



CVEN9405 URBAN TRANSPORT PLANNING PRACTICE

Semester 2, 2016

Never Stand Still

Faculty of Engineering

School of Civil and Environmental Engineering

COURSE DETAILS

Units of Credit	6	
Contact hours	4 hours per week	
Class	Tuesdays, 9:00 – 11:00	Macaulay Theatre (Quad 1027)
	Wednesdays, 12:00-14:00	Electrical Eng G24
Tutorial	Wednesdays, 12:00-14:00	Electrical Eng G24
Course Coordinator and Lecturer:	Taha Hossein Rashidi rashidi@unsw.edu.au Room 113, Civil and Environmental Engineering Building	
Lecturer:	Lauren Gardner l.gardner@unsw.edu.au Room 112, Civil and Environmental Engineering Building	

INFORMATION ABOUT THE COURSE

This course presents a detailed treatment of the long term strategic planning aspects of transport systems. The course gives a broad overview of the issues, techniques, problems and possible solutions involved in transport planning and evaluation, including environmental and economic considerations. The course focuses on the issues of assessing sustainable development and its relevance in transport, and the problems it poses to transport planning in developing a sustainable transport system.

HANDBOOK DESCRIPTION

See link to virtual handbook would be:

<http://www.handbook.unsw.edu.au/postgraduate/courses/2016/CVEN9405.html>

OBJECTIVES

This course introduces the conventional four-step travel forecasting procedure, as currently applied in urban areas throughout the world. The unit will complement those learnt in the other transport units to provide a well-rounded knowledge of transport planning and management. The main topics include an overview of the transport planning system, land-use models, network construction, data requirements, trip generation models, trip distribution models, mode choice models, highway paths and assignment, validation and acceptance testing, and forecasting. The course will also allow students to practice using transportation forecasting software in a project assignment. The focus is on the application of transport models in real world settings.

The following describes the learning goals that this course aims to achieve and details how the achievement of these goals will be assessed.

- Apply concepts, techniques and principles that underlie transport planning and analysis.
- Manage the impacts of future trends in transport management, planning and analysis.
- Use contemporary modelling techniques to solve problems in transport planning and analysis).
- Engage in lifelong learning, reflective thinking and self and peer assessment.
- Communicate effectively in verbal, written and group contexts to a professional standard.

TEACHING STRATEGIES

The teaching strategies that will be used and their rationale are stated below.

Private Study	<ul style="list-style-type: none"> • Review lecture material and textbook • Do set problems and assignments • Join Moodle discussions of problems • Reflect on class problems and assignments • Download materials from Moodle • Keep up with notices and find out marks via Moodle
Lectures	<ul style="list-style-type: none"> • Find out what you must learn • See methods that are not in the textbook • Follow worked examples • Hear announcements on course changes
Workshops	<ul style="list-style-type: none"> • Be guided by Demonstrators • Practice solving set problems • Ask questions
Assessments (final examination, quizzes, hand-in tutorials)	<ul style="list-style-type: none"> • Demonstrate your knowledge and skills • Demonstrate higher understanding and problem solving

EXPECTED LEARNING OUTCOMES

By successfully completing this course you will be able to

- Recognise the importance of transport within the framework of Sustainable Development;
- Describe the relationships between Land Use, Transport and the Environment;
- Use computation methods related to various stages of transport planning and travel demand forecasting, including trip generation, trip distribution, mode choice and traffic assignment.
- Illustrate transport system equilibrium with simple examples of land use – transport interaction;
- Evaluate the transport system conditions based on demand forecast;
- Apply computational methods for the planning of public transport systems;
- Calculate the costs and benefits of simple transport projects;

- Evaluate the economic consequences of various transport project alternatives.
- Describe and apply urban planning concepts for proposal of transport infrastructure.

For each hour of contact it is expected that a student will put in at least 1.5 hours of private study.

ASSESSMENT

For the purpose of assessment, there are two strands in this course. The final exam is worth 40% of the overall assessment, and will include questions from each strand. There will be two quizzes during the semester (one for each strand); each quiz is worth 20% of the overall assessment. Note: If a student chooses not to participate in a quiz, the 20% will be shifted to the final exam. The final 20% will come from weekly workshop participation. The final mark for this course will be a weighted average of the two quizzes, the final examination and workshop participation.

The workshop participation mark will be based on the submission of short assignments that are introduced in the workshop, and to be completed by the students, and handed in during the following week's workshop.

