

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINEERING
DEPARTMENT OF TRANSPORT ENGINEERING AND LOGISTICS
ABET COURSE SYLLABI

ICT3993 URBAN ROADS DESIGN WORKSHOP

Credits and contact hours: 10 UC credits / 10 hours (3 h. Lectures; 3 h Laboratory; 4 h. Independent learning experiences)

Instructor's name: Juan Enrique Coeymans

Course coordinator's name Juan Enrique Coeymans

Textbook: Curso Avanzado de Diseño Vial Urbano, Tomo 1 Apuntes, Mideplan 1998.
Curso Avanzado de Diseño Vial Urbano, Tomo II Material de Apoyo de Clases, Mideplan 1998.

Course Catalog Description: Urban Road Design has special requirements and the need to a more interdisciplinary approach. It takes into account not only the insights given by the Road Design itself, but also the integration in the urban context, and it is oriented to satisfy the needs of movements not only of cars, but as well of other means of transport, not being the less important the pedestrian mode. The goal is to guide the students to develop in a team group a big project during the course in order to learn road design in a more holistic perspective.

Prerequisite Courses: Instructor's authorization

Co-requisite Courses: None

Status in the Curriculum: Required Crr2009

Course Learning Outcomes:

1. Introduce the students to the computer assisted geometric design.
2. To train students to understand, operate and made computer assisted road designs.
3. To allow students to get an integral perspective of the urban insertion of road designs.

Relation of Course to ABET Criteria:

- b. Design and conduct experiments: analyze and interpret data
- c. Design a system, component, or process
- d. Multidisciplinary teams
- e. Identify, formulate, and solve engineering problems
- f. Professional and ethical responsibility
- g. Effective communication
- h. Broad education necessary for global, economic, environmental and societal context

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Topics covered:

1. Introduction
2. Computer assisted design systems.
3. General insertion of roads in the urban space.
4. Traffic Micro simulation: AIMSUN
5. General elements of road design
6. Cross-sections designs
7. Horizontal alignments designs
8. Vertical alignment designs
9. Camber development
10. Buses and cycles lanes design
11. Localization of services, urban furniture and horizontal and vertical signals.