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Ph.D. Admissions

General Instructions for Applying to the Ph.D. Program

Applicants should ensure that they meet the following University requirements for admission to a doctoral program. These requirements apply to both domestic and international students.

- 1. Baccalaureate degree from an accredited institution or a degree equivalent to a fouryear U.S. baccalaureate from a college or university of recognized standing
- 2. G.P.A. of 3.5 or international equivalent for the upper division of the undergraduate course work
- 3. Undergraduate major or specialized work in the proposed doctoral major field.

The <u>Graduate School</u> has information on university requirements for graduate admissions. All students must apply online at http://www.gradadmissions.wayne.edu. Please follow the instructions in the online application.

Admission is applicable only for the semester requested. If an admitted student does not register for classes within the requested semester, a Doctoral Renewal Application must be completed.

Admissions Timing:

Semester	Apply Before Classes Begin			
Fall	February 1	Early September		
Winter	September 1	Early January		
Spring/Summer	January 2**	Early May		

^{*} Students seeking financial support have to submit the applications for Fall Term admission by February 1st.

Financial Support:

The decisions regarding financial support for Fall term applicants will be made at the end of March. The deadline for receiving applications is typically February 1st. Students with industrial experiences and a track record conducting research and publishing papers (Journals, Conferences etc.) will be given a priority. Along with your application and application fee, you need to submit a Statement of Purpose, CV or Resume, GRE and TOEFL Scores, Transcripts, copies of publications, and 3 Recommendation Letters. Additional details regarding <u>Coursework Funding Policy for Doctoral Students</u> can be found on our website. Additional funding opportunities are available through the <u>College of Engineering</u> and the <u>Graduate School</u>.

Application for Admission or Change of Status Form:

Students who are not currently enrolled in a graduate program at Wayne State University must submit a Graduate Application and accompanying documentation to the Department indicating Industrial Engineering as their selected major. The completed application will be forwarded to the Admissions Office for final processing after a departmental decision has been made. GPA of 3.5 in an accredited undergraduate program is required for direct admission into the doctoral program.

^{**} We typically do not admit students during Spring/Summer



Students with below a 3.5 in their undergraduate program should complete a graduate degree in a related field before applying to the doctoral program. GRE scores are required for doctoral applicants who have not previously completed the MS-IE at Wayne State. In order to be granted admission to the doctoral program, a student must be sponsored by a faculty member. If a student has applied to any program at the University for Regular Admission within the previous three consecutive semesters, either successfully or unsuccessfully, a <u>Graduate Renewal Application</u> can be filed indicating Industrial Engineering as the selected major. The application will undergo the normal review process, but supporting paperwork need not be filed an additional time.

Students who are currently enrolled in a different graduate program within the University may apply to transfer to the Industrial Engineering program by submitting a Graduate Application for Admission via the Online Application System. Students who are changing from Master's Candidate to the doctoral program, even within the Industrial Engineering program, must also submit a New Online Application.

The Department of Industrial & Systems Engineering does not accept <u>Graduate Record/Status</u> <u>Change Forms</u> for admissions in order to insure accurate and complete application materials being reviewed and decreasing the chances of lost or inaccurate materials.

General Requirements & Information

Ph.D. Advisor

It is recommended that students select an advisor as early in their program as possible. The advisor generally serves as both the academic and dissertation advisor. Each student admitted to the doctoral program is required to be sponsored by a faculty member - indicating the willingness of the faculty member to serve as a dissertation advisor for that student. Students are not required to complete their dissertation with this individual, if another faculty member can be identified who offers a program that meets the student's goals. All doctoral students must select a permanent advisor within one semester following successful completion of the Preliminary Exams. The Graduate Committee must be notified of the selection. If a student wishes to change advisors, he/she should discuss the change with the current advisor and must then submit a Graduate Record/Status Change form, signed by both the old and new advisor, notifying both the Graduate Committee and the College of Engineering of this change.

