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: Soil Science

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
AGR	3304	74371	1, 2008	ONC	1.00	Toowoomba

Academic group: FOENS
Academic org: FOES03
Student contribution band: 2
ASCED code: 010709

STAFFING

Examiner: Steven Raine
Moderator: Rabi Misra

SYNOPSIS

A knowledge of soils as a resource in both natural and agricultural ecosystems is important to science, arts, education and engineering professionals involved in the sustainable management of biological systems. This introductory course focuses on soils as a medium for plant growth and investigates the nature and role of the soil chemical and physical properties, clay mineralogy, and soil biology as limiting factors on soil fertility. It also provides a comprehensive investigation of the processes of soil formation and the methods of soil description and classification. Both the physical and chemical processes of soil degradation are investigated and management practices to prevent, ameliorate and rehabilitate degraded land are discussed.

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, student should be able to:

1. demonstrate an understanding of the processes involved in soil formation and the techniques involved in soil description and classification (Assignment 1, Assignment 2, Exam);
2. demonstrate an understanding of the soil components and the nature of the interactions between these components (Assignment 1, Assignment 2, Exam);
3. demonstrate an understanding of the factors and processes influencing structural stability, water availablility and movement, and temperature fluctuations in soils (Assignment 2, Exam);
4. demonstrate an understanding of the factors and processes influencing fertility and nutrient cycling in soils (Exam);
5. analyse the factors and processes that lead to the degradation of soil resources and explain the management practices used to minimise and rehabilitate degraded soils (Assignment 1, Exam).

TOPICS

	Description	Weighting (%)
1.	Pedogenesis, soil description and classification	15.00
2.	Soil components and interactions	25.00
3.	Soil physical processes (structural stability, soil-water, temperature)	35.00
4.	Soil fertility and plant nutrition	10.00
5.	Degradation and management of soils	15.00

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).

AGR3304 Soil science: external study package, University of Southern Queensland, Toowoomba.

Singer, MJ & Munns, DN 2006, *Soils, an introduction*, 6th edn, Prentice Hall, New Jersey.

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.

Brady, NC & Weil, RR 2002, *The nature and properties of soils*, 13th edn, Prentice Hall, New Jersey.

Charman, P & Murphy, B 2007, *Soils: their properties and management*, 3rd edn, Oxford University Press, South Melbourne.

Isbell, RF 2002, *The Australian soil classification*, 1st edn, CSIRO Publishing, Collingwood.

(revised edition)

Leeper, GW & Uren, NC 1993, *Soil science: an introduction*, 5th edn, Melbourne University Press, Carlton, Victoria.

McDonald, RC, Isbell, RF, Speight, JG, Walker, J & Hopkins, MS 1990, *Australian soil and land survey field handbook*, 2nd edn, Inkata Press, Melbourne.

McKenzie, N, Jacquier, D, Isbell, R & Brown K 2004, *Australian soils and landscapes: an illustrated compendium*, CSIRO Publishing, Collingwood.

McLaren, RG & Cameron, KC 1996, *Soil science: sustainable production and environmental protection*, Oxford University Press, Auckland, NