

Ph.D. Program Handbook

Technology Management

*Department of Engineering and Technology Management
Maseeh College of Engineering and Computer Science*



Portland State
UNIVERSITY

www.pdx.edu/engineering-technology-management/

Rev 4.0: January 2018

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CONTENTS

[General Information](#)

[Major Milestones](#)

[Faculty Advisor](#)

[Courses/Independent Studies](#)

[Continuous Enrollment/Leaves of Absence](#)

[Comprehensive Examination](#)

[Comprehensive Exam Proposal](#)

[Timeline for Submission of the Comprehensive Exam Proposal](#)

[The Comprehensive Exam Committee](#)

[Enrollment while Preparing the Comprehensive Exam Proposal](#)

[The Comprehensive Exam Proposal Meeting](#)

[The Comprehensive Exam](#)

[Evaluation of the Comprehensive Exam](#)

[Dissertation Proposal](#)

[Selection of the PhD Advisor](#)

[Formation of the Dissertation Committee](#)

[The Dissertation Proposal](#)

[Timeline for Submission of the Dissertation Proposal](#)

[Enrollment while Preparing the Dissertation Proposal](#)

[Human Subjects Research Review](#)

[The Dissertation Proposal Pre-Review Meeting \(Optional\)](#)

[Scheduling the Dissertation Proposal Review Meeting](#)

[Evaluation of the Dissertation Proposal](#)

[The Dissertation](#)

[Doctoral Candidacy](#)

[Enrollment During Candidacy](#)

[Publishable Paper](#)

[Dissertation Pre-Defense Meeting](#)

[Scheduling the Dissertation Defense](#)

[Announcement of the Public Defense](#)

[Providing the Committee with Copies of the Dissertation](#)

[Evaluation of the Dissertation](#)

[Final Steps after Dissertation Approval](#)

[Submission of Recommendation for the Degree Program](#)

[Submission of Materials to the Office of Graduate Studies](#)

[Copyrighting the Dissertation](#)

[Final Copies of the Dissertation for the Committee](#)

[Participating in Commencement](#)

[Missing the Dissertation Submission Deadline](#)

FORMS - Available at <http://www.pdx.edu/engineering-technology-management/forms>

CURRICULUM PLAN	8 pages
REQUEST TO CHANGE FACULTY ADVISOR	1 page
REQUEST FOR LEAVE OF ABSENCE FROM DOCTORAL STUDY	1 page
SELECTION OF THE COMPREHENSIVE EXAM COMMITTEE	1 page
COMPREHENSIVE EXAM PERIOD CHOICE	1 page
REQUEST TO SELECT/CHANGE PhD ADVISOR	1 page
REDUCED COURSELOAD	2 pages
APPLICATION FOR AWARDING OF MASTER'S OR DOCTORAL DEGREE	1 page
GO-16D: APPOINTMENT OF DOCTORAL DISSERTATION COMMITTEE	1 page
GO-23 DOCTORAL REQUEST FOR ADVANCEMENT TO CANDIDACY	1 page
GO-17D: RECOMMENDATION FOR THE DEGREE	1 page

General Information

Major Milestones

In addition to the University's general degree requirements, the Ph.D. program in Engineering and Technology Management consists of the following ten steps:

1. Admission to the program.
2. Successful completion of the equivalent of at least 81 credits of coursework beyond the Bachelors degree.
3. 12 credits of independent study supervised by ETM faculty resulting in research paper(s) to be completed prior to the comprehensive exam.
4. At least one paper accepted for a peer-reviewed conference or journal on Engineering and Technology Management.
5. Successful completion of a comprehensive examination to demonstrate mastery of the Engineering and Technology Management field, including the evaluation of up to three research papers, in which the student is the sole or leading author.
6. Selection of the PhD Advisor from the ETM faculty and formation of the Ph.D. committee including one member appointed by the Dean of Graduate Studies.
7. Development of the dissertation proposal and its approval by the Ph.D. committee resulting in the advancement to Ph.D. candidacy.
8. Registering for at least 27 dissertation credits while conducting the research after the advancement to candidacy.
9. Preparation of at least one paper, based upon the dissertation research, suitable for inclusion in a refereed research.
10. Defense of the dissertation.