Coursework

The doctoral degree requires a minimum of 90 semester credits beyond the baccalaureate degree. The division of these credits is as follows:

- 20 21 credits of core courses
- 8 credits of a minor
- 30 credits of dissertation research (IE 999x)
- 31 32 credits of additional coursework
- The additional coursework must be completed with the following conditions:



- o At least 30 credits of courses at the 7000-level or above
 - Students are required to pass at least two of the following Ph.D. core courses
 - IE7220: Advanced Statistical Methods
 - IE7511: Linear and Nonlinear Optimization
 - IF7710: Stochastic Processes
 - Besides two core courses, students are required to take at least two more "doctoral" courses offered by the ISE Department.
- o If more than 8 credits of 7990 and 7996 are to be applied to the degree, this must be substantially justified by both the student and the advisor and must be approved by the Graduate Program Officer
- At least 30 credits of coursework, outside of dissertation direction, must be completed at Wayne State

Responsible Conduct of Research

The Graduate School is running an institution-wide comprehensive program to provide training in Responsible Conduct of Research (RCR) practices for PhD students and Postdoctoral Scholars. This program will be mandatory for all new PhD students and Postdoctoral Scholars starting in the 2016-2017 academic year. While the basis of integrity training rests largely with the Research Advisor, the Graduate School's goal is to assist by providing training in the Core Curriculum aspects of RCR first through a centralized university-wide process. The Research Advisor and Departments would then be expected to provide discipline-specific specialized training to students within their areas.

RCR training will be delivered in part through a newly developed Graduate School course GS0900 titled: "Essential Research Practices: Responsible Conduct of Research". This course will be a zero credit hour course presented as either pass/fail, so there will be no costs associated with registration for new PhD students. Postdoctoral Scholars can use the Tuition Assistance Program to cover the costs of registration, etc. associated with this course. All scholars will be required to attend a day long course on either of the two assigned Saturday dates in the Fall or the Winter semesters. A prerequisite for GS0900 will be successful completion of Collaborative Institutional Training Initiative (CITI) basic online responsible conduct of research modules (provide URL), selected to be applicable to all students. Through the GS0900 course, the students will be provided additional training in RCR practices through the day long workshop and breakout session discussion type format. The final stage of our RCR training program will be delivered by the individual departments (through programs that already have established or through newly developed initiatives, possibly linked to student orientation). Training at the Departmental level will provide students and Postdocs with the focused instruction on topics specific to the student's field. There will be an essay component at the end of the program that students and Postdocs will complete to receive a passing grade in GS0900. Additional details regarding the RCR training course can be found online

Transfer of Credit – Doctor of Philosophy

A student wishing to transfer graduate credit toward the Ph.D. program should file a Transfer of





Credit -Doctor of Philosophy form along with the Doctor of Philosophy Plan of Work. A minimum grade of B is necessary to transfer credits; B-minus credits and courses graded "P" or "S" (Pass or Satisfactory) is not transferable. Transfer credit must be appropriate to the student's degree program and may not be used to reduce the minimum requirement of thirty credits that must be earned at Wayne State. Appropriate Seminar Credits can be transferred.

In addition to the course offerings at Wayne State, students may elect to take courses at the University of Michigan, Michigan State University, or other universities within the state through the Michigan Intercollegiate Graduate Studies (MIGS) Program or the reciprocal registration agreement with the University of Michigan. Both programs are designed to allow graduate students to expand their curriculum beyond what is offered at Wayne State.

Credit earned through the MIGS program will be treated in the Plan of Work and grade point average as if it were earned at Wayne State. There may be additional tuition fees involved if the MIGS system is used. In order to enroll in courses through this program, a MIGS Application Form must be completed and signed by the student's academic advisor, the WSU MIGS Liaison Officer (at the Graduate School, Office of Admissions), the faculty contact and department chair of the host institution, and the MIGS Liaison Officer of the host institution. It is recommended that this process be started as early as possible before the semester in question in order to minimize potential problems.

No additional tuition is charged for students registered at UofM through the reciprocal registration agreement. However, while the credits count towards the graduate degree, the classes shall not be included in calculation of the GPA. PhD students may elect any number of credits through this program except as required for dissertation credit or satisfaction of the residency requirement. However, students may only elect courses for which there is not an equivalent course at Wayne State. In order to utilize this option, students should complete the Graduate Petition to Elect Courses at the University of Michigan form.

If a student plans to include credit earned from institutions other than Wayne State in their curriculum, the form <u>Transfer of Credit - Doctor of Philosophy</u> must be completed and submitted along the Plan of Work. A separate form must be completed for each institution from which a student wishes to transfer credit. Original transcripts must accompany the form.

Program Load

A full-time graduate student is one who is enrolled for eight or more credits during a semester. A student with a strong academic record who is devoting full-time effort to graduate study and carrying no outside employment may register for a program not to exceed sixteen credits per semester. A student engaged in part-time work should limit registration in proportion to the amount of outside work. A student employed full-time will normally not register for more than eight credits. A student working full-time who desires to carry more than eight credits must get permission from the Graduate Committee Chair.

Graduate Assistants are required to register for at least six credits of graduate level courses per



semester (1 credit during the Spring/Summer semester). If students supported by Graduate Assistantships are also required to take undergraduate courses as part of their programs, these must be in addition to the six graduate credits. As assistantships do not cover tuition for undergraduate courses, students should discuss options for payment of this portion of their tuition with their advisors.

Minimum Grade Point Average

Students must maintain a cumulative grade point average of 3.0 in order to continue in the program. Students receiving a grade below a B- in a course may not count that course towards their graduation requirements. A student may petition to repeat up to two courses in which a grade lower than a B- has been received. Permission to repeat a course must be obtained from the Graduate Committee Chair as well as the Dean of the Graduate School by filing the Request to Repeat a Graduate Course form. This form must be filed before registering for the repeated course. The grade received in repetition of the course will be shown on the transcript and used in computation of the student's grade point average for the degree program. Students will not receive University financial aid for repetition of courses.

Residency Requirement

The Ph.D. requirement of one year of residence is met through the completion of at least six graduate credits in course work, exclusive of dissertation research, in each of two successive semesters. The Spring-Summer semester may be excluded from the definition of successive semesters. If it can be demonstrated that a student's research must be completed on campus, the residence requirement for the Ph.D. may be met by the dissertation director's written certification that the student has been in full-time residence for at least two successive semesters and one summer session. In this case, a count of course credits is not required for the fulfillment of the requirement, but specific dates of residence must be furnished. In addition, the Ph.D. residency requirement stipulates that the student must elect at least 30 credits in graduate work, exclusive of dissertation direction, at Wayne State University.

Time Limitation

Students have a seven-year time limit to complete all requirements for the Ph.D. degree. The clock starts on the first day of the semester for which the student is admitted to the Ph.D. program and ends on the last day of that semester seven years later. (For example, admitted 9/1/98, time expires 12/31/05). Up to 30 semester hours of "B" or better graduate credit earned prior to the student's admission as a doctoral applicant may be applied toward the degree without regard to lapse of time. This credit may be from Wayne State or other institutions, if approved for transfer credit. Credit earned beyond these thirty semester hours shall not be over ten years old at the time of admission as a Ph.D. applicant. Credit earned after acceptance, as a Ph.D. applicant may not be over seven years old at the time the degree is conferred, except when, on the recommendation of the advisor, up to ten semester hours of credit previously earned at Wayne State may be specified for revalidation by examination. Courses completed at other institutions cannot be revalidated. In the event that any courses have been previously revalidated in connection with the earning of the Master's degree, these shall be counted as part of the total ten credits. A special examination fee is charged for course



revalidations. <u>Time extensions</u> beyond these limitations are authorized only for conditions that are clearly beyond the student's control.

Plan of Work

Early in his/her program, doctoral students must develop a plan of study in conjunction with his/her advisor. The advisor and the Program Curriculum Committee must approve this <u>Doctor of Philosophy Plan of Work</u> before being submitted to the Graduate School for final approval. The individualized curriculum should be developed and submitted before the student has completed 16 credits of new coursework towards the doctoral degree. The Graduate School must receive the form before the Petition for Candidacy can be submitted. Students will receive a Ph.D. Plan of Work Review form once the plan of work has been processed by the Ph.D. Office, detailing any deficiencies in the proposed plan of study. Once the Graduate School approves the Plan of Work, the advisor, the Department Curriculum Committee or Graduate Officer, and the Ph.D. Office of the Graduate School must approve any subsequent changes in the plan of study. These changes should be submitted through the Change in Ph.D. Plan of Work form. Up to four pairs of additions/deletions to the Plan of Work may be submitted with this form. Changes in excess of four require the submission of a complete, revised Plan of Work form with appropriate approvals.

