

Transportation and Construction Division Transportation Specialty M.S., M.S.E. and M.S.C.E. Degrees

1. Degree requirements for various options:

	Thesis Option (Credits)	Non-Thesis Option (Credits)	<u>Intern</u> Non-Thesis Option (Credits)
Coursework	30	36	33
500 Seminar	3	3	3
601 Intern	N.A.	N.A.	3
600 Research Paper	N.A.	3	3
700 Thesis	9	N.A.	N.A.
Total	42	42	42

Notes and General Requirements

- The Transportation and Construction Division stipulates a research paper or thesis as a degree requirement. This is not necessarily a requirement in the other CEE Divisions.
- 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 coursework credits must be taken outside the CEE department. This requirement is met by taking one of two possible statistics courses: INDE 315 or STAT 390.
- 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 Master's Degree Requirements" (at http://www.ce.washington.edu/programs/prospective/grad/ms_degree/MSreqs.html) apply—namely Nos. 5, 6, 7, 8, 10, 11, 12, 13, 14, and 15.

2. CEE 600 Research Paper Process

2.1 Identify an advisor during the Fall Quarter, pick a topic (or *issue*) 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. Generally, in addition to identifying the research topic, you are expected to provide a short summary describing the topic 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 Quarter but make substantial progress. By the end of the Winter Quarter, you are expected to complete a full outline for the paper, complete a full literature review, begin your data analysis (or *method*) as appropriate, and complete the preparation of a portion of the text. Discuss with your faculty advisor the required work to complete the paper during the 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 the exit document for degree requirements be signed by the faculty advisor.

2.5 Research paper -- definitions and expectations

2.5.1 The research paper topic must relate to an *Issue* of regional, national or international relevance in the transportation or construction field. 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 with the concurrence of your faculty advisor.

2.5.2. *Methods* relating to the paper can provide quantitative analysis or innovative solutions for practical problems. The research paper should include both “issues” and “methods” components.

2.5.3 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 one 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 research and approved by your faculty advisor.	3
W, Sp	CEE 600 Research Paper (for Non-Thesis Option)	(3)
A, W, Sp	CEE 700 (for Thesis Option)	(9)

- 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 599	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.