



The University of Southern Queensland

## Course specification

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: Civil Materials Practice

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CIV	3906	86340	1, 2009	ONC	0.00	Toowoomba

<b>Academic group:</b>	FOENS
<b>Academic org:</b>	FOES03
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	030909

### STAFFING

Examiner: Kathirgamalingam Somasundaraswaran  
Moderator: Ron Ayers

### RATIONALE

Civil engineering personnel work with a range of materials. Some of these materials occur naturally, such as timber, soil and water, and may be used in their natural state. Others occur naturally but must be physically altered by man to produce useful commodities, and examples of these are rubber, aggregate and bitumen. Still others, such as cement and fibre composite material, are produced by chemical and industrial processes and are such that their parent constituents are unrecognisable. It is necessary for the civil engineer to have a detailed understanding of the range of materials available, how materials may be characterised in a way that provides quantifiable material properties that are used in engineering design and construction, how materials are tested to establish their characteristics, and the limitations of these tests. It is also necessary for the civil engineer to be able to present test data in a way that is understood by other professionals, and to be able to interpret test data.

### SYNOPSIS

This course will involve the student in an investigation of the range of materials commonly used in civil engineering. The characterisation of materials and the need for material parameters for design will be considered. The student will test a range of materials in the laboratory to establish material properties. Presentation and interpretation of test results will also form an important part of the course.

### 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. distinguish which characteristics of materials commonly used in engineering are important in civil engineering design and construction; (Report)
2. describe how key characteristics of civil engineering materials are quantified; (Report)

3. plan the test regime used to ascertain design parameters for civil engineering materials; (Report)
4. organise a testing procedure and sequence to obtain parameters for civil engineering design purposes; (Report)
5. analyse test data and present the data and its analysis for use by other engineering personnel; (Report)
6. critically assess data and its analysis presented by other engineering personnel. (Report)

## TOPICS

	Description	Weighting (%)
1.	Materials and their Characteristics	8.00
2.	Safety	8.00
3.	Concrete Testing	17.00
4.	Timber Testing	8.00
5.	Soil Testing	13.00
6.	Aggregate Testing	13.00
7.	Asphalt and Bitumen Testing	17.00
8.	Road Maintenance	8.00
9.	Traffic Studies	8.00

## 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).

*CIV3906 Civil materials practice: external study package*, University of Southern Queensland, Toowoomba.

## 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.

*CIV2402 Soil mechanics or CIV2401 Geomechanics: external study package*, University of Southern Queensland, Toowoomba.

*CIV2605 Construction engineering: external study package*, University of Southern Queensland, Toowoomba.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Case Studies	2.00
Laboratory or Practical Classes	22.00
Report Writing	26.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
REPORT	1.00	100.00	04 Jun 2009

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
  - (i) 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.
  - (ii) Students must attend all sessions to be able to satisfactorily complete the practical work.
- 2 Requirements for students to complete each assessment item satisfactorily:

To complete the practical component satisfactorily, students must submit the nominated practical report and obtain a Pass standard in all of the major sections as described in the assessment scheme.
- 3 Penalties for late submission of required work:

Practical Report submitted after the due date may not be assessed.
- 4 Requirements for student to be awarded a passing grade in the course:

To be assured of receiving a passing grade students must complete all of the practical and other activities at a satisfactory standard, as stated in the course Assessment Scheme.
- 5 Method used to combine assessment results to attain final grade:

As P is the only passing grade available for this course, all students who are qualified for a passing grade, under the requirements in 4 above, will be given a grade of P. Other students will be given either a Failing grade or an Incomplete grade.
- 6 Examination information:

There is no examination in this course.
- 7 Examination period when Deferred/Supplementary examinations will be held:

Not applicable.
- 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 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 Students must wear Type 1 safety boots (steel capped) complying with AS/NZS 2210 standards when participating in laboratory and field works.