Annual Progress Evaluations

All doctoral students are required to report on their annual progress by submitting the Annual Progress Evaluation Form. Students are required to report progress in terms of coursework, research, publications, and conference attendance activity. In case the student has already selected a dissertation advisor, the form also requires evaluation by the advisor. The completed electronic annual progress evaluation forms are typically due on June 1st of every year. See Graduate School websites for more current information on the <u>Annual Progress Evaluation</u>. Students will receive email notification to complete this electronic survey in late spring every year.

Individual Development Plans (IDPs)

The IDP is a document designed to assist doctoral students and postdoctoral trainees in developing career plans and trajectories. IDPs are required to be updated annually so that the information remains current. See Graduate School websites for more current information on <u>Individual Development Plans</u>. Students will receive email notification to complete this electronic survey in late spring every year.

Doctor of Philosophy Petition and Authorization for Directed Study

Independent study may be authorized for areas of interest not covered by courses scheduled at the time the student is completing course requirements. Before a Ph.D. Applicant/Candidate may register for directed study, he/she should prepare an outline of the study and obtain the approval of the course instructor and the Graduate Committee Chair. The student will also need to complete the Petition for Directed Study. Students wishing to take more than 8 credits of 5990, 7990, or 7996 and apply them towards their degree requirements must fully document the justification on the Petition form. Students must also have a Plan of Work on file in order take a Directed Study.



Ph.D. Preliminary Examinations (PhD Written Qualifying Exam)

General Information

The exams are scheduled once each year in late May or early June. The exam includes three separate tests:1) probability, 2) statistics and 3) operations research. The material tested by the exams is generally covered in master's level or advanced undergraduate courses. Relevant courses include BE3220, IE6210, and IE6560. The math courses MATH 5700 and MATH 5800 are also good preparation for the probability and statistics exams, respectively. Students must take the preliminary examination before completing three academic year semesters of work after their master's degree. Doctoral students entering the program in fall are expected to take the exam the following spring. Students who enter in winter would take the exam, a year later in their second spring semester. Students must notify the ISE Graduate Program Committee by May 1st of the year they are first scheduled to take the exam if for some reason they are requesting the right to delay taking the exam. Not taking the exam as outlined above without written permission will constitute failure of the exam.

A student must take all three parts of the examination. If the student passes only two of the exams, the student will be required to retake only the third exam the next time it is offered. If a student fails at least two exams, the student will have to take all three exams the next time they are offered. Once a student has taken the preliminary exam once and failed all or part of the exam, the student MUST take the exam the next time it is offered; not doing so will count as a second failed attempt. Students will have two chances to pass the entire preliminary examination. If all or parts of the exam are not passed by the second attempt, the student will be asked to leave the doctoral program.

Students enrolled in one of our M.S. programs who are considering applying for admission into the doctoral program and funding are expected to sit for the Preliminary Exams prior to applying to the doctoral program. Students who take this exam and not pass it will not be considered for funding.

Exam Schedule and Study Guides

For information regarding sign up procedures, exam schedules, study guides, sample exams, and faculty resources, please visit our <u>department website</u>.

Dissertation Process

Petition for Candidacy

The <u>Petition for Candidacy form</u> is to be completed by the student and signed by the members of the Dissertation Committee. These signatures indicate the willingness of the committee members to oversee the dissertation and allow the Graduate School to confirm eligibility. In order to be eligible for candidacy, a student must have:

- Completed Approximately 50 Credits of Coursework
- Successfully Completed the Preliminary Qualifying Examination (PhD Written Qualifying Exam)
- Submitted an Approved Plan of Work to the Graduate School



Following the granting of Candidacy Status, a student may register for IE 9991-9994 Credits.

