

Wayne State University

Department of Civil Environmental Engineering

PhD. Handbook

Purpose

The purpose of this guidebook is to provide current and potential students with a framework for obtaining a PhD from Wayne State University's Civil and Environmental Engineering Program. Students should always consult an academic advisor, graduate program director, or graduate bulletin throughout the PhD process for clarification and further guidance.

About the Program

The Department of Civil and Environmental Engineering at Wayne State University offers graduate students a challenging, state-of-the-art education in the analysis, design and management of civil engineering systems. Our program provides students with access to modern laboratories and experimental equipment, as well as extensive computer facilities for teaching and research activities. The Department of Civil and Environmental Engineering (CEE) has established a strong national reputation in terms of both its academic program and the research success of its faculty. A highly qualified team of part-time faculty also participates in teaching, bringing a strong combination of practical experience, applied theory, and an awareness of important needs and emerging problems in government and industry, to a graduate program that is truly unique and committed to engineering excellence. It is our primary goal to provide our students with the tools for success, the knowledge base necessary for solving challenging engineering problems and for achieving long-term career goals.

Graduate programs housed in CEE include:

- Civil Engineering (M.S.)
- Environmental and Sustainability Engineering (M.S.)
- Civil Engineering (Ph.D.)
- Civil Engineering and Urban Sustainability (Ph.D. Dual-Title)

CEE graduate programs attract students with a variety of experience and situations. Some CEE students are employed by local industries and government and attend the program part-time, while many others are domestic and international full-time students. The program is designed to accommodate the needs of both full-time and part-time students; so many graduate classes are offered in the evening. Typically, the full-time students participate in research including experimental work under faculty supervision while pursuing their graduate courses.

This handbook provides CEE graduate students with a comprehensive description of the policies and regulations governing admission, academic standards, and student responsibilities for both the M.S. and Ph.D. programs. Each student should carefully review the document at regular intervals to ensure that

he/she complies with their specific program requirements. The handbook contains critical information to assist students in completing their degree requirements in a timely manner and in accordance with all appropriate rules and guidelines of the graduate program.

The natural progression of a PhD student at Wayne State is described below (Figure 1) and includes the following the critical steps:

- Admission
- Coursework
- Qualifying Exam
- PhD Candidacy
- Prospectus
- Dissertation
- Graduation

