

## CE7T01: T1 – Transportation [5 credits]

**Module Co-ordinator(s):** Assist. Prof. Bidisha Ghosh (bghosh@tcd.ie)

**Lecturer(s):** Prof. Margaret O'Mahony (Margaret.OMahony@tcd.ie)  
Assist. Prof. Brian Caulfield (Brian.Caulfield@tcd.ie)

### Module organisation

Department of Civil, Structural and Environmental Engineering

### Module description, aims and contribution to programme

The students will be given an introduction to transportation engineering, covering traffic flow theory, queuing theory, traffic paradoxes, junction design and traffic signal designing. The module will also cover urban transportation policies, land-use modelling and public transport quality and benchmarking.

### Learning outcomes

On successful completion of this subject the student will be able to:

1. Develop an overview of transportation and traffic engineering.
2. Develop an understanding of queuing models and traffic paradoxes.
3. Discuss and design the layout of a traffic junction.
4. Design and evaluate fixed-time traffic signal plan of a junction.
5. Implement land-use models to manage traffic demand.
6. Develop knowledge and understanding of urban transportation management policies.
7. Evaluate the impact of public transport policies.

### Module content

First Semester: Weeks 1-10

Lectures	27
Assignments	26
Directed Learning	15
Autonomous Learning	
Total	100

Note: 1 ECTS is 25 hours of student effort

### Teaching strategies

- Core content via lecture (direct).
- Research paper and case study based group discussion.
- Individual Assignments.

### Assessment

Continuous Assessment.

- Homework Assignment

**Required textbook**

Calibri 12

**Further information**

School of Engineering weblink.