Faculty Advisor

A Faculty Advisor is assigned to each student upon his/her admission to the PhD program, and the student's preliminary academic plan is developed with the Faculty Advisor and recorded on the Curriculum Plan form. Students may change Faculty Advisor at any time, by submitting to the ETM Office a completed Request to Change Faculty Advisor form (available online at <http://www.etm.pdx.edu/New/Forms.aspx> and in the ETM Office).

Courses/Independent Studies

Typically, students begin their PhD programs by taking courses during their first two years. The required 12 credits of Independent Study may be taken concurrently with other courses, or may be taken after other course requirements are completed. Each Independent Study is expected to be completed no later than the end of the third quarter after the end of the quarter for which it is registered.

Continuous Enrollment/Leaves of Absence

Doctoral students should enroll in at least one credit per term throughout their PhD programs, except during Summer terms. They should enroll between one and nine credits during the terms they are preparing for and taking comprehensive exams as well as during the time when they are preparing and defending their dissertation proposals. However, students may petition the department for a leave of absence for up to one calendar year, by submitting to the ETM Office a completed Request for a Leave of Absence from Doctoral Study form (access forms here: <http://www.pdx.edu/ogs/forms>). Application for leave of absence, endorsed by the department chair or program director, must be filed in the Office of Graduate Studies not later than the Friday of the second week of the term for which the leave of absence should take effect. A leave of absence is granted only to doctoral students in good

standing and does not constitute a waiver of the time limit for completion of the doctoral degree at Portland State University. If the student has reached PhD candidacy, the Program Administrator will send a copy of the Leave of Absence from Doctoral Study form to the Office of Graduate Studies.

Comprehensive Examination

Comprehensive Exam Proposal

The Comprehensive Exam Proposal consists of a listing of courses taken to fulfill Core, Specialization and Methodology requirements, plus the research papers from the Independent Studies. At least one of these research papers must be accepted for presentation in a peer-reviewed (or equivalent) conference related to Engineering and Technology Management.

Timeline for Submission of the Comprehensive Exam Proposal

Students are required to pass their comprehensive exams within the five years of their admission to the doctoral program.

Students should submit the Comprehensive Exam Proposal to the Faculty Advisor no later than the end of one term after the completion of courses and the Independent Studies. Exceptions to this timeline can be made by the student's Faculty Advisor.

The Comprehensive Exam Committee

The composition of the Comprehensive Exam Committee is determined by the student and the Faculty Advisor. The Committee consists of at least four faculty members including minimum two from the ETM department. Two of the members must be full-time faculty members.

Enrollment while Preparing the Comprehensive Exam Proposal

The students should enroll for a minimum of 1 credit during the terms they are preparing for and taking comprehensive exams

The Comprehensive Exam Proposal Meeting (this also includes summer, if taking comps during the summer)

The purpose of this meeting is to determine whether the student is ready for the Comprehensive Exam. When the student and the Faculty Advisor determine that the Comprehensive Exam Proposal is ready for formal review, the student schedules a meeting with the Faculty Advisor and the Comprehensive Exam Committee. If a student wishes to take the Comprehensive Exam over the Summer term, the meeting must be held no later than May 15. After the meeting is held:

- If student is not deemed ready for the Comprehensive Exam, the Comprehensive Exam Committee recommends to the department Chair one of the following:
 - A course of action that might include, but is not limited to, additional courses and/or Independent Studies, and a timeline for taking the exam (up to one year)
 - Termination of the student's enrollment in the doctoral program
- If the student is deemed ready for the Comprehensive Exam, the Written Exam is prepared by the faculty and typically made available to the student within 4 weeks

The Comprehensive Exam

The purpose of the Comprehensive Exam is to determine depth and breadth of the knowledge that the student has acquired in the PhD program and the likelihood that he/she will be successful in conducting doctoral research. All students take a Written Exam that has been developed specifically for them, and followed by an Oral Exam. After the Written and Oral Exams are evaluated by the Comprehensive Exam Committee, the student may be required to take an additional 2-4 hour written exam. These would be scheduled at the student's and Committee's earliest convenience.