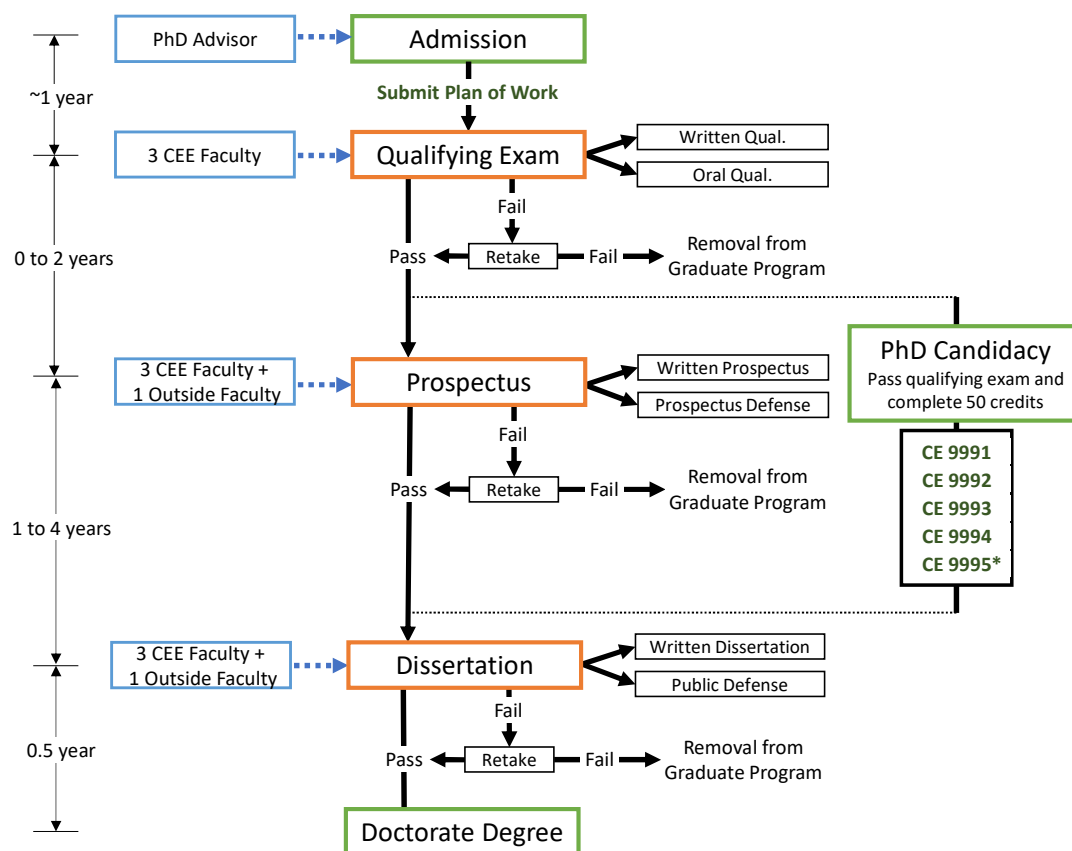


Figure 1. WSU Civil & Environmental PhD Process¹²³⁴

¹ CE 9991 should be taken after obtaining candidacy but, with the approval of the advisor and CEE Graduate Program Director, can be taken the same semester the student will attain candidacy

²A student must take CE 9991 through CE 9994

³ CE 9995 can be taken more than once

⁴ If approved by the advisor, A student could theoretically take the qualifying exam and defend the prospectus in the same semester.

Checklist for a PhD Student at WSU in Civil & Environmental Engineering

ADMISSION (2)	<input type="checkbox"/> Apply to the Wayne State University graduate school <ul style="list-style-type: none"> ○ Application <input type="checkbox"/> Academic Advisor Selection
COURSEWORK (3)	<input type="checkbox"/> Submit a plan of work <ul style="list-style-type: none"> ○ Plan of Work
QUALIFYING EXAM (4)	<input type="checkbox"/> Form a qualifying exam committee of three CEE faculty <input type="checkbox"/> Pass the written qualifying exam <input type="checkbox"/> Pass the oral qualifying exam
PHD CANDIDACY (5)	<input type="checkbox"/> Complete 50 course credits <input type="checkbox"/> Form a PhD committee of three CEE faculty plus one non-CEE faculty <ul style="list-style-type: none"> ○ Conflict of interest form ○ Recommendation for candidacy status
PROSPECTUS (6)	<input type="checkbox"/> Prepare a written prospectus <input type="checkbox"/> Defend your prospectus <ul style="list-style-type: none"> ○ Doctoral dissertation: Prospectus and record approval
DISSERTATION (7)	<input type="checkbox"/> Complete CEE 9991 - CEE 9994 Candidate Status courses consecutively <ul style="list-style-type: none"> ○ Email phdstudents@wayne.edu to enroll <input type="checkbox"/> Meet regularly with committee to provide progress updates <input type="checkbox"/> Write a dissertation adhering to all formatting requirements <input type="checkbox"/> Perform UniCheck plagiarism check <input type="checkbox"/> Defend the dissertation prior to the Graduate School deadline <ul style="list-style-type: none"> ○ Graduate School Deadlines ○ Final report dissertation defense ○ Signed title page
GRADUATION (8)	<input type="checkbox"/> Submit Final Forms <ul style="list-style-type: none"> ○ Archive and disseminate published dissertation ○ Dissertation title and list of previous degrees ○ Final dissertation manuscript ○ Online exit survey ○ Survey of Earned Doctorates (SED) ○ Signed title page <input type="checkbox"/> Graduate with a PhD

1 OBJECTIVES

The mission of the doctoral program is to prepare students for leadership positions in civil engineering practice, research and teaching. Graduate engineers with a Ph.D. degree will:

- Develop new and novel approaches in Civil Engineering to impact local and global communities;
- Design and complete original research in their specialty area;
- Demonstrate the ability to lead project teams;
- Evaluate complex and novel engineering problems and derive solutions using original (nonstandard) approaches and methodologies;
- Communicate technical information to a range of audiences both verbally and in writing; and
- Demonstrate professionalism with a commitment to the highest standards of ethical principles.

2 ADMISSION

Admission to the Ph.D. program in Civil Engineering requires the following:

- Complete an [application](#) to the graduate school⁵.
- The student's overall undergraduate GPA must be 3.0 or greater, and 3.2 over the final two years or have completed an M.S. degree in civil or environmental engineering, or closely related field of study, with a GPA in courses taken for graduate credit not less than 3.5 (or equivalent)⁶.
- A recent (<3 years) GRE score for students without a Bachelor's of Science degree in Civil Engineering from an ABET accredited institution⁷.
- A graduate faculty from the department must agree to serve as academic advisor to the student at the time of admission.

