Description: Road and Street Engineering

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIV</td>
<td>5704</td>
<td>41017</td>
<td>1, 2005</td>
<td>EXT</td>
<td>1.00</td>
<td>Toowoomba</td>
</tr>
</tbody>
</table>

Academic group: FOENS
Academic org: FOES03
Student contribution band: 2
ASCED code: 030909

STAFFING
Examiner: Ron Ayers
Moderator: Jo Devine

RATIONALE
The road system in Australia varies from single lane unformed roads carrying low traffic volumes, to multi-lane roads carrying large volumes of traffic. The road engineer must be able to plan, design, and supervise the construction, operation and maintenance of these facilities in order to provide a safe and convenient road network to the community.

SYNOPSIS
This course revises basic principles of road and street engineering introduced in undergraduate programmes. The course also continues the development of principles and techniques of road and street engineering to the post graduate level. Postgraduate development is concentrated in the areas of pavement materials, pavement design, pavement evaluation, traffic surveys and equipment, local area traffic management and intersection design; and some aspects of bituminous surfacing, road construction, traffic control measures and road design.

OBJECTIVES
On completion of this course, students should be able to:
1. design road pavement structures and surfacings;
2. select and supervise the testing of pavement materials;
3. supervise the construction of pavements and surfacings;
4. evaluate the requirements for road rehabilitation and maintenance;
5. organise the execution of, and critically analyse the data from, common traffic engineering studies;
6. select and design appropriate traffic control measures, including the design of local area traffic management schemes;
7. conceptually design, and supervise the detailed geometric design of intersections;
8. conceptually design, and supervise the detailed geometric design of parking facilities;
9. conceptually design, and supervise the detailed geometric design of roads, streets and bicycleways;
10. Use computer software packages commonly encountered in road and traffic planning and design.

**TOPICS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>2.00</td>
</tr>
<tr>
<td>2. Road Design</td>
<td>10.00</td>
</tr>
<tr>
<td>3. Intersection Design</td>
<td>8.00</td>
</tr>
<tr>
<td>4. Pavement Materials</td>
<td>8.00</td>
</tr>
<tr>
<td>5. Stabilisation</td>
<td>8.00</td>
</tr>
<tr>
<td>6. Bituminous Surfacing Materials</td>
<td>5.00</td>
</tr>
<tr>
<td>7. Pavement Design</td>
<td>5.00</td>
</tr>
<tr>
<td>8. Bituminous Surfacing Design</td>
<td>5.00</td>
</tr>
<tr>
<td>9. Road Construction Practice</td>
<td>5.00</td>
</tr>
<tr>
<td>10. Pavement Construction Practice</td>
<td>5.00</td>
</tr>
<tr>
<td>11. Bituminous Surfacing Practice</td>
<td>5.00</td>
</tr>
<tr>
<td>12. Pavement Evaluation</td>
<td>5.00</td>
</tr>
<tr>
<td>13. Road Maintenance</td>
<td>5.00</td>
</tr>
<tr>
<td>14. Traffic Surveys</td>
<td>10.00</td>
</tr>
<tr>
<td>15. Traffic Control Measures</td>
<td>7.00</td>
</tr>
<tr>
<td>16. Traffic Management</td>
<td>7.00</td>
</tr>
</tbody>
</table>

**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).


*Pavement Design - A Guide to the Structural Design of Road Pavements*, Austroads Publications,

Ogden, K W & Taylor, S Y 1997, *Traffic Engineering and Management*, Monash University,

**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.

‘Road Planning and Design Manual’ (Available: Library Catalogue or by going to the Qld Main Roads site at www.mainroads.qld.gov.au) .
STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>20.00</td>
</tr>
<tr>
<td>Directed Study</td>
<td>70.00</td>
</tr>
<tr>
<td>Examinations</td>
<td>3.00</td>
</tr>
<tr>
<td>Private Study</td>
<td>62.00</td>
</tr>
</tbody>
</table>

ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGNMENT 1</td>
<td>300.00</td>
<td>30.00</td>
<td>13 May 2005</td>
</tr>
<tr>
<td>3 HOUR OPEN EXAMINATION</td>
<td>700.00</td>
<td>70.00</td>
<td>END S1</td>
</tr>
</tbody>
</table>

NOTES

1. Further details about the due dates are detailed in the assessment section of the Course Specifications.
2. Further details about the due dates are detailed in the assessment section of the Course Specifications.

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.

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

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. Students who do not
qualify for a Passing grade may, at the discretion of the Examiner, be assigned additional
work to demonstrate to the Examiner that they have achieved the required standard. It
is expected that such students will have gained at least 45 % of the total marks available
for all summative assessment items.

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:
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.

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
corravene 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
despached 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.
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).