CE7T02: T2 – Transport Modelling and Planning [5 credits]

Module Co-ordinator(s): Assist. Prof. Brian Caulfield (Brian.Caulfield@tcd.ie)

Module organisation
Department of Civil, Structural and Environmental Engineering

Module description, aims and contribution to programme
This module is an optional module which runs in the first semester. A comprehensive overview of the different approaches to modelling transportation networks is provided in this module, equipping students with a variety of tools for examining transportation problems. This module covers the following topics: data, four stage transport modelling (including trip generation, distribution, modal split and assignment; user and social equilibrium), discrete choice modelling, activity based models, transport and land use planning, public transport planning.

Learning outcomes
On successful completion of this subject the student will be able to:
1. Evaluate transport networks using the four stage model.
2. Discuss how transport networks are designed.
3. Apply discrete choice models to transportation problems.
4. Understand how activity based transport models link into the traditional four stage model.
5. Appreciate the links between land use and transport planning.
6. Design and plan public transport routes.

Module content
First Semester: Weeks 1 to 10
Lectures 27
Assignments 26
Directed Learning 15
Autonomous learning
Total 100

Teaching strategies
- Core content via lecture (direct)
- Individual Assignments

Assessment
- Assignments (20%)
- Exam (80%)