2.1 ADVISOR

To be in the Civil Engineering Ph.D. program, a faculty member in the Department of Civil and Environmental Engineering with the appropriate technical expertise must agree to serve as a student's advisor. The role of the advisor is to serve as a mentor, helping to guide the student toward successfully completing their degree and achieving their career goals. Advising is incredibly time and resources intensive and is a commitment that is not undertaken lightly. Mentoring often extends beyond a student's time at Wayne State. The relationship between a PhD advisor and student requires clear, honest, and open communication. If a faculty member or student is unwilling or unable to continue with the advising-student relationship, the student will be dismissed from the program unless another a

⁵ For admission and full funding consideration, please have your application completed by March 1st

⁶ Degrees from ABET accredited institutions, or comparable foreign institutions, are strongly encouraged.

⁷ The scores are used along with other application materials as a part of the evaluation process to judge the potential for student success in our program.

faculty member in the Department of Civil and Environmental Engineering with the appropriate technical expertise agrees to serve as their advisor.

Some of the ways the advisor assists the student include:

- Recommending candidacy
- Guiding the student's research
- Mentoring
- Chairing the doctoral committees
- Assist the arrangement of the doctoral examinations
- Certifying to the Graduate School that degree requirements have been fulfilled

2.2 STUDENT CODE OF CONDUCT

Graduate students in the Department of Civil & Environmental Engineering are expected to conduct themselves with the upmost integrity. The University's Student Code of Conduct will be strictly enforced. All forms of academic misconduct are prohibited and treated seriously. Misconduct can result in immediate dismissal from the program and other appropriate disciplinary actions as described in the Student Code of Conduct. Note students who believe that academic misconduct has taken place are obliged to bring their concerns to the attention of the Departments Graduate Program Director. More information on Wayne State University's Student Code of Conduct can be found at <http://www.doso.wayne.edu>.

3 COURSEWORK

The Ph.D. program requires a minimum of 90 graduate credits beyond the baccalaureate degree. The distribution of these credits shall be as follows:

1. Minimum of twenty-eight credits of course work in the major area (Civil and Environmental Engineering) beyond B.S.;
2. Up to 32 post baccalaureate credits from previous study (e.g. M.S. degree coursework) can count toward the required 90 credit hours. The [Transfer of Credits](#) form should be completed prior to completing the [Plan of Work](#).
3. Minimum of thirty credits in graduate courses (7000 level or above).⁸
4. Thirty credits of dissertation direction (CE 9991 - CE 9994);

Credits earned beyond the baccalaureate degree may include courses offered by the Civil and Environmental Engineering department (CE prefix) as well as courses offered by other WSU units, directed study (CE 7990)⁹, research (CE 7996)¹⁰, or pre-dissertation research (CE 9990). Details regarding specific courses can be found in the [Graduate Bulletin](#).

⁸ These 30 credits do not include CE 999X credits.

⁹ PhD students can take up to 6 credits of Directed Study (CE7990)

¹⁰ PhD students can take up to 6 credits of Directed Research (CE7996)

3.1 PLAN OF WORK

All prospective doctoral students are required to submit a [Plan of Work](#) (POW), prior to completing 40 graduate credits (including the master's degree work) or within 1 year of entering the program. The POW provides the anticipated schedule of course work during the Ph.D. program and is prepared in consultation with the student's academic advisor. To initiate the process, students should discuss courses with their advisor and then complete the [Plan of Work](#) form provided on the Graduate School's webpage title [Forms for Ph.D. students](#). The POW is completed once approved by the advisor, the Departmental Graduate Program Director, and the Graduate School. Any deviation in coursework identified in an approved POW¹¹ requires a new revised Plan of Work prior to enrolling in the course.

4 QUALIFYING EXAM

Doctoral students are required to pass a qualifying exam (both written and oral) prior to scheduling their prospectus. Following the successful completion of the Qualifying Exam, the student should complete the [Report on Oral Exam](#) form provided on the Graduate School's webpage title [Forms for Ph.D. students](#). When completing this form, the student should indicate the *oral exam requirement is not fulfilled by the prospectus* and they have held their oral exam.

