CVEN90063 Transport System Modelling

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2016.
Time Commitment:	Contact Hours: 48 hours (2 x 1-hour lectures per week, and 12 x 2-hour workshops per week). Total Time Commitment: 200

Prerequisites:	Subject	Study Period Commencement:	Credit Points:
	CVEN90048 Transport Systems	Semester 2	12.5

Corequisites:	None
Recommended Background Knowledge:	Linear algebra, proficiency in using spread sheets for statistical analysis.
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Contact:	Majid Sarvi Email: **majid.sarvi@unimelb.edu.au (mailto:majid.sarvi@unimelb.edu.au)**
Subject Overview:	**AIMS** In undergraduate subjects, students are exposed to some engineering features of transport and traffic engineering. However, these do not fully provide the requisite knowledge and skills for understanding the modelling and planning aspects of transport system engineering. These competencies are of highest importance for those interested in a career in transport engineering. In this subject, students will be provided with the fundamental concept of four-step modelling in depth, including trip generation/attraction, trip distribution, modal split and traffic assignment. The contemporary topics of transport modelling such as choice modelling, car-ownership and uncertainty modelling in the context of transport infrastructure engineering will also be presented. The subject provides real world examples and assignments. The primary emphasis of the subject is on concepts (rather than mathematical details) and getting students ready for the industry.
Learning Outcomes:	**INTENDED LEARNING OUTCOMES (ILO)** On successful completion of this unit, students should be able to: 1 Describe the component models and the modelling framework used in transport network modelling and complex systems 2 Assess the strengths and weaknesses of various transport models 3 Apply the 4-step and activity-based modelling theories in transport planning 4 Implement trip generation/attraction, trip distribution, modal split and traffic and transit assignment in transport strategic modelling 5 Discuss uncertainty in planning transport infrastructure projects 6 Demonstrate skills in conducting traffic impact study 7 Assess contemporary issues in transport modelling and planning

Assessment:	Individual assignment 1 (20%), Trip generation/attraction. Approximately 25 hours of work. Due Week 3. Intended Learning Outcomes (ILOs) 3 and 4 are addressed in this assignment. Individual assignment 2 (15%), Modal split and traffic assignment. Approximately 20 hours of work. Due week 6. ILOs 3 and 4 are addressed in this assignment. Individual assignment 3 (15%), Simulation. Approximately 20 hours of work. Due week 9. ILOs 3 and 4 are addressed in this assignment. 2 hours examination (50%). Held at the end of semester examination period. ILOs 1 to 7 are addressed in this assignment.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# Ability to undertake problem identification, formulation and solution; # Ability to communicate effectively, with the engineering team and with the community at large; # Ability to manage information and documentation.
Related Course(s):	Master of Engineering Management Master of Engineering Structures Master of Environmental Engineering
Related Majors/Minors/ Specialisations:	Master of Engineering (Civil) Master of Engineering (Environmental) Master of Engineering (Mechanical) Master of Engineering (Structural)