Committee Meetings and Evaluations

Following petition for Doctoral Candidacy, each doctoral student is required to meet at least on an annual basis with his or her Dissertation Committee. If the outside faculty member is from a non-local institution, they may be involved in this meeting through teleconferencing or videoconferencing technology. The committee should discuss the student's progress in their dissertation research and report this information through the Annual Evaluation form. After the Oral Exam has been successfully completed, changes to the Dissertation plan that are agreed upon by the Committee should be noted in the student's file.

Conflict of Interest

All doctoral candidates will be required to submit a <u>Conflict of Interest form</u> in concurrence with the Prospectus and Record of Approval Form. The candidate and each member of the dissertation committee must disclose any potential conflicts and sign the form. Given the length of time required in the dissertation process, students will be required to resubmit the Conflict of Interest form prior to the dissertation defense.

Doctoral Dissertation: Prospectus and Record of Approval

The <u>Prospectus and Record of Approval</u> form must be completed and submitted to the Graduate School following successful completion of the Proposal Defense. The topic of the Doctoral Dissertation requires final approval from the Associate Dean of the Graduate School. This satisfies the University's requirement for an Oral Examination.

Final Report: Dissertation Public Lecture Presentation – Defense

The <u>Final Defense</u> form should be completed by the student and signed by the members of the Dissertation Committee indicating preliminary approval of the dissertation manuscript. The final defense form, along with the first page of SafeAssign reports <u>must be submitted to the Ph.D. Office of the Graduate School</u>, along with a <u>draft of the dissertation</u> and a <u>copy of the public announcement of the defense</u>, at least <u>two weeks in advance</u> of the scheduled defense. The format of the dissertation will be checked (if not previously approved) and a Graduate Examiner will be appointed for the defense. Following successful completion of the defense, the form must be signed again by all Committee members and submitted, along with the Graduate Examiner's Report, to the Graduate School.

Ph.D. Timeline





College of Engineering Ph.D. Timeline

10cr / 10cr /2cr Core Courses	10cr / 10cr /2cr Elective Courses	10.5cr / 10.5cr / 2cr 9991 / 9992	10.5cr / 10.5cr / 2cr 9993 / 9994	Ocr Maintenance Credits (9995)	Total = 90 Credits
Year 1	Year 2	Year 3	Year 4	Year 5	
Confirm Faculty Advisor File Plan of Work Annual Review IDP	Qualification Exam Prospectus Candidacy Attend and Present at Professional Conference Publish in Refereed Journal Annual Review IDP	Dissertation Committee Meeting Register for Dissertation Defense Attend and Present at Professional Conference Publish in Refereed Journal Annual Review IDP	Dissertation Defense Attend and Present at Professional Conference Publish in Refereed Journal Annual Review IDP	• Annual Review • IDP	7 Year Time Limit

For More Information and Links: http://engineering.wayne.edu/ise/phd/requirements.php

- 1. Prior to commencement of program, complete Application for Admission or Graduate Record/Status Change form as appropriate. The Graduate Program Committee must approve admission or transfer into the program.
- 2. Upon commencement of program, select an academic advisor. This individual should preferably be the dissertation advisor. If a dissertation field has not been selected, a temporary academic advisor can be appointed. Selection of a permanent advisor must occur within one semester after successfully completing the Preliminary Qualifying Examination.
- 3. Prior to completion of 16 new semester credits, submit Plan of Work to academic advisor and Graduate Program Committee for approval. Once approved, submit to Ph.D. Office of the Graduate School.
- 4. Inform Graduate Program Committee of intention to take Preliminary Exams of appropriate year. It is recommended that this exam be taken at the completion of 16 credits of new coursework; it must be passed successfully before completion of 48 credits towards the doctoral degree (including transfer credits).
- 5. Submit signed Petition for Doctoral Candidacy to the Graduate School, indicating the members of the Dissertation Committee, after completing approximately 50 credits of coursework towards the Ph.D. -including transfer credit and successfully passing the Preliminary Exams, which serve as the PhD Written Qualifying Exam.
- 6. Meet annually with Dissertation Committee and undergo Annual Evaluation.
- 7. Develop research plan in conjunction with advisor. Schedule a public proposal defense as your Oral Exam. Following the successful Proposal Defense, submit the signed Doctoral Dissertation: Prospectus and Record of Approval to the Ph.D. Office of the Graduate School. This must be at least 12 months prior to the planned Dissertation Defense.
- 8. Submit manuscript for publication in a Committee-approved, peer-reviewed publication at least four months prior to planned Dissertation Defense.
- 9. Before first day of classes of semester in which you hope to graduate, complete and submit the Graduate Application for Degree to the Registrar.



