# Guidelines for PhD Qualifying Exam (Transportation)

The following is a written guideline of the content and administration of the PhD qualifying exam in Transportation.

**Prerequisite:** Prior to taking the PhD exam, students must maintain a GPA of 3.5 or above.

**Schedule:** The qualifying exam is administered each year, during the week following the spring quarter. The format of the exam is take-home. The duration of the exam is five days: the students receive the exam at 9 am on Day 1 and must return the exam by 5 pm on the 5th day. The exam time-frame (which day to pick up and which day to return) may vary from year to year, considering student needs. PacTrans (More 112) will distribute and collect exams.

PhD students with a master's degree from the UW CEE Department must take the exam in the first year of their PhD program. Other PhD students may wait until their second year to take the exam. Students who do not pass the exam may be given a second chance at the discretion of the faculty.

**Content:** Each tenure-track faculty member will contribute one question to the exam. Questions from research faculty are also welcome. Students are required to answer four questions: one from each of the three areas (Planning, Operations, and Analytical Methods), and one optional. At least one of the four questions must be from the student's advisor.

Students taking the qualifying exam are encouraged to talk to each of the transportation faculty prior to taking the exam. Students will be tested on critical problem solving capabilities, in addition to the key concepts in each of the three areas. The list of courses under each area is provided below for information only.

- **Planning**
  - CEE580 Urban Transportation Planning and Design (Rutherford/Chen)
  - CEE581 Travel Demand Forecasting (Chen)
  - CEE589 Transit Systems Planning (Rutherford)
  - CEE599 Transportation Survey Methods (Chen)
  - CEE599 Transportation, Energy, & Sustainability (MacKenzie)
- **Operations**
  - CEE590 Traffic Systems Operations (Wang)
  - CEE591 Freight Transportation (Goodchild/McCormack)
  - CEE410 Traffic Engineering Fundamentals (Wang/Avery)
- **Analytical Methods**
  - CEE584 Analytical Methods in Transportation and Human Factors (Boyle/MacKenzie)
  - CEE587 Global Trade, Management, and Logistics Management (Goodchild)
  - CEE412/599 Transportation Data Management (Wang)

**Grading:** Each question will be graded with a score between 1 and 5, where 1 is the lowest and 5 is the highest. Passing the exam requires that each question must be no less than 3.0 out of 5.0 and the mean must be no less than 3.5.

**Exam Administration and Past Exams:** Students can access example past exam questions. Students wishing to do so can request the example exam questions from PacTrans. PacTrans also coordinates the administration of the exam.

**Academic Integrity:** The exam is "open-everything," meaning students can refer to books, notes, lecture slides, online sources, and other materials. However, students must answer the questions themselves and must not request or receive help from other people.