The student is allowed up to 3 months to take the Written Exam. After the Written Exam is turned in, typically the student will have the results within one month. An exception to this is if the Written Exam is turned in between May 15 and September 15. Because many ETM faculty are engaged in research projects away from the university over Summer term, they may not be available to evaluate the Exam until they return. Another exception is if the Exam is turned in from late November through December. Because of the winter holidays, faculty may not be available to evaluate the Exam as quickly as at other times of the year.

The written exam is to be done independently and should not be discussed with anyone unless a question explicitly calls for it. Any questions regarding the exam should be sent by email to the full exam committee.

Evaluation of the Comprehensive Exam

The Comprehensive Exam is evaluated on a Pass, Low Pass, or Fail basis, and recorded on the DOCTORAL REPORT ON PASSING COMPREHENSIVE EXAMINATIONS (Go-22) form.

- If the majority of the members give Pass or Low Pass grades, the student passes.
- However, if there are more Low Pass grades than Pass grades, it is a conditional pass. The Comprehensive Exam Committee decides on the condition.
- If the student does not pass, the Comprehensive Exam Committee recommends to the department Chair one of the following:
 - A course of action that might include, but is not limited to, additional courses and/or Independent Studies, and a timeline for re-taking the exam (up to one year)
 - Termination of the student's enrollment in the doctoral program

If the student passes the Comprehensive Exam, the student is allowed one year to develop and submit a dissertation proposal. Documentation of passing the Comprehensive Exam is sent to the Office of Graduate Studies by the Program Administrator

Dissertation Proposal

Selection of the PhD Advisor

Before the submission of the Dissertation Proposal, the student must select a PhD Advisor, who will work with the student to select members of his/her Dissertation Committee and head that Committee. Students may select or change their PhD Advisor at any time, by submitting to the ETM Office a completed Request to Select/Change PhD Advisor form (available online at <http://www.pdx.edu/engineering-technology-management/forms> and in the ETM Office).

Formation of the Dissertation Committee

The Dissertation Committee consists of the PhD Advisor and a minimum of three and a maximum of five additional members, including one appointed by the Office of Graduate Studies. The student and chair need to find 2 suggested members, ensure that they are willing to serve and list them on the GO-16D. At least one of the Committee members must be full-time ETM faculty, and all members must hold earned PhDs. Co-Chair designations are allowable. The GO-16D, Appointment of the Doctoral Dissertation Committee form and HSRRC approval memo are submitted to the Office of Graduate Studies for approval, with copies to the Program Administrator for the student file. The GO-16D form is available at www.pdx.edu/ogs/forms. The Dissertation Chair can be from another department with the condition that the Co-Chair will be from the ETM Department.

The Dissertation Proposal

The dissertation proposal includes an executive summary, a comprehensive literature search, a description of the proposed research and methodology, a justification that if the proposed work is completed it will contribute to the state of knowledge, a preliminary plan for data gathering and analysis, an approximate schedule of research, a list of expected outputs and contributions. The literature search section is expected to show the gaps in the existing literature, and explain how the proposed research will fill some or all of those gaps.

Timeline for Submission of the Dissertation Proposal

The Dissertation Proposal should be submitted to the Dissertation Committee no later than one year after the passing of the Comprehensive Examination. The student, with the PhD Advisor's approval, may petition the department for an extension of up to one year in which to submit the Dissertation Proposal. This petition should be made via email to the Program Administrator.

Enrollment while Preparing the Dissertation Proposal

The students should enroll between four and nine credits during the terms they are preparing and defending their dissertation proposals. Students can register for dissertation credits as soon as they start work related to their dissertation - this may be right after completion of independent studies.

Human Subjects Research Review

The application is submitted after the dissertation proposal is accepted. Information on the review process and application forms are available online at : <https://drive.google.com/file/d/0B6loa6zCCxqNYnAyUms2RWpleE0/view>

The Dissertation Proposal Pre-Review Meeting (Optional)

The purpose of the Dissertation Proposal Pre-Review meeting is to determine whether the Dissertation Proposal is ready for formal review. When the student and the PhD Advisor believe that the Dissertation Proposal is ready for review (but not before receiving written approval of the Dissertation Committee by the Office of Graduate Studies), the student contacts the Program Administrator for scheduling the Dissertation Proposal Pre-Review meeting. All members of the Dissertation Committee should participate in the Dissertation Proposal Pre-Review meeting. If the Proposal is deemed not ready for formal review, the Committee decides when to meet again to review it. If the Dissertation Proposal is deemed ready for formal review, the student contacts the Program Administrator for scheduling the Dissertation Proposal Review meeting.

