Description: Transport Engineering

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
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<td>2, 2004</td>
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**Academic group:** FOENS  
**Academic org:** FOES03  
**Student contribution band:** 2  
**ASCED code:** 030909

**STAFFING**

Examiner: Ron Ayers  
Moderator: Jo Devine

**SYNOPSIS**

The planning, construction and operation of civil engineering works is critical to the well being of societies within the modern world. It is important, therefore, that the graduate civil engineer have a broad understanding the role and planning of transport systems. As the majority of civil engineers working in the transport sector are concerned with road transport, a greater emphasis will be placed on this mode of transport. Students of this course will be assumed to have a basic understanding of statistical techniques, soil mechanics, engineering materials and technical drafting skills (including CAD).

**OBJECTIVES**

On completion of this course, students should be able to:

1. outline the role of transportation systems within modern societies and the relationship between transport and land use, and appraise the potential of new transport technologies;
2. describe current transportation planning practice (with particular emphasis on road network planning) and carry out simple planning and modelling studies;
3. recommend on testing procedures for road pavement material selection, and design road pavements and road surfacings;
4. carry out the geometric design of a road (including the geometric design of intersections of the road with other roads);
5. select and justify the procedures to be used in a particular road construction or road maintenance situation;
6. list and discuss the factors influencing road traffic operation, and analyse the level of service of a road section;
7. organise and execute simple traffic studies;
8. design parking facilities for road vehicles;
9. design traffic control facilities for road vehicles;
10. describe the basic characteristics of railway engineering, and air and water transportation systems;
11. carry out simple economic analyses of transport network improvement proposals;
12. describe the environmental and energy issues in modern transport;
13. demonstrate familiarity with the use of computer software to assist in the solution of transport engineering problems;
14. prepare, to a professional standard, technical reports in English having good structure and format, high standards of spelling, grammar and punctuation, and appropriate and adequate technical content.

**TOPICS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. Transport and Society</td>
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<td>2. Transport Planning</td>
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<tr>
<td>3. Road Pavement Materials</td>
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<td>4. Road Pavement Design</td>
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<td>7. Traffic Operation and Studies</td>
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<td>8. Provision for Stationary Vehicles</td>
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<td>9. Traffic Control and Management</td>
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<td>10. Railway Engineering</td>
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<td>11. Air and Water Transport</td>
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<td>12. Transport Economics</td>
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<tr>
<td>13. Environmental and Energy Issues in Transport</td>
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<td>14. The Future of Transport</td>
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**TEXT and MATERIALS required to be PURCHASED or ACCESSED:**

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at http://bookshop.usq.edu.au click 'Semester', then enter your 'Course Code' (no spaces).
Video, Road Design, USQ. (This video is available for purchase from the USQ Bookshop or it can be borrowed from the USQ Library)

REFERENCE MATERIALS:

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

References included in Study Package.

STUDENT WORKLOAD REQUIREMENTS:

<table>
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<th>ACTIVITY</th>
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<tr>
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<td>Examinations</td>
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ASSESSMENT DETAILS

<table>
<thead>
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<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
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<td>20.00</td>
<td>03 Sep 2004</td>
</tr>
<tr>
<td>ONLINE DISCUSSION &amp; REPORT</td>
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NOTES:

1. The 3 hour examination is in two parts. Part A and Part B require separate Answer Booklets. Student Administration will advise students of the dates of their examinations during the semester.

IMPORTANT ASSESSMENT INFORMATION

1. Attendance requirements:
   There are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration. Participation in on-line discussion groups. Students are to participate in on-line discussion groups beginning in Week 1. Each student must submit at least five entries and a final report.

2. Requirements for students to complete each assessment item satisfactorily:
   (i) To complete each of the assignments satisfactorily, students must obtain at least 50% of the marks available (or at least a grade of C-) for each assignment. (ii) To
complete the examination satisfactorily, students must obtain at least 50% of the marks available (or at least a grade of C-) for the examination.

3 Penalties for late submission of required work:
If students submit assignments after the due date without prior approval then a penalty of 20% of the total marks available for the assignment will apply for each working day late.

4 Requirements for student to be awarded a passing grade in the course:
To be assured of a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by satisfactorily completing all summative assessment items (the examination and assignments), as stated in 2 above.

5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the weighted aggregate of the marks (or grades) obtained for each of the summative assessment items in the course.

6 Examination information:
The examination in this course is a combined examination. Part A is a Closed examination of 1 hour duration and 200 marks have been allocated for this part. Part B is an Open examination of 2 hours duration and 500 marks have been allocated for this part. In an Open Examination, candidates may have access to any material during the examination except the following: electronic communication devices, bulky materials, devices requiring mains power and material likely to disturb other students. In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.

7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held during the examination period at the end of the semester of the next offering of this course.

8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL http://www.usq.edu.au/corporateservices/calendar/part5.htm or in the current USQ Handbook.

ASSESSMENT NOTES

1 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.

2 Students must retain a copy of each item submitted for assessment. This must be despatched to USQ within 24 hours if required by the Examiner.

3 In accordance with University's Assignment Extension Policy (Regulation 5.6.1), the examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.

4 The Faculty will normally only accept assessments that have been written, typed or printed on paper-based media.
5 The Faculty will NOT accept submission of assignments by facsimile.
6 Students who do not have regular access to postal services or who are otherwise
disadvantaged by these regulations may be given special consideration. They should
contact the examiner of the course to negotiate such special arrangements.
7 In the event that a due date for an assignment falls on a local public holiday in their
area, such as a Show holiday, the due date for the assignment will be the next day.
Students are to note on the assignment cover the date of the public holiday for the
Examiner’s convenience.
8 Students who have undertaken all of the required assessments in a course but who
have failed to meet some of the specified objectives of a course within the normally
prescribed time may be awarded one of the temporary grades: IM (Incomplete -
Make up), IS (Incomplete - Supplementary Examination) or ISM (Incomplete
-Supplementary Examination and Make up). A temporary grade will only be
awarded when, in the opinion of the examiner, a student will be able to achieve
the remaining objectives of the course after a period of non directed personal study.
9 Students who, for medical, family/personal, or employment-related reasons, are
unable to complete an assignment or to sit for an examination at the scheduled time
may apply to defer an assessment in a course. Such a request must be accompanied
by appropriate supporting documentation. One of the following temporary grades
may be awarded IDS (Incomplete - Deferred Examination; IDM (Incomplete
Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred
Make-up).