

Transportation and Construction Division Transportation Specialty Ph.D. Degree

1. Degree requirements for various options:

	Non-Intern Without Masters Degree (Credits)	Intern Without Masters Degree (Credits)	Non-Intern With Masters Degree (Credits)	Intern With Masters Degree (Credits)
Coursework	60	54	30	24
500 Seminar*	3	3	3	3
601 Intern	N.A.	3	N.A.	3
600 Research Paper	N.A.	3	N.A.	3
800 Dissertation	27	27	27	27
Total	90	90	60	60

*If the 500 seminar was taken during the Masters program at the UW, this should be skipped and replaced by one additional 3 credit course.

Notes and General Requirements

- The Transportation and Construction Division requires a research paper and a dissertation for Ph.D. interns. The research paper is not necessarily a requirement in the other CEE Divisions and is not a requirement for Ph.D. non-interns. The research paper must be completed during the first year of coursework and it can be a state-of-the-art paper on 2 to 5 topics that might lead to a dissertation topic. With the approval of your advisor, an alternative research paper that involves the student's empirical or conceptual research in one specific topic area may be chosen.
- A degree program plan must be submitted to the CEE Graduate Advising Office and your faculty advisor before the end of your first academic quarter.
- At least 3 classes must be taken outside the CEE department. This requirement is met by taking one of two possible statistics courses: INDE 315 or STAT 390 and 2 other classes approved by your advisor.
- CEE 320 or its equivalent is a required course.
- The two core choices [(INDE 315 or STAT 390) and CEE 320] are the only 300 level courses that can be counted toward the degree.
- At least ½ of coursework classes must be at the 500 level.
- The General Requirements noted in the Department's "CEE Ph.D. Degree Requirements" at http://www.ce.washington.edu/programs/prospective/grad/phd/phd_studies.html.

2. CEE 600 Research Paper Process

2.1 Identify an advisor during the Fall Quarter, pick the topics that will be part of your literature study for CEE 600, and begin your research. Specific requirements and submittal dates relative to the research paper will be provided in the Fall Quarter CEE 500 Seminar class. If you have already taken this class as a Masters student, check with the instructor. Generally, in addition to identifying the research topic, you are expected to provide a short summary describing the topics and an initial reference list by the end of the Fall Quarter.

2.2 You are not expected to complete the paper during the winter but should make substantial progress. By the end of the Winter Quarter, you are expected to complete a full outline for the paper, and complete the text preparation for the major portion of one of your selected topics. Discuss with your faculty advisor the required work to complete the paper during Spring Quarter.

2.3 In Spring Quarter, sign up for 3 credits of CEE 600 with your faculty advisor, complete the paper and get a grade for the three CEE 600 credits. The grade for CEE 600 must be ≥ 3.0 to complete the research paper requirement.

2.4 At the end of Spring Quarter, in addition to the above written research paper, make a presentation with the rest of the students to all Division faculty. Only then will you be eligible to take the Ph.D. qualifying exam.

2.5 Research paper -- definitions and expectations

2.5.1 The research paper topics must relate to *Issues* of regional, national or international relevance in the transportation or construction field and, where possible, should be potential dissertation topics. One may choose to pursue future "hot topics," or resurrect topics from existing literature. One may address the "issues" component in terms of preservation, mobility, safety, heritage, economic partnerships, intermodality, local roads and infrastructure, integrating research into education, training, construction materials, pavements, airports, seaports, freight, etc. Clearly, a wide range of topics is suitable; however, it is critical that you select the topic or topics (for state-of-the-art papers) with the concurrence of your faculty advisor.

2.5.2 The research paper should meet some of the requirements for presentation in the Journal of the Transportation Research Board. Such requirements would include a 7,500 word limit, presentation of methods, issues and findings in a manner commensurate with the standards established for Journal of Transportation Research Board, a 15-minute presentation with appropriate visual aids, and submission of formatted document consistent with TRB guidelines.

3. Required Transportation Program Courses

Quarter	Course	Credits (Total)
A, W, Sp	CEE 500 Seminar	3
A, W, Sp	CEE 601 Internship (Intern Option Only)	(3)
A, W	INDE 315 or STAT 390	3 or 4
A, S	CEE 320 or equivalent	3
--	Plus two of the following: CEE 491, CEE 492, ECON 482, CEE 584, GEOG 426, INDE 424, INDE 521, STAT 421, STAT 423, STAT 486 or classes necessary for your dissertation research and approved by your faculty advisor.	6
Sp	CEE 600 Research Paper (for Ph.D. Interns)	(3)
A, W, Sp	CEE 800 (for dissertation research)	(27)

- CEE 491 Deterministic Systems, CEE 492 Stochastic Systems, CEE 584 Analytical Methods in Transportation I
- ECON 482 Economic Methods
- GEOG 426 Quantitative Methods in Geography
- INDE 424 Simulation, INDE 521 Quality Control in Manufacturing
- STAT 421 Applied Statistics and Experimental Design, STAT 423 Applied Regression and Analysis of Variance, STAT 486 Experimental Design

4. Typical Courses taken by Quarter

Total courses shown by Quarter exceed the maximum that should be taken. This list of courses is not guaranteed but should be close to the final offerings for AY 2005-2006.

Quarter	Course Number	Title	Credits
Autumn 2006	INDE 315 or STAT 390	Probability and Statistics	3
	CEE 320	Transportation Engineering	3
	CEE 421	Pavement Design	3
	CEE 424	GIS for Civil Engineers	3
	CEE 500	Seminar - Goodchild	1
	CEE 580	Urban Trans Planning/Design - Joint with CEE 416	3
	CEE 581	Travel Demand Forecasting	3
	CEE 591	Freight Transportation	3
	CEE 601	Internship (Only for Intern Option)	1
Winter 2007	CEE 404	Infrastructure Construction	4
	CEE 410	Traffic Engineering Fundamentals	3
	CEE 441	Transportation and Construction Capstone	3
	CEE 500	Seminar – Muench	1
	CEE 582	Intelligent Transportation Systems	3
	CEE 593	Construction Labor Law	3
	CEE 599	Trans Data Management and Analysis - Joint with CEE 412	3
	CEE 601	Internship (Only for Intern Option)	1
Spring 2007	CEE 320	Transportation Engineering	3
	CEE 500	Seminar – Wang	1
	CEE 589	Transit Systems Planning	3
	CEE 590	Traffic Systems Operations	3
	CEE 599	Advanced Traffic Detection Systems – Joint with CEE 498	3
	CEE 599	Pavement Construction	3
	CEE 498	Transportation Logistics	3
	CEE 600	Research Paper – Student Advisor	3
	CEE 601	Internship (Only for Intern Option)	1

*Prerequisite: CEE 320 or equivalent. Graduate students who wish to enroll in CEE 410 who do not meet this requirement must enroll in CEE 320 Autumn Quarter.

Note: A wide variety of 400 and 500 level construction-oriented courses are available to CEE Transportation and Construction Graduate Students through the Department of Construction Management in the College of Architecture and Urban Planning.