

Technologies or techniques utilized in accomplishing duties: [list with brief description of how used]
Learning/experiences in MEng. courses that were applied during internship:
[paragraph form; cite course names and describe what aspect and how it was relevant to your duties]
## Record of Master of Engineering Capstone

**Name of Student:**

**M#**

**Date:**

**Student Phone #:**

**Email address:**

**Program:**

**Candidate for the degree of:** Masters of Engineering

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**We testify that the candidate was examined by us and**

- Passed [ ]
- Did Not Pass [ ]

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<th>Internship</th>
<th>MEng Evaluation</th>
<th>Paper</th>
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**Masters of Engineering Capstone Project Description Title:**

**Examiners:**

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**Program of Study in File?**

- Yes [ ]
- No [ ]

**Baccalaureate Degree Checked?**

- Yes [ ]
- No [ ]

**Graduate Program / Studies Director Approval:**

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25
[Appendix G]

MEng. Program of Study

College of Engineering & Applied Science

Student Name: _______________________________ UC ID: M______________ Date: ______________

Email (s): ______________________________________; ______________________________________

Local Address: __________________________________________ Phone: _______________

_______________________________________________________________ (City) (State) (Zip Code)

Program: ____________________________________ Expected graduation date: _______________

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Total Credits  _____ (30 minimum)

Verified by: ______________________________________________ Date: ___________________

(Manager of MEng, Eugene Rutz or designee)

Approved by: ____________________________________________ Date: ___________________

(Program Advisor or Graduate Program Director)

[Appendix H]
MEng Student Code of Conduct Verification Form
College of Engineering & Applied Science

Print Name: ____________________________________________________

Last name First Name

UC ID: M______________

Program: ______________________________________________________

On my honor I pledge that all work I completed at the University of Cincinnati has not violated the UC Student Code of Conduct. Specifically, I understand the meaning and consequences of academic misconduct and pledge that I have not engaged in academic misconduct during my time at the University of Cincinnati. I understand that if I have violated the Student Code of Conduct by engaging in academic misconduct, that my degree can be recalled and voided by the University of Cincinnati.

______________________________________________________________

Signature Date