# Master of Engineering Graduate Student Handbook

College of Engineering & Applied Science

Graduate Studies Office

665 Baldwin Hall

Revised July 2017

# Table of Contents

# 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 graduatelevel 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:

**Chemical Engineering Program Coursework requirements**

| | MS | PhD | | MEng |
|---|---|---|---|---|
| ChE core courses | 12 | 12 | ChE core courses | |
| ChE electives | 6 | 9 | MEng core courses | |
| Electives | | 6 | | |
| Seminars | | 1/semester | | |
| MS thesis | 6 | | Electives | 6 |
| Research project | 6 | 30 | Capstone | |
| Math | | 3 | | |
| PhD dissertation | | 30 | | |
| **Total minimum credit hours** | **30** | **90** | **Total credit hours** | |

- 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

|  | **Fall Semester** | **Spring Semester** |
|---|---|---|
| **Core Courses** | Core Course #1 | Core Course #2 |
|  |  |  |
| **Track Required Courses[1]** | Track Course #1 | Track Course #3 |
|  | Track Course #2 | Track Course #4 |
|  |  |  |
| **Elective Courses[2]** | Elect Course #1 | Elect Course #3 |
|  | Elect Course #2 |  |
|  |  |  |
| **Capstone Project** |  | Capstone Project |
| **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

5

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 to an issue faced 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 1$^{st}$ 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 manger 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 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. A student may be allowed to start an internship during the 4th or 5th semester depending on the timing of the performance of the wok (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.

9

## 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.

10

## 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

11

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.

| Fall year 1 | Academic Term | Academic Term | Academic Term | Academic Term |
|---|---|---|---|---|
| Spring year 1 | Academic Term including capstone project | Academic Term | Academic Term | Academic Term |
| Summer year 1 | | Internship or project/paper | (search for internship) | (search for internship) |
| Fall year 2 | | | Internship or project/paper | (search for internship) |
| Spring year 2 | | | | Internship or project/paper |

## 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.

## 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 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: _____

15

**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

16

# 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: _____

# CPT Fact Sheet

### 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 3$^{rd}$ 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 o Successfully complete your internship experience (minimum 400 hours) o Complete an internship report o 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]

UNIVERSITY OF
# Cincinnati

## COLLEGE OF ENGINEERING and APPLIED SCIENCE

### 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** ☐

**Capstone Project** __        **Internship** __        **MEng Evaluation** __        **Paper** __

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Masters of Engineering Capstone Project Description Title:

Examiners: _____

Capstone Advisor / Program Advisor / Graduate Program Dir    Signature
Print Name

_____
Print Name        (optional)                                Signature

_____ Print
Name    (Manager of MEng Programs)                Signature

Program of Study in File?          Yes ☐        No ☐

Baccalaureate Degree Checked?    Yes ☐        No ☐

**Graduate Program / Studies Director Approval**: _____

# 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: _____

| Course # / Title | Credits | Grade | Term/Year |
|---|---|---|---|
| **Core Courses** | | | |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | _____ | _____ |
| **Track Courses** | | | |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | _____ | _____ |
| **Elective Courses** | | | |
| _____ | _____ | | _____ |
| _____ | _____ | | _____ |
| _____ | _____ | _____ | _____ |
| **Capstone** | | | |
| _____ | _____ | | _____ |
| **Total Credits** | _____ **(30 minimum)** | | |

Verified  by:_____ Date: _____

        (Manager of MEng, Eugene Rutz or designee)

Approved by:_____ Date: _____

        (Program Advisor or Graduate Program Director)

# 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