- 10. Submit dissertation manuscript to Dissertation Committee at least 3 weeks prior to scheduled defense. Following preliminary approval of written manuscript and at least 2 weeks prior to the scheduled defense date, submit a copy to the Ph.D. Office of the Graduate School along with the Final Report: Dissertation Public Lecture Presentation-Defense form.
- 11. Following successful completion of the defense and within 10 days, submit 2 correctly formatted copies of the dissertation to the Ph.D. Office, along with binding fees and other required forms.

NOTE: Deadlines for submission of the various forms and manuscripts required for dissertation approval and graduation should be obtained from the <u>Graduate School</u> for the semester in which graduation is planned. The final date for Defense is often 6 or more weeks prior to the end of the semester. For example, the Fall 1998 semester, the following dates were established:

- October 2 Last date for approval of dissertation format and appearance check (final draft) by the Graduate School
- October 23 Last date to file Final Report Dissertation Public Lecture Presentation-Defense form with Graduate School, at least 2 weeks before scheduled defense date
- November 6 Last date for completion of the Dissertation Defense

Dissertation General Information

The dissertation requirements are satisfied through the completion of 30 credits of IE 999X in the course of developing and conducting an independent research project. A grade of Y will be supplied for all dissertation credits earned until the time at which the defense is successfully completed. At that time, all grades will be converted to 'S' - satisfactory. A student is not allowed to register for dissertation credits until they have been approved for candidacy after filing a Petition for Candidacy. Students must complete four consecutive semesters of IE 999x (9991, 9992, 9993, and 9994). The Spring/Summer semester may or may not be counted towards the definition of consecutive semesters, at the student's discretion. Registration for all dissertation credits must be done through the Ph.D. Office. A student may contact the Ph.D. office by phone (577-2171) or in person. Once 30 credits of 999x are completed, students may register for IE 9995 (Doctoral Candidacy Maintenance) at a reduced tuition rate.

When petitioning the Graduate School for Doctoral Candidacy status, the student must form a Dissertation Committee. Committee membership is described in the Examinations section, below. Advisors have the primary responsibility for approval of the dissertation, but the Dissertation Committee must read, approve, and sign the manuscript. Such approval includes all academic and professional evaluations and judgments as to originality, accuracy, significance, methodology, conclusions, and correctness of style.

Candidates are instructed to closely follow the Graduate School regulations governing the format of the dissertation. All students should view the <u>WSU Dissertation and Thesis Format Guidelines Handbook</u>. These guides are updated regularly, and students should make sure that they have the most recent version. The <u>Ph.D. Office staff</u> is available to assist advisors and students who have format questions or problems. The final draft of the manuscript should be submitted to the Graduate School.



Dissertation Preparation and Format Check

The dissertation manuscript format — margins, spacing, pagination, page layout, parts and their order — must conform to Graduate School specifications. The Graduate School performs a dissertation format check before the defense. Approval of the manuscript format is a degree requirement. Students should follow the Wayne State University Graduate School Format Manual in formatting their manuscripts. Students should obtain the deadline dates for graduation requirements from the Ph.D. Office of the Graduate School. These should be reconfirmed during the semester in which the dissertation defense is planned. The dissertation manuscript must be submitted to all committee members at least 3 weeks prior to the planned defense date. When all members of the committee have tentatively approved the dissertation, the candidate prepares the Final Report form. After all committee members have signed it, indicating approval of the content of the dissertation for a public lecture presentation defense, the candidate brings the form to the Graduate School at least two weeks in advance of the defense date for processing. Starting January 1, 2017, the first page of SafeAssign reports must be sent to the Ph.D. Office along with the Final Defense forms. At this time, the Graduate School will appoint a Graduate Examiner to moderate the defense.