4.1 QUALIFYING EXAM COMMITTEE

The Qualifying Exam Committee must consist of at least three members of the faculty from the Department of Civil & Environmental Engineering. Each member will have full-time, tenure-track appointments with [graduate faculty status](#) - including the student's principal academic advisor - this individual also serves as the committee chair.

The qualifying exam committee will be comprised of faculty with expertise in the student's area of study. Advisors of each examinee will work with the Department's Graduate Program Director to define members of the qualifying exam committee. If faculty are unable to agree on the composition of the committee, the Department Chair will make the final selection.

Dates for the written and oral exams should be set at least one month prior to the date of the exams. The examination committee, often through the faculty Advisor, will provide guidance to students about the content of the exam as well as the rubric used to assess student performance prior to the examination.

4.2 WRITTEN QUALIFYING EXAM

The written portion of the qualifying exam covers the student's technical competence in his/her field of specialization (e.g. environmental engineering, structural engineering, transportation engineering). The student's responses or solutions to the exam must be the original work of the student.

¹¹ It is not necessary to update the POW if a course listed on the approve POW is taken during a different semester than what was originally identified, as long as the time to degree completion remains the same.

The written qualifying exam should be scheduled within the first three semesters of the student's doctoral program. Any exceptions to completing the qualifying exam within the first three semesters must be approved prior to the exam by the student's Advisor and Graduate Program Director. The specifics of administering the written qualifying exam are left to Qualifying Exam Committee and will focus on the student's area of specialization.

4.3 ORAL QUALIFYING EXAM

The oral portion of the qualifying exam should be scheduled within one month of the student completing the written qualifying exam. An invitation should be extended to the department chair and Graduate Program Director to attend the oral qualifying exam. The scope of the exam will include questions related to the written portion of the qualifying exam, as well as questions related to Civil and Environmental Engineering theory and practice.

Before the examination begins, the Committee must select a moderator for the proceedings. If the student's committee includes an outside member, he/she is the appropriate person to serve as the moderator.

The Qualifying Examination Committee is responsible for examining and certifying that the student has an adequate command of the knowledge in the field of study and can organize, apply and convey that knowledge. A student may be passed in the examination if there is not more than one negative vote. Abstentions shall be considered negative votes.

The examination committee moderator has three options at the conclusion of the examination:

1. To certify that the student passed the examination
2. To certify that the student failed the examination
3. To defer a decision for a period not to exceed thirty days

The chair of the Qualifying Exam Committee will communicate the decision outcome to the student, both verbally and in writing, with a copy sent to the Department Graduate Program Director and members of the examination committee.

The moderator of the examination committee may defer a decision when the conduct of the examination is questionable or when he/she disagrees with the decision of the committee. After deferring a decision, the moderator may meet with the Graduate School Dean for resolution of the problem. If the decision concerning the examination is to be deferred, the student must be so informed and assured that a resolution of the problem shall be conveyed within thirty days. If the student has failed, the moderator shall convey to the student the Committee's specific recommendations concerning a second examination. If the committee recommends reexamination, the committee will provide the student with a list of written, objective suggestions for improvement, and a deadline by which to retake the qualifying exam.

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 examination. The second examination is final. If the student does not pass the final examination, they will be dismissed from the program.

5 PHD CANDIDACY

A student will obtain the status of PhD candidate upon completion of the [Ph.D. Candidacy Status](#) form. The requirements for advancement from Ph.D. applicant to degree candidate are

- Completion of at least 50 credit hours of didactic coursework
- Satisfactory completion of the Qualifying Exam(s)
- Establishment of the dissertation advisory committee

Once the candidate status has been achieved the student can register for Doctoral Dissertation and Direction I, II, III and IV (CE 9991, 9992, 9993 and 9994) in sequential semesters for a total of thirty credits. In rare cases, with the approval of the student's Advisor, the Department's Graduate Program Director and the Graduate School, a Ph.D. applicant may be allowed to register for up to 7.5 credits of dissertation direction before admission to candidacy. Typically, student's achieve candidacy and defend their prospectus at about the same time, in the semester before beginning the Doctoral Dissertation and Direction courses. However, students are allowed to register for the first class in the sequence (CE 9991) during the same semester they are scheduled to defend their prospectus.

The permission to enroll in CE 999x classes comes directly from the Graduate School. Students are required to send an email to phdstudents@wayne.edu, copying the Graduate Program Director and their faculty Advisor with the following information: their name, ID number, class they would like to register – including the course reference number (ex. CE 9991, 12345), and the semester.

