

2012 Postgraduate Transport Programme

The courses below are available for full-time or part-time students studying for the following postgraduate transportation qualifications at Canterbury:

- A one-off **Certificate of Proficiency (COP)** paper - *ideal for industry Professional Development*
- A 0.5 EFTS **Postgraduate Certificate in Transportation Engineering (PGCertEng(Trpt))** - *typically five papers*
- A 1.0 EFTS **Master of Engineering Studies (MEngSt)** - *typically up to ten papers, possibly including a small research paper*
- A **Master of Engineering in Transportation (MET)** - *typically up to six papers and a research project/thesis*

Other undergraduate or postgraduate students at Canterbury (e.g. in engineering, maths, geography, psychology, economics, etc.) may also apply to enrol in relevant courses and will be considered on a case-by-case basis.

2012 Courses Offered

Any Time

ENTR401: Fundamentals Of Transport Engineering (A. Nicholson, G.Koorey)

A self-study programme in: Transportation planning; Road link theory and geometric design; Intersection analysis and design; Traffic studies; Accident reduction; Sustainable transport planning and design; Pavements and road asset management.
{bridging course for non-transport/engin'rg students; contact us to discuss arrangements}

1st Semester Courses (Mar-Jun '12)

ENTR611: Planning and Managing Transport (G.Koorey, A. Nicholson and visitors)

Road and transport administration in NZ; Transport legislative environment in NZ; Communication/presentation skills; Public consultation; Traffic surveys; Transport assessment and economics; Demand management and tolling; Construction planning and contract management. {core course for most postgrad transport students}

ENTR 602: Accident Analysis, Reduction And Prevention (A. Nicholson, G.Koorey and visitors)

Impact on society; Data analysis and interpretation; Hazardous location identification; Problem diagnosis; Treatment options; Treatment selection; Economic appraisal; Evaluation; Safety auditing.

ENTR612: Transport Policy and Demand Management (A. Nicholson, N.Roth)

Transport economics; Travel demand and supply management; congestion pricing; Transport policy objectives and instruments; Traffic management modelling.

2nd Semester Courses (Jul-Oct '12)

ENTR 603: Advanced Pavement Design (M. Saleh and visitors)

Stresses, strains and deflections in flexible and rigid pavements; pavement materials characterisation; mechanistic and mechanistic-empirical design methods; pavement performance and evaluation.

ENTR614: Planning and Design of Sustainable Transport (G.Koorey and visitors)

Pedestrian planning & design; Planning & design for Cycling; Pedestrian/Cycle Audits; Accessibility design; Public transport Operations, Planning & Network design; Travel behaviour change & travel plans.

ENTR615: Transport Network Modelling (G.Koorey and visitors)

Principles of transport modelling; Road network modelling (SATURN, PARAMICS); Macro- and micro-simulation; Traffic intersection modelling (SIDRA); Transport network analysis and network/link reliability.

ENTR680: MET Research Project (any time)

ENTR690: MET Research Thesis (any time)

ENTR "Special Topic" papers are also available to students for customised independent minor research (e.g. literature reviews, summer projects). Please discuss this option with transport programme staff first. Students are expected to have obtained adequate grades before undertaking such papers.

Except for research projects, all courses have a weighting of 0.1 EFTS (12 pts) each, i.e. one tenth of a full-time year. This translates into a nominal average of **120 hours** of lectures, labs, assignment work and other study time for a typical student.

(more details over page)

Other Information

The programme is designed to cater for a wide variety of students, including:

- overseas students
- non-engineering degrees
- working practitioners
- “distance” (non-Christchurch-based) students

Postgraduate transportation students at the University of Auckland may also credit some of these papers.

Potential applicants can apply to join the programme at any time (especially COP enrolments for one-off papers), although the preference is to start at the beginning of the calendar year.

The standard domestic student fee for 0.1 EFTS ENTR courses in 2012 is **\$703** incl. GST, plus a Student Services levy (up to \$635/year; some rebates available).

Block Courses

All ENTR courses (except ENTR401) are offered in “block mode” which typically comprises two 3-day teaching blocks during the semester.

Check the MET website for details of 2012 block course dates and venues (finalised by early 2012)

Other Relevant Courses

Undergraduate Civil Engineering papers (*weekly sessions; local students only*):

- ENCI412 - Traffic Planning
- ENCI415 - Pavement Engineering
- ENCI403 - Mgmt of Engin'rg Systems
- ENCI498 - Transport Design Project

Other postgraduate Civil Engineering papers (*block courses*):

- ENCI601 - Risk Management
- ENCM610 - Construction Management
- ENCM620 - Construction Procurement and Contract Administration
- ENCM630 - Project Management - Planning & Control Techniques
- ENCM683 - Cost Engineering

Note: these are subject to change so check with the department for details.

Other relevant courses may be available around campus for full-time Christchurch-based students (e.g. geography, geology, management science, psychology).

Postgraduate transportation courses at the University of Auckland are available to Canterbury transportation students.

Students may also apply to seek credit for suitably relevant courses undertaken at other universities.

PhD (Doctoral) Programme

A doctorate (PhD) in Transportation Engineering is also available to suitable candidates (research Master's degree or First-class Bachelor degree). This is a research thesis (no coursework) requiring typically 2-4 years full-time study or 4-7 years part-time study.

Potential candidates should discuss first with programme staff the availability of supervision, possible research topics and opportunities for funding assistance.

Enrolment

Consult the MET website for initial entry requirements into the programme.

A Bachelors degree in Engineering is preferred; however, candidates with other relevant degrees (e.g. geography, psychology, planning) and/or suitable work experience will also be considered.

All students must Apply To Enrol in courses no later than **one week prior** to the course starting – otherwise late fees may apply. Completion of enrolment on campus (fees, student ID, etc.) may be done on the first day of the block course.

See the university website for information on enrolment and current fees:

www.canterbury.ac.nz/enrol

Courses Not Offered In 2012

(*expected to be offered again in 2013; check MET website for details*)

ENTR 604: Road Asset Management (M.Saleh and visitors)

Road asset management concepts, levels and functions; data requirements; evaluation of functional and structural performance; intervention criteria; deterioration models; rehabilitation and maintenance strategies and priorities.

ENTR613: Highway Geometric Design (G. Koorey, M. Saleh & visitors)

Human factors; Sight distance; horizontal and vertical alignment; Cross-section design; Design plans; Land use access; Signs and markings; Intersection and interchange design; Major design project.

ENTR616: Advanced Transport Planning & Modelling (A. Nicholson, N.Roth)

Urban transport planning process; Geographic information systems (TransCAD); Travel demand modelling and prediction; Project appraisal; Advanced transport modelling.

ENTR617: Traffic Engineering And Design (G. Koorey, A. Nicholson and visitors)

Traffic flow and queuing theory; Traffic study design; Local area traffic management; Traffic signal design; Intersection safety and design; Parking planning; Traffic detection and Intelligent Transport Systems.

ENTR618: Transport And Freight Logistics (N.Roth and visitors)

Urban goods movement; Transport/freight logistics; Supply chain management; Planning/design for other transport modes (rail, air, sea); fleet management and design.

See the MET website for more details and enrolment information
Or contact **Glen Koorey**, Transportation Engineering Programme Coordinator
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