Two weeks before the Final Defense, the dissertation manuscript must be submitted for a format check to the Graduate School. The submission process is electronic. The manuscript should be submitted as a PDF file to the <u>Electronic Thesis/Dissertation (ETD) Administrator</u> website of ProQuest/UMI, the publisher of dissertations and theses. This is the same site to which the final version of the dissertation will be submitted.

To begin, the student should create an account on the ETD website. The site prompts the student through the steps of creating a profile. Once all the requested information has been provided, the student will be prompted to upload the dissertation manuscript as a PDF file.

Graduate School staff will check the PDF file of the dissertation and notify the candidate of any format corrections necessary. The Graduate School staff, as the ETD administrator, will notify the student of "changes required" or "manuscript accepted," requiring no format changes. If format changes are required, students may make these corrections immediately and resubmit the manuscript, or they may wait until after the Final Defense to resubmit, incorporating both format corrections and any revisions to the content of the dissertation requested by committee members at the Final Defense.

<u>Please note</u>: If the student received a "manuscript accepted" notice during the format check, the ETD system automatically prevents further submissions. To enable submission of the final manuscript, the student must contact phdstudents@wayne.edu.

The final dissertation, including format corrections as well as revisions stemming from the defense, must be submitted by the completion deadline established for the semester.

Dissertation Proposal Defense (Oral Examination)

Before taking the examination, the student must have filed the Plan of Work and the Petition for





Doctoral Candidacy with the Graduate School. The Dissertation Committee previously selected by the student and his/her advisor administers the Oral Examination. It must consist of at least three members from the Industrial Engineering Program, including the student's advisor, and at least one member from outside of the program. The expertise of these latter members must be appropriate to the student's dissertation work. All Committee members must hold current Graduate Faculty appointments. The Committee membership should be selected based on the proposed dissertation project.

The Oral Examination takes the form of the Dissertation Proposal and Proposal Defense. The proposal should be completed in close consultation with the student's research advisor. There is no set format. The defense will consist of an oral presentation of the proposed research project, followed by a period of questions on any topics termed relevant by the Examination Committee. The proposal should be submitted to the Dissertation Committee at least two weeks before a planned defense.

The Dissertation Committee is responsible for examining and certifying that the student has an adequate command of knowledge in the field of study and can organize, apply, and convey that knowledge. The Exam should be conducted following the rules set forth on the Report on Doctor of Philosophy Oral Exam form (NOTE: This form is for information purposes only, it is not to be turned in. Use the Doctoral Dissertation: Prospectus and Record of Approval in its place.) The member of the committee from outside of the program shall serve as the lead examiner and complete the evaluation form. A student may be passed in the examination if there is not more than one negative vote. Abstentions shall be considered negative votes. If the Examining Committee determines that the applicant has not passed all parts of the written and oral portions of the examination, the committee must make specific recommendations as to admitting the applicant to a second examination and specify any additional work that should be completed prior to the examination. If the Chair of the Dissertation Committee certifies that the student has failed the oral part of the examination, a second examination may not be held until at least one semester has elapsed but must be held within one calendar year following the first exam. The second examination shall be considered final.

The Oral Examination must be satisfactorily completed at least 12 months prior to the Dissertation Defense. On satisfactory completion of the Proposal Defense, the student must complete a Doctoral Dissertation: Prospectus and Record of Approval form. All members of the Dissertation Committee and the Graduate Committee Chair should sign the form. It should be forwarded to the Graduate School for final approval.

Dissertation Defense

The Dissertation Committee shall normally consist of the same members who oversaw the Proposal Defense. There shall be at least three members from the Industrial Engineering Program and at least one member from outside of the program. The expertise of the outside members must be appropriate to the student's dissertation work. In the case of co-advisors from within the program, the number of members from the Industrial Engineering program shall be increased to four. The outside member shall attend all meetings of the Dissertation Committee, including the Dissertation





Lecture Presentation-Defense, as a voting member. After Graduate School approval of the committee, through the Petition for Doctoral Candidacy form, any change in the committee requires written approval of the Graduate School Dean.