5.1 DISSERTATION COMMITTEE

The Dissertation Committee must consist minimally of three members from the Department of Civil and Environmental Engineering, and one member from outside the department. Typically, the Advisor serves as the Chair of the Dissertation Committee. The Chair shall be a faculty member of the Department of Civil and Environmental Engineering. The Advisor and at least two other committee members must maintain Graduate Faculty Appointment status. The external committee member should broaden the dissertation committee beyond the home program to represent a different perspective by virtue of their field, location or knowledge application. The external member cannot hold any salaried or contractual appointment, tenure line or retreat rights in the home unit and may be from within or outside Wayne State. In the case of co-advisors from the same department, the number of major departmental members shall be increased to four. Any changes in the committee structure requires the approval of the Graduate School ([Change of Committee](#) form). The Dissertation Committee administers the Dissertation Prospectus Defense. Once a student has selected a dissertation committee, a [Conflict of interest form](#) is required.

6 PROSPECTUS

The prospectus is a formal document you present to your dissertation committee once you have achieved candidacy and are preparing to move on to the dissertation as your full-time project. The prospectus should be made available to the dissertation committee soon after you are designated as a candidate. With few exceptions¹², the successful defense of the prospectus is required before beginning the Doctoral Dissertation and Direction course sequence.

6.1 WRITTEN PROSPECTUS

A written prospectus should propose the research that will be performed as part of a dissertation. A typical prospectus will include the following:

- Title
- Abstract
- Literature Review/Background and Significance
- Goals, Aims, Objectives, and/or Hypotheses
- Approach, Method, and/or Theory
- Preliminary Data
- Schedule
- Bibliography

The student should consult with their academic advisor while preparing the written prospectus. Once completed, the written prospectus should be distributed to the dissertation committee and a prospectus defense should be scheduled.

6.2 PROSPECTUS DEFENSE

After the written prospectus has been distributed to the dissertation committee, a prospectus defense should be scheduled. The prospectus defense should be scheduled for two hours. The department chair should receive an invitation to the prospectus defense. The prospectus defense is a meeting at which a student's prospectus is discussed amongst the dissertation committee. The student is responsible for preparing a 20 to 30 minute presentation related to the proposed research. This defense is an occasion for genuine discussion about what you plan to do, why, and how you plan to go about doing it. It is a good time to ask questions of your committee members, and for them to ask questions of you. The purpose is to get committee agreement regarding your project and its merit. It also offers an opportunity for additional brainstorming that can often be productive for successful research and impact. If the dissertation committee deems the project acceptable, the [Prospectus approval](#) form needs to be completed. If the committee rejects the prospectus, changes will have to be made to the written prospectus and a second prospectus defense will need to be scheduled.

¹² Students cannot register for Doctoral Dissertation and Direction courses beyond (CE 9991) until successfully completing the prospectus exam without written approval from the faculty Advisor, the Department's Graduate Program Director and the Graduate School.

7 DISSERTATION

7.1 WRITTEN DISSERTATION

The dissertation is a document presenting the student's research and findings. The dissertation format and appearance must be acceptable to the Graduate School before the Dissertation Public Lecture Presentation-Defense is authorized ([Dissertation and thesis format guidelines](#)). Prior to scheduling the public defense, Ph.D. students should confirm with each committee member that they have read and approve the dissertation for the public defense. Once the manuscript is complete and the dissertation is deemed acceptable, each member of the Dissertation Committee will certify the document by signing the [Title Page](#); typically this is done after the public defense.

7.1.1 Format Check. Two weeks prior to the scheduled defense date, Ph.D. candidates should submit the completed dissertation to the Graduate School via [ProQuest](#). The format check can take more than a week to complete. Therefore, it is advisable that you submit the dissertation as early as possible to allow for sufficient time to correct any errors.

7.1.2 Plagiarism Review. All dissertations and theses must be submitted for a *UniCheck* plagiarism check prior to the defense by the Advisor/Dissertation Committee Chair. This review is performed through the Dissertation Plagiarism Review course made available only to faculty via Canvas. Directions for performing the plagiarism check through UniCheck can be found at [Degree requirements for Ph.D. students](#). The amount of time it takes for *UniCheck* to return a result depends on the size of the dissertation. Larger documents may take more than 24hrs to complete.

