The University of Southern Queensland

Course Specification

Description: Construction Engineering						
Subject	Cat-Nbr	Class	Term	Mode	Units	Campus
CIV	2605	10580	1, 2002	EXT	1.00	TWMBA

Academic Group: FOENS
Academic Org: FOES03
HECS Band: 2
ASCED Code: 030901

STAFFING

Examiner: Deb Banda
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

At the conclusion of this course the student 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;
- describe the properties and analyse the interaction between the principal component materials (eg cement, aggregates, admixtures) 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

Description	Weighting (%)
1. CONSTRUCTION TECHNIQUES Earth excavation Construction plant Concrete construction Rock excavation Construction methods Construction site inspections	45.00
2. CONSTRUCTION MANAGEMENT Project planning Management of construction projects	20.00
3. CONCRETE TECHNOLOGY Components Mix Design Properties of fresh concrete Properties of hardened concrete	35.00

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.

SAA HB64 - Standards Australia, Cement and Concrete Association of Australian *Guide to Concrete Construction"*, Sydney, 1995.

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 R E *Falsework and Access Scaffolds in Tubular Steel"*, McGraw Hill, London, 1975.

Bray R N *Dredging - A Handbook for Engineers*, 2nd Edition, Edward Arnold, London, 1997.

Gregory C E *Explosives for Australasian Engineers"*, University of QLD Press, St Lucia, 1977.

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

Nunnally S W *Construction Methods and Management"*, Prentice Hall, New Jersey, 4th Edition. Bib Id: 0131688073 Shelf.

Peurifoy R L, Ledbetter W B, and Schexnayder C V *Construction Planning, Equipment and Methods*, 5th Edition, McGraw Hill, 1996.

Sen G C *Blasting Technology for Mining and Civil Engineers*, UNSW Press, Sydney, 1995.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	128
Examinations	3
Field Trips or Excursions	14
Report Writing	10

ASSESSMENT DETAILS

Description	Marks Out of	Wtg(%)	Required	Due Date
SITE INSPECTION MINOR REPTS (2	80.00	8.00	Y	04 Mar 2002 (see note 1)
SITE INSPECTION MAJOR REPORT	220.00	22.00	Y	04 Mar 2002 (see note 2)
3 HOUR RESTRICTED EXAMINATION	700.00	70.00	Y	END S1 (see note 3)

NOTES:

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

1 In order to successfully complete this course students must : . achieve at least 40% of the maximum possible marks in each assignment, 50% in the exam, and obtain a minimum aggregate 500 marks of the 1000 marks total for the course. Grades above C will only be awarded where students demonstrate an above average standard in the examination.

2 In assessing the site inspection reports (Major and Minor Reports) 50% of the marks shall be allocated to communications.

3 Unless otherwise approved by the examiner, the minor reports shall be based on the students personal observations of sites visited on the day trip organised by USQ, cost of bus hire being met by USQ.

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

5 Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.

6 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.

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 The Faculty of Engineering and Surveying will NOT accept submission of hand written or typed assignments by facsimile, e- mail or computer diskette. Students in remote locations who do not have regular access to postal services may be given special consideration.

9 The penalty for late submission of an assignment, without legitimate reason (eg illness substantiated by a medical certificate) is loss of marks up to limits as follows : (i) up to 1 week late: 20% of marks scored (applied pro rata); (ii) over 1 week late : (a) 40% of marks scored, if (b) does not apply; (b) loss of all marks if feedback to other students may potentially give you an advantage.

10 The examination is in three parts, Part A: Construction Methods, Part B: Construction Management and Part C: Concrete Technology.

11 The end of semester exam is a restricted exam. A hand held battery operated calculator which does not have keys for the alphabet is permitted in the examination.

12 Students must note the make and model of the calculator used on the front of the Answer Book or Examination Paper where applicable. This may be subject to checking by the supervisor.

13 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.

14 For a passing grade, the standard of communication skills demonstrated must meet or exceed a set minimum.

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

16 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.

17 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; IDSM (Incomplete Deferred Examination and Make-up).

Certified Reference Materials (CRMs) are â€˜controlsâ€™ or standards used to check the quality and metrological traceability of products, to validate analytical measurement methods, or for the calibration of instruments. A certified reference material is a particular form of measurement standard. Reference materials are particularly important for analytical chemistry and clinical analysis. Since most analytical instrumentation is comparative, it requires a sample of known composition (reference material) We offer reference materials with highest grade of technical traceability. Each specimen set is delivered together with a certificate, including the measurement uncertainty of the certified parameters and the respective degrees of freedom. Donâ€™t miss this opportunity and perform a systematical proof of the capability of your testing equipment as well as a regular intermediate inspection of your testing method with our reference materials. You will get from us solutions and application examples to complement your management system. Reference materials are reliable quality assurance tools that improve confidence in test results obtained by laboratories. They play a key role in the calibration of laboratory instruments by providing precise reference values and data.Â Reference materials can be ordered directly from the JRC, Geel or from one of the authorised distributors. Check Certified Reference Materials Catalogue for the full catalogue of reference materials, ordering, user support, application noticed and frequently asked questions. European Reference Materials â€” The European Reference Materials or ERM are certified materials for use in the European Union of high quality and reliability. The European Reference Materials are a tool for improving the confidence in, and the mutual recognition of test results â€¦ Wikipedia. Reference values