

**Transportation and Construction Division**  
**Master's Program Requirements (2016)**  
***Transportation Specialty***

**1. Degree requirements for various options:**

	Thesis Option (Credits)	Non-Thesis Option (Credits)	PacTrans Intern Non-Thesis Option (Credits)
Coursework	30	36	30
CEE 500 Seminar	3	3	3
600 Research Paper	NA	3	3
601 Intern	NA	NA	6 (2 credits per quarter)
700 Thesis	9	NA	NA
<b>Total</b>	<b>42</b>	<b>42</b>	<b>42</b>

**Notes and General Requirements**

- a. The Transportation area requires a research report or thesis as a degree requirement. This is not necessarily a requirement in the other CEE Divisions.
- b. A degree program plan must be approved by your faculty advisor and submitted to the CEE Graduate Advising Office before the end of your first academic quarter.
- c. Three credits of CEE 500 Seminar are required, to include: 2 credits CEE 500 Transportation Seminar (Aut & Win) and 1 credit CEE 500 Departmental Seminar.
- d. INDE 315 *or* STAT 390 (or equivalent statistics class) is required. This requirement may be met if taken as an undergraduate. With the exception of INDE 315 or STAT 390, courses at the 300 level or below do not count toward the master's degree.
- e. At least 3 coursework credits must be taken outside the CEE department. INDE 315 or STAT 390 may fulfill this requirement.
- f. CEE 584 – Analytical Methods in Transportation is required. However, this requirement may be satisfied by an alternative quantitative course better fits in your research needs and approved by the transportation faculty group (see list of alternatives on page 2).
- g. One course from each of the following key areas:  
Planning: CEE 580 Urban Transportation Planning and Design *or*  
 CEE 581 Travel Demand Forecasting  
Operations and ITS: CEE 590 Traffic Systems Operations *or*  
 CEE 599 Transportation Data Management and Analysis  
Freight and Logistics: CEE 591 Freight Transportation *or*  
 CEE 587 Freight Transportation and Logistics
- h. At least ½ of coursework classes must be at the 500 level, excluding the CEE 500 seminars.
- i. Maximum 3 seminar credits allowed. More than 3 credits allowed only with faculty advisor approval.
- j. Transfer credits from undergrad work must be approved by faculty advisor and must meet Graduate School requirements: <http://www.grad.washington.edu/policies/masters/transfer.shtml>

**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 Transportation 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 Fall Quarter.

2.2 Winter Quarter, sign up for 3 credits of CEE 600 with your faculty advisor. You are not expected to complete the paper during the Winter Quarter but to make substantial progress.

2.3 By the end of the Winter Quarter, you are expected to complete a full outline for the paper, a completed literature review, begin your analysis of data (as appropriate), and preparation of a portion of the text. Discuss with your faculty advisor the required work to complete the paper during Spring Quarter.

2.4 Spring Quarter, complete the paper and get a grade for the three CEE 600 credits. The grade for CEE 600 must be  $\geq 3.0$  to complete the research paper requirement.

2.5 At the end of Spring Quarter, in addition to the above written research paper, make a presentation with the rest of the students to transportation faculty. If the presentation is satisfactory, the exit document for degree requirements will be signed by your faculty advisor. If your report is not completed by the end of Spring Quarter, a final exam will be arranged after Spring Quarter to defend your work in front of your degree committee that comprises of your advisor and at least one more transportation graduate faculty member. You can check Graduate Faculty status here: <https://grad.uw.edu/for-faculty-and-staff/faculty-locator/>

## 2.6 Research paper -- definitions and expectations

2.6.1 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,” resurrect topics from existing literature, or based your past experience. A wide range of topics is suitable; however, it is critical that you select the topic with the concurrence of your faculty advisor.

2.6.2. **Methods** relating to the paper can provide data summaries, survey results, or other innovative solutions for practical problems. The research paper should include both “issues” and “methods” components.

2.6.3 The research paper format can be done using one of the following two sets of guidelines: (1) Use the format for the Journal of the Transportation Research Board. These requirements normally include a 7,500 word limit (but that word limit is flexible). This information can be found on the Transportation Research Board website at: <http://onlinepubs.trb.org/onlinepubs/AM/InfoForAuthors.pdf> or (2) Use the guidelines provided by the Graduate School for thesis formatting. See FAQ’s at: <http://www.etdadmin.com/cgi-bin/main/faq?siteld=412#pdf> See Question: Do I have to do anything differently when writing my manuscript?

## 3. Required Transportation Program Courses

Quarter	Course	Credits
A, W, Sp	CEE 500 Seminar	3
A, W, Sp	CEE 601 Internship (Intern Option Only)	6
A, W	INDE 315 or STAT 390	3 or 4
W	CEE 584*	3
A, W, Sp	1 course from each key area as shown on page 1, item “h”	9+
A, W, Sp	CEE 700 (for Thesis Option)	9

\* This requirement may be satisfied with a similar quantitative course that fits your research needs better and are approved by the transportation faculty group. Below is a list of alternative courses to CEE 584 that have been approved by the transportation faculty group:

- ECON 482 Economic Methods
- GEOG 426 Advanced Quantitative Methods
- 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 minimum needed to meet degree requirements. This list of courses is not guaranteed and may be subject to change. Please refer to the UW Time Schedule as it becomes available.

<b>Autumn 2016</b>		
IND E 315 or STAT 390	Probability and Statistics	3/4
CEE 424	GIS for Civil Engineers	3
CEE 500	CEE Seminar	1
CEE 580/416	Urban Transportation Planning and Design	4
CEE 582	Intelligent Transportation Systems	3
CEE 588	Energy Infrastructure and the Environment	3
CEE 590	Traffic Systems Operations	3
CEE 591	Freight Transportation	3
<b>Winter 2017</b>		
CEE 404	Infrastructure Construction	3
CEE 410*	Traffic Engineering Fundamentals	3
CEE 498	Roadway Geometric Design	4
CEE 500	CEE Seminar	1
CEE 584	Analytical Methods in Transportation I	3
CEE 599/412	Trans Data Management and Analysis	3
CEE 600**	Independent Study (Non-thesis option)	3
<b>Spring 2017</b>		
CEE 420	Engineering with Developing Communities	3
CEE 421	Pavement Design	3
CEE 422	Energy and Transportation	3
CEE 441	Transportation/Construction Capstone	4
CEE 498	Traffic Simulation	3
CEE 500	CEE Seminar	1
CEE 581	Travel Demand Forecasting	4
CEE 583	Transportation, Energy and Sustainability	3
CEE 585	Analytical Methods in Transportation II	3
CEE 586	Pedestrian Travel, Land Use, and Urban Form	3
CEE 587	Transportation Logistics	4
CEE 589	Transit Systems Planning	3

\*\*Students should register for CEE 600 Winter Quarter, work on their research, and expect to finish their report and make their presentation Spring Quarter. A grade will be submitted when the report and presentation have been successfully completed.

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 and Urban Design and Planning in the College of Built Environments.