The in-class quizzes will be given at the beginning of the lecture on 31 August September and 12 October. The quizzes are closed book.

The Final Examination is closed-book. Its duration is 2 hours. The formal exam scripts may not be retained by candidate. All students are expected to sit their final examination at the UNSW Kensington campus. For more information on exams such as approval guidelines to sit the final examination via distance (if required), please see the link below:

<http://www.engineering.unsw.edu.au/civil-engineering/resources/exam>

The pass mark in this course is 50% overall. Students who perform poorly in quizzes and workshops are recommended to discuss progress with the lecturer during the semester. The lecturer reserves the right to adjust the final scores by scaling if agreed to by the Head of School.

ASSIGNMENTS

Students are expected to participate in workshops and hand in weekly homeworks.

COURSE PROGRAM

Weeks 1-6 Lecturer: Taha Hossein Rashidi

Weeks 7-12 Lecturer: Lauren Gardner

Week	Date	Topic	Workshop Topics
1	26 July	Introduction and history of transport planning-1	
1	27 July	Introduction and history of transport planning-2	
2	02 August	Cost Benefit Analysis-1	
2	03 August	Cost Benefit Analysis-2	CBA project
3	09 August	Land use modelling-1	
3	10 August	Land use modelling-2	Land use modelling
4	16 August	Survey methods-1	
4	17 August	Survey methods-2	Land use modelling

5	23 August	Trip generation- Introduction to Statistics-1	
5	24 August	Trip generation- Introduction to Statistics-2	Modelling in Excel
6	30 August	Trip generation- Development and interpretation-1	
6	31 August	<u>13:00-14:00 QUIZ 1</u>	Trip generation
7	06 September	Trip distribution methods-1	
7	07 September	Trip distribution methods-2	Trip generation
8	13 September	Trip distribution methods-3	
8	14 September	Trip distribution methods-4	Trip distribution
9	20 September	Mode Choice analysis methods-1	
9	21 September	Mode Choice analysis methods-2	Mode choice
Break	27 September	No classes – Mid Semester Break	
Break	28 September	No classes – Mid Semester Break	
10	04 October	Mode Choice analysis methods-3	
10	05 October	Mode Choice analysis methods-4	Mode choice
11	11 October	Traffic assignment models-1	
11	12 October	<u>13:00-14:00 QUIZ 2</u>	Traffic assignment
12	18 October	Applications of transport planning-1	
12	19 October	Applications of transport planning-2	Network design
13	26 October		Overview

RELEVANT RESOURCES

Main textbook:

- Modelling Transport, 4th Edition, Juan de Dios Ortuzar, Luis G. Willumsen, ISBN: 978-0-470-76039-0

Recommended reading references are listed below:

- AUSTRROADS (1996) Benefit Cost Analysis Manual. Austroads Publication No. AP-42/96. Sydney.
- Urban Transportation Planning Hardcover – December 20, 2000 by Michael Meyer and Eric Miller
- https://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf
- Black, J. (1981) Urban Transport Planning: Theory and Practice, (London: Croom Helm).
- Blunden WR and Black JA (1984) The Land use/Transport system, Pergamon Press
- Hensher, D.A. and Button, K.J. (2000) Handbook of Transport Modelling, Pergamon.

Additional materials provided on Moodle.

DATES TO NOTE

Refer to MyUNSW for Important Dates available at:

<https://my.unsw.edu.au/student/resources/KeyDates.html>

PLAGIARISM

Beware! An assignment that includes plagiarised material will receive a 0% Fail, and students who plagiarise may fail the course. Students who plagiarise are also liable to disciplinary action, including exclusion from enrolment.

Plagiarism is the use of another person's work or ideas as if they were your own. When it is necessary or desirable to use other people's material you should adequately acknowledge whose words or ideas they are and where you found them (giving the complete reference details, including page number(s)). The Learning Centre provides further information on what constitutes Plagiarism at:

<https://student.unsw.edu.au/plagiarism>

ACADEMIC ADVICE

(Formerly known as Common School Information)

For information about:

- Notes on assessments and plagiarism,
- School policy on Supplementary exams,
- Special Considerations,
- Solutions to Problems,
- Year Managers and Grievance Officer of Teaching and Learning Committee, and
- CEVSOC.

Refer to Academic Advice on the School website available at:

<http://www.engineering.unsw.edu.au/civil-engineering/resources/academic-advice>