The dissertation manuscript must be submitted to all committee members at least 3 weeks prior to the planned defense date. When all members of the committee have tentatively approved the dissertation, the candidate prepares the Final Report form. After all committee members have signed it, indicating approval of the content of the dissertation for a public lecture presentation defense, the candidate brings the form to the Graduate School at least two weeks in advance of the defense date for processing. At this time, the Graduate School will appoint a Graduate Examiner to moderate the defense.

The Graduate Program Officer should confirm arrangements for the Lecture Presentation-Defense via written notice. If arrangements must be changed, the Graduate Program Officer or advisor should notify the Graduate School, the doctoral candidate, the committee members, and the Graduate Examiner.

The Lecture Presentation-Defense is conducted by the doctoral candidate's committee and is presided over by the Graduate Examiner. This final lecture must be publicized to the entire academic community in advance by the Industrial & Systems Engineering Department. The student and/or the advisor normally do this. The Lecture Presentation is open to the general University committee. In this lecture, the student shall formally present the methodology, research, and results of the investigation. Following the formal presentation and an open discussion period, a closed examination will be held on any subjects deemed relevant by the Dissertation Committee. Finally, a closed-door session of the Committee will be held to determine whether or not the student has passed the Dissertation Defense.

Procedures after the Final Defense

The Graduate School establishes a completion date by which all requirements must be fulfilled for each term. By this date, all degree requirements and paperwork must be completed for the degree to be certified.

By the established completion date for the semester, a candidate must:

- Make all requested content and format revisions to the dissertation manuscript and submit the final manuscript electronically to the Graduate School using the same ETD administrator website to which the manuscript was initially submitted for a format check
- Submit to the Graduate School a hard copy of the dissertation title page signed by the advisor and all committee members
- Complete the online Survey of Earned Doctorates
- Complete the online <u>Doctoral Student Exit Survey</u>



Publishing and Copyrighting

After completion of the student's account profile on the <u>Electronic Thesis/Dissertation (ETD)</u> <u>Administrator website</u>, and before submission of the initial manuscript for a format check, the student is asked to complete a Publishing Agreement — this is mandatory. The student also has the option to copyright the dissertation through the site. It is recommended that students do so.

<u>Please Note</u>: Although completion of the Publishing Agreement is required at the time the dissertation is submitted for the initial format check, the dissertation manuscript <u>will not be submitted</u> to ProQuest/UMI by the Graduate School until the defense has been held and all revisions have been made.

Archiving and Disseminating the Published Dissertation

Wayne State University Libraries maintains electronic copies of students' dissertations and theses and would like to make these available to the Wayne State community and the general public through Digital Commons@WSU. Students can control the level of access to their dissertation. Students should complete the permission form on the <u>University Libraries website</u>.

Binding the Dissertation

Students wishing to have their dissertations bound should find a bindery service. Bohemio Bookbindery provides dissertations bound in the Wayne State University standard format or custom bound in any style desired. Genuine leather bindings also available. <u>Ordering information</u>

Submitting Your Manuscript

The <u>Submit My Dissertation/Thesis</u> link on the UMI/Proquest ETD Administrator website is specifically for the Wayne State University Graduate School and is where both the initial and final dissertation manuscripts should be submitted.

Graduation Information

Wayne State confers degrees in the winter, spring/summer and fall terms. Graduation ceremonies are held in December and May. Detailed information about applying for the degree and commencement procedures is available on the <u>Commencement Office website</u>.

Graduate Application for Degree

In order to be certified for graduation, a Graduate Application for Degree form must be completed and submitted to the Records Office by the Friday of the fourth week of class in the semester in which graduation is anticipated. The Degree Application is available via <u>Academica</u> on the Student Tab, Student Self Service Menu. Additional Graduation Information is available on the <u>Graduate School</u> website.