Scheduling the Dissertation Proposal Review/Defense Meeting

When the Dissertation Committee determines that the Dissertation Proposal is ready for review, the student contacts the Program Administrator for scheduling the Dissertation Proposal Review meeting. Typically, the Dissertation Proposal Review meeting is held within 3-4 weeks after the Pre-Review meeting. All members of the Dissertation Committee must participate in the Dissertation Proposal Review meeting, whether in-person or via telephone or video-conferencing. Please review the policy on Remote thesis/dissertation participation here, <http://www.pdx.edu/ogs/remote-thesisdissertation-participation>.

Evaluation of the Dissertation Proposal

The Dissertation Proposal is evaluated on a Pass or Fail basis. If the majority of the members give Pass grades, the student passes.

- If the Dissertation Proposal is not approved, the Dissertation Committee recommends to the department Chair one of the following:
 - A course of action which might include, but is not limited to, requiring additional courses and/or changing the research focus, and a timeline for re-submitting the proposal (up to one year)
 - Termination of the student's enrollment in the doctoral program
- If the Dissertation Proposal is approved:
 - The committee needs to fill out a GO-23 Doctoral Request for Advancement to Candidacy form recording the outcome of the proposal defense and advancing doctoral students to candidacy. The GO-23 Doctoral Request for Advancement to Candidacy form is also available on the forms page at : <http://www.pdx.edu/ogs/forms>
 - The Program Administrator, on behalf of the department Chair, notifies the Office of Graduate Studies of the Proposal's approval and requests candidacy by forwarding the GO-23 to OGS.
 - The student revises the Human Subjects Research Review Committee draft proposal and submits a final version to the HSSRC for approval. When approved HSSRC will send an approval memo to the PI and the student. This memo need to be submitted to OGS to advance the student to candidacy.
 - A plan for meeting the university's residency requirement must be submitted to the Program Administrator, if the requirement has not yet been met. . See residency policy in the PSU Bulletin: <https://www.pdx.edu/academic-affairs/sites/www.pdx.edu.academic-affairs/files/2016-17%20Bulletin%20Vol%201.pdf>

The Dissertation

Doctoral Candidacy

After the GO-23, program of study verified in DARS and the HSSRC approval is given, the student is granted PhD candidacy by the Office of Graduate Studies. The university requires that the Dissertation be completed not before 4 months or after 5 years of reaching candidacy status.

Enrollment During Candidacy

After candidacy is granted, the student must continue to register for at least one credit of Dissertation ETM 603, for each quarter through the term of graduation before the Dissertation Defense.

Publishable Paper

Before the Dissertation Defense, the Dissertation Committee documents that the student has produced at least one paper, based upon the dissertation research, suitable for inclusion in a refereed research journal. This documentation is made via an email from the PhD Advisor to the Program Administrator.

Dissertation Pre-Defense Meeting

When the student and the PhD Advisor determine that the Dissertation is ready for formal review, the student contacts the Program Administrator for scheduling the Dissertation Pre-Defense meeting. All members of the Dissertation Committee should participate in the Dissertation Pre-Defense meeting.

At the Dissertation Pre-Defense meeting, the Committee determines whether the Dissertation is ready for formal defense. If the Dissertation is not ready for formal defense, the Committee decides when to meet again to review it. If the Dissertation is ready for formal defense, the student contacts the Program Administrator for scheduling the Dissertation Defense.

Scheduling the Dissertation Defense

When the Dissertation Committee determines that the Dissertation is ready for defense, the student contacts the Program Administrator for scheduling the Dissertation Defense. Typically, the Dissertation Defense is held within 3-4 weeks after the Pre-Defense meeting. All members of the Dissertation Committee must participate in the Dissertation Defense. In unusual circumstances, a member may participate via telephone or video-conferencing.

