



Course Code CVEE-470	Course Title Transportation Plan and Design	ECTS Credits 6
Department Engineering	Semester Fall, Spring	Prerequisites CVEE-211
Type of Course Elective	Field Civil & Environmental Engineering	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 4 th	Lecturer(s) Prof. John N. Sahalos
Mode of Delivery Face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- Introduce students to the basic transportation functions by mode and in a systems context, and transportation concepts and terminology.
- Provide students with a good background in transportation characteristics, operations, design, planning, and maintenance.
- Teach students the principles, concepts and methods unique to transportation, (demand modeling, capacity analysis, traffic engineering, geometric design, pavement design, and maintenance management systems)
- Provide students experiences with the collection and analysis of transportation data for use in design.
- Improve students' ability in preparing formal reports and describing complex design procedures.

Learning Outcomes:

After completion of the course students are expected to:

- Apply knowledge of mathematics, science, and engineering. Course work includes four derivations from dynamics and two from mathematics.
- Design a system, component, or process to meet desired needs
- Function on a multi-disciplinary team.
- Identify, formulate, and solve engineering problems.
- Understand professional and ethical responsibility.
- Communicate effectively.
- Understand the impact of engineering solutions in a global and societal context.
- Develop skills, tools, and knowledge needed for engineering practice.

Course Contents:

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| <ul style="list-style-type: none"> • Highway Geometric Design • Highway Traffic Operations, Capacity, and Control Systems • Airport Runway and Taxiway Design • Transportation Pavements • Harbor Design • Public Transportation • Transportation Planning • Safe Pedestrian Practices • Maintenance Systems • Transportation, Energy, and Air Pollution • Financing Transportation Improvements • Administration of Transportation Functions |
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Learning Activities and Teaching Methods:

Lectures, Projects, Discussion

Assessment Methods:

Homework, Project assignments, exams, final exam.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Garber Nicholas and Hoel Lester	Traffic and Highway Engineering	Brooks/Cole Publishing, Pacific Grove, CA,	2002	978- 049508250 7

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