

CEE 320 Further Learning

This document briefly introduces some of the senior-level elective courses offered here at the UW related to the transportation concepts introduced in CEE 320.

Geometric Design

CEE 441 Highway and Traffic Engineering (4 credits)

This is the senior capstone course for transportation-construction.

CEE 404 Infrastructure Construction (4 credits). Offered during Spring Quarter.

Covers basic concepts of large infrastructure construction projects including planning, scheduling, life-cycle cost analysis (LCCA), construction cost, logistics and productivity. Involves a 7-week group project that plans a major repaving of an I-5 section in the urban Seattle area. Representatives from WSDOT will brief the class on real-world issues with I-5 repaving and may be present during presentations.

Pavement Design

CEE 421 Pavement Design (3 credits)

Current and developing procedures for the structural thickness design of pavements. Bituminous and concrete pavements for highways, airports, and special heavy loading. Elastic layered systems, slab theory. Performance evaluation for maintenance and overlay design.

CEE 404 Infrastructure Construction (4 credits)

Covers basic concepts of large infrastructure construction projects including planning, scheduling, life-cycle cost analysis (LCCA), construction cost, logistics and productivity. The bulk of the class explores these concepts in detail through a 7-week group project that plans a major repaving of an I-5 section in the urban Seattle area. This effort will use state-of-the-art software including CA4PRS, QuickZone and the FHWA's probabilistic LCCA to plan construction and investigate traffic impact and overall cost. Each group will submit a project report (not to exceed 20 pages) and give a 15-minute presentation on their proposed approach. Representatives from WSDOT will brief the class on real-world issues with I-5 repaving and may be present during presentations.

Traffic Flow/ LOS/ Signalized Intersections

CEE 410 Traffic Engineering Fundamentals and Surveys (3 credits)

General review of the fundamentals of traffic engineering, including their relationship to transportation operations management and planning, with special emphasis on traffic engineering field surveys and data analysis.

Transportation Planning

CEE 416 Urban Transportation Planning and Design (3 credits)

Brief review of major issues in urban transportation planning. Planning process discussed and transportation models introduced. Uses a systems framework, including goals and objectives, evaluation, implementation, and monitoring. A design term project, individual or small groups, utilizes material presented on a contemporary problem.

CEE 4XX Transportation Logistics (credits)

Description is still pending. Will be taught in Spring Quarter by Anne Goodchild.

Intelligent Transportation

CEE 412 Transportation Data Management (3 credits)

Introduction to modern concepts, theories, and tools for transportation data management and analysis. Applications of software tools for transportation data storage, information retrieval, knowledge discovery, data exchange, on-line information sharing, statistical analysis, system optimization and decision support.

CEE 579 Advanced Traffic Detection Systems (3 credits)

Introduction to advanced tracking and detection technologies in transportation engineering including Global Positioning Systems (GPS), inductance loop detection systems, remote traffic microwave radar, computer-vision based technologies, and other emerging detection technologies with cutting-edge research in these areas.