Announcement of the Public Defense

The doctoral program administrator and the doctoral program coordinator must be informed three weeks prior to the defense so that an announcement can be sent to all ETM faculty and PhD students and PSU doctoral program coordinators.

Providing the Committee with Copies of the Dissertation

The student provides the Dissertation Committee with copies of the full Dissertation no later than 2 weeks before the Defense.

Evaluation of the Dissertation

The Dissertation Defense is evaluated on a Pass or No Pass basis. Per the PSU Bulletin, there may be no more than one dissenting vote on the defense for approval of the dissertation.

- If the Dissertation Defense is not successful, the Dissertation Committee recommends to the department Chair one of the following:
 - A course of action and a timeline for re-submitting the final dissertation (up to one year, but not to exceed the university's deadline of no more than 5 years after candidacy is granted)
 - Termination of the student's enrollment in the doctoral program
- If the Dissertation Defense is successful:
 - The student may need to make minor revisions and submit the revised Dissertation to the Committee for final approval
 - The student ensures that any outstanding Incomplete, In-Progress, or Missing grades are addressed. Please note that 603 credits remain in progress until the degree is awarded.

Final Steps after Dissertation Approval

Submission of Recommendation for the Degree Program

The student or PhD Advisor notifies the Program Administrator, who submits to the Office of Graduate Studies the GO-17D, Recommendation for the Degree form no later than the last week of the term of graduation. The GO-17D is available online at <http://www.pdx.edu/ogs/forms> .

Submission of Materials to the Office of Graduate Studies

All theses and dissertations are submitted electronically to OGS. For more information and guidance visit the following links :

- **Thesis and Dissertation Information** - This webpage provides an overview of all the major steps regarding committee appointments, defense procedures, formatting requirements and submission. <http://www.pdx.edu/ogs/thesis-and-dissertation-information>

-**EDT Formatting Requirements** - All dissertations must meet PSU's formatting requirements. We encourage you to review the formatting requirements early. It is easier to format your document to these specifications from the beginning as opposed to changing the formatting when you are prepared for submission. <http://www.pdx.edu/ogs/etd-formatting>

-**EDT Formatting Checklist** - When finalizing your formatting, please use OGS' Formatting Checklist. This Checklist is not a substitute for carefully reviewing the formatting requirements, but is designed to help you avoid the most common formatting errors. http://www.pdx.edu/sites/www.pdx.edu.ogs/files/ETD_Formatting_Checklist.pdf

-**Submission Instructions** - All dissertations are submitted to OGS electronically via the UMI/ETD Administrator. These instructions walk you through the steps of creating an account with and submitting your documents through the ETD Administrator. <http://www.pdx.edu/ogs/etd-submission-instructions>

-**UMI/ETD Administrator** (the website used to submit your ETD). <http://www.etdadmin.com/cgi-bin/school?siteid=207>

-**ETD FAQ's**
<http://www.pdx.edu/ogs/etd-faq>

-**Deadlines** - There are two key deadlines for all doctoral students: the defense deadline and the submission deadline. Deadline dates for upcoming terms are available on the OGS Graduate Candidate Deadlines Page at <http://www.pdx.edu/ogs/graduate-candidate-deadlines>

-**OGS Forms**
<http://www.pdx.edu/ogs/forms>

Copyrighting the Dissertation

Copyrighting the dissertation is optional and is arranged through the electronic thesis and dissertation process.

Final Copies of the Dissertation for the Committee

A bound copy of the dissertation is given to each Committee member no later than three weeks prior to graduation.

Graduation

Students must apply for graduation by the first Friday of the anticipated term of graduation. Visit <http://www.pdx.edu/ogs/application-for-awarding-of-masters-degree-doctoral-degree-or-graduate-certificate> for more information about applying for graduation. Also see the Graduate Candidate Deadlines page at <http://www.pdx.edu/ogs/graduate-candidate-deadlines> for specific dates.

Please see the Summary of Procedures for Doctoral Degrees at <http://www.pdx.edu/ogs/procedures-doctoral-degrees> for information about additional requirements for graduation.

Please note that you cannot participate in the Spring PSU Commencement ceremony unless you have been certified for graduation by OGS.