



The University of Southern Queensland

Course specification

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The current and official versions of the course specifications are available on the web at
<<http://www.usq.edu.au/coursespecification/current>>.

Please consult the web for updates that may occur during the year.

Description: Construction Engineering

| Subject | Cat-nbr | Class | Term | Mode | Units | Campus |
|---------|---------|-------|---------|------|-------|-----------|
| CIV | 2605 | 62390 | 1, 2007 | ONC | 1.00 | Toowoomba |

| | |
|-----------------------------------|--------|
| Academic group: | FOENS |
| Academic org: | FOES03 |
| Student contribution band: | 2 |
| ASCED code: | 030901 |

STAFFING

Examiner: Jo Devine

Moderator: Ron Ayers

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

The course objectives define the student learning outcomes for a course. The assessment item(s) that may be used to assess student achievement of an objective are shown in parenthesis. On completion of this course, students should be able to:

1. examine the basic characteristics and use of equipment commonly used in civil engineering and building construction (On Line Discussion Groups, Report 1, Exam);
2. examine commonly used construction techniques of the civil engineering construction industry (On Line Discussion Groups, Report 1, Exam);
3. analyse and apply commonly used planning and control techniques used in civil engineering and building construction (On Line Discussion Groups, Report 1, Exam);
4. evaluate the properties of, and analyse the interaction between, the principal component materials used in the production of concrete (On Line Discussion Groups, Exam);
5. formulate concrete mix designs and plan quality control procedures for production and placement of concrete (On Line Discussion Groups, Exam);
6. distinguish the different characteristics for both fresh and hardened concrete (On Line Discussion Groups, Exam);
7. prepare well-ordered technical site reports (Report 1).

TOPICS

| | Description | Weighting (%) |
|----|--|---------------|
| 1. | Construction Techniques | 40.00 |
| | 1.1. Earth excavation | |
| | 1.2. Construction plant | |
| | 1.3. Rock excavation | |
| | 1.4. Construction methods | |
| | 1.5. Construction site inspections | |
| 2. | Construction Management | 30.00 |
| | 2.1. Project planning | |
| | 2.2. Management of construction projects | |
| 3. | Concrete Technology | 30.00 |
| | 3.1. Components | |
| | 3.2. Mix Design | |
| | 3.3. Properties of fresh and hardened concrete | |

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).

CIV2605 Construction Engineering External Study Package, , USQ Publication, Toowoomba.

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

Standards Australia, Cement and Concrete Association of Australia 2002, *Guide to Concrete Construction*, 2nd edn, , Sydney.

(SAA HB64)

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.

Brand, RE 1975, *Falsework and Access Scaffolds in Tubular Steel*, , McGraw Hill, London.

Bray, RN 1997, *Dredging - A Handbook for Engineers*, 2nd edn, , Edward Arnold, London.

Gregory, CE 1977, *Explosives for Australasian Engineers*, 3rd edn, , University of Queensland Press, St Lucia.

National Association of Australian State Road Authorities 1983, *Explosives in Roadworks - A Users Guide*, , NAASRA, Sydney.

Nunnally, SW *Construction Methods and Management*, 6th edn, , Prentice Hall, New Jersey.
(Bib Id: 0131688073 Shelf)

Peurifoy, RL & Schexnayder, CJ 2006, *Construction Planning, Equipment and Methods*, 7th edn, , McGraw Hill,

Sen, GC 1995, *Blasting Technology for Mining and Civil Engineers*, , University of NSW Press, Sydney.

STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY | HOURS |
|---------------------------|-------|
| Directed Study | 77.00 |
| Examinations | 3.00 |
| Field Trips or Excursions | 8.00 |
| Lectures | 39.00 |
| Online Discussion Groups | 20.00 |
| Report Writing | 8.00 |

ASSESSMENT DETAILS

| Description | Marks out of | Wtg(%) | Due date |
|----------------------------------|--------------|--------|-----------------------------|
| ON LINE DISCUSSION GROUPS | 100.00 | 10.00 | 09 Mar 2007 (see note 1) |
| ASSIGNMENT 1 | 0.00 | 0.00 | 12 Mar 2007 |
| REPORT 1 | 200.00 | 20.00 | 18 May 2007 |
| 2 HOUR RESTRICTED EXAM PART A | 300.00 | 30.00 | END S1 (see note 2) |
| 2 HOUR RESTRICTED EXAM PART B | 400.00 | 40.00 | END S1 |

NOTES

1. Further details about the due dates will be advised by the examiner at the beginning of semester.
2. Student Administration will advise students of the dates of their examinations during the semester.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
Participation in weekly discussions in tutorial session groups. Students are to participate in weekly discussions beginning in Week 3. The topic for discussion will be based on the

- course work. Each student must participate in 75% of the discussions over the course duration to receive a passing mark for this assessment item.
- 2 Requirements for students to complete each assessment item satisfactorily:
To satisfactorily complete an assessment item a student must achieve at least 50% of the marks or a grade of at least C-. Students do not have to satisfactorily complete each assessment item to be awarded a passing grade in this course. Refer to Statement 4 below for the requirements to receive a passing grade in this course.
 - 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 30% in each of the weighted assessment items, achieve at least 45% in the examination and at least 50% of the total weighted marks available for the course.
 - 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/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 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 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).
- 10 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.

OTHER REQUIREMENTS

- 1 Students will require access to e-mail and internet access to USQConnect for this course.
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