STAFFING
Examiner: Jo Devine
Moderator: Rod Smith

SYNOPSIS
The construction sector is a major part of the total civil engineering and building industry. Construction projects range in size from the small (such as the construction of a swimming pool or a subdivision cul de sac) to the very large (such as the construction of a hydro electric power scheme or a freeway system). However, all projects share the common factors of utilising workers, machines and materials, and of requiring organisation and control. The graduate civil engineer must, therefore, be familiar with the range of construction equipment and techniques in common use, and must be able to plan and direct construction works. The course covers the areas of construction techniques, construction management and concrete technology.

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

- examine the basic characteristics and use of equipment commonly used in civil engineering and building construction;
- examine commonly used construction techniques of the civil engineering construction industry;
- analyse and apply commonly used planning and control techniques used in civil engineering and building construction;
- evaluate the properties of, and analyse the interaction between, the principal component materials used in the production of concrete;
- formulate concrete mix designs and plan quality control procedures for production and placement of concrete;
- distinguish the different characteristics for both fresh and hardened concrete;
- prepare well-ordered technical site reports.
### TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Construction Techniques</td>
<td>45.00</td>
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<tr>
<td>1.1. Earth excavation</td>
<td></td>
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<tr>
<td>1.2. Construction plant</td>
<td></td>
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<tr>
<td>1.3. Concrete construction</td>
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<td>1.4. Rock excavation</td>
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<td>1.5. Construction methods</td>
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<td>1.6. Construction site inspections</td>
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<td>2. Construction Management</td>
<td>20.00</td>
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<tr>
<td>2.1. Project planning</td>
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<tr>
<td>2.2. Management of construction projects</td>
<td></td>
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<td>3. Concrete Technology</td>
<td>35.00</td>
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<tr>
<td>3.1. Components</td>
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<tr>
<td>3.2. Mix Design</td>
<td></td>
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<tr>
<td>3.3. Properties of fresh concrete</td>
<td></td>
</tr>
<tr>
<td>3.4. Properties of hardened concrete</td>
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</tbody>
</table>

**TEXT and MATERIALS required to be PURCHASED or ACCESSED:**

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at http://bookshop.usq.edu.au by entering the author or title of the text.


A hand held battery operated calculator which does not have keys for the alphabet.

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.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Directed Study</td>
<td>86</td>
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<tr>
<td>Examinations</td>
<td>3</td>
</tr>
<tr>
<td>Field Trips or Excursions</td>
<td>14</td>
</tr>
<tr>
<td>Lectures</td>
<td>42</td>
</tr>
<tr>
<td>Report Writing</td>
<td>10</td>
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</table>

ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPORT 1</td>
<td>80.00</td>
<td>8.00</td>
<td>Y</td>
<td>23 May 2003</td>
</tr>
<tr>
<td>REPORT 2</td>
<td>220.00</td>
<td>22.00</td>
<td>Y</td>
<td>06 Jun 2003</td>
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<tr>
<td>3 HOUR RESTRICTED EXAMINATION</td>
<td>700.00</td>
<td>70.00</td>
<td>Y</td>
<td>END S1</td>
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</table>

NOTES:

Student Administration will advise students of the dates of their examinations during the semester.
IMPORTANT ASSESSMENT INFORMATION

1 Attendance requirements:
   It is the students' responsibility to attend and participate appropriately in all activities
   (such as lectures, tutorials, laboratories and practical work) scheduled for them,
   and 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 receiving a passing grade a student must achieve at least 45% in
   each of the summative assessments and at least 50% of the available weighted
   marks for the 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 a Restricted Examination, candidates are allowed access to specific materials
   during the examination. The only materials that candidates may use in the restricted
   examination for this course are: writing materials (non-electronic and free from
   material which could give the student an unfair advantage in the examination);
   calculators which cannot hold textual information (students must indicate on their
   examination paper the make and model of any calculator(s) they use during 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/SECARIAT/calendar/Part5/ or in the printed version of 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 produced within five days 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 the temporary grade: IM (Incomplete - Make up). An IM 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).

10 The Faculty of Engineering and Surveying does not offer supplementary examinations.

11 This is a communication benchmark course and a major component of the assessment of this course will be associated with the demonstration of communication skills.