7.2 PUBLIC DEFENSE

The dissertation shall be formally presented as a lecture in which the candidate describes the dissertation results. The Public Defense must be publicly announced at least two weeks prior to the scheduled presentation. At a minimum, this announcement should be emailed to all faculty and staff in the College of Engineering (ENGALLFACSTF@LISTS.WAYNE.EDU) as well as graduate students associated with the CEE department (ENG_CEE_GR@lists.wayne.edu). This announcement and must include:

1. The title of the dissertation,
2. the name of each committee member,
3. identification of the advisor,
4. the degree you are defending (PhD in Civil Engineering),
5. the date, time, and location of the presentation,
6. and an abstract.

The [Final Defense Report](#), which documents the public announcement, and [Conflict of Interest](#) form must be submitted by the Ph.D. candidate at least **two weeks** before the date of the dissertation defense.

The defense will typically begin by the Dissertation Committee Chair outlining the formal proceedings and introducing the candidate. The proceedings will include both a public presentation with a question and answer period, as well as a private meeting between the Ph.D. Candidate and Dissertation Committee. During the discussion following the presentation of a dissertation, other matters which the committee deems relevant may be introduced.

Within ten calendar days after the defense, the second portion of the [Final Defense Report](#) is completed. After all final changes to the dissertation are complete the Ph.D. candidate submit a signed title page to the graduate school by emailing phdstudents@wayne.edu. The Advisor and Graduate Program Director should be copied when submitting the signed title page. Additionally, the candidate must fill out and submit the [Electronic Thesis and Dissertation Permissions Form](#) to archive and disseminate published thesis with Wayne State University Library System. The The Ph.D. degree will be certified only upon receipt of these forms. Note the last day to defend is typically one month prior to the last day to defend. A complete [list of deadlines](#) for Ph.D. graduation can be found at the Graduate School.

8 GRADUATION

Candidates must file an Application for Degree no later than the last day of the final registration period for the semester in which they expect to complete the requirements for the degree. The application can be found in Academics (click Student Tab, then click on Apply for Degree or Certificate in the left-hand column and follow the instructions). If an application for a degree was filed for a previous term in which the student did not graduate, a new application is necessary.

Ph.D. students should complete the degree with 7 years of entering the program. If a Ph.D. student is unable to meet the regular 7-year time limit, the student should file a [Time Extension Request](#). This request must be submitted during the semester in which a student will reach a time limit, no later than two weeks before the final date (for example, between September and December 15 for a student who will reach a time limit on Dec 31, 2021). Extensions of up to a year can be requested. If additional time is necessary, you may file a new request.

9 REFERENCES & FORMS

9.1 GRADUATE SCHOOL FORMS:

A list of forms required to be completed for the Ph.D. degree is presented below. Hard copies of the forms are available from the Graduate School. The following forms can be found at

<https://gradschool.wayne.edu/phd/forms>:

- Change of Committee, Doctor of Philosophy
- Change of graduate status request
- Conflict of interest form
- Dissertation and thesis format guidelines
- Doctoral dissertation: Prospectus and record approval
- Final report dissertation defense
- Request for Approval of an Additional Service Assignment (ASA)
- Recommendation for candidacy status
- Time extension request
- Transfer of credit
- Qualifying exam approval

Ph.D. and dissertation requirements can be found at

<https://engineering.wayne.edu/academics/programs/phd>:

- Plan of work (POW)
- Individual Development Plan (IDP)
- Ph.D. Annual Review
- Information regarding the dissertation committee
- Information regarding the Preliminary and Qualifying Examinations

Completion deadlines and other graduation information for Ph.D. students can be found at

<https://gradschool.wayne.edu/students/phd/deadlines>. This includes links to:

- Degree Application
- Format Check
- Signed title page (pdf)
- Final format approval
- Survey of Earned Doctorates (pdf)
- Online Exit Survey
- Dissertation Title & List of Previous Degrees
- Permissions form to archive and disseminate published dissertation with the Wayne State University Library System

9.2 CIVIL AND ENVIRONMENTAL ENGINEERING FORMS:

Departmental forms and links can be found at <https://engineering.wayne.edu/civil-environmental/resources/forms>. This includes:

- Petition and authorization for internship or directed study. Note this is a two-step process. First you must complete the [CEE Graduate Override form](#). Once complete, you then submit for the [override request](#), which will require you to upload the completed override form.
- [Ph.D. and dissertation requirements](#)
- [Ph.D. program handbook \(pdf\)](#)

9.3 STUDENT SERVICES:

- [Counseling and Psychological Services \(CAPS\)](#)
- [WSU Police and Campus Safety](#)
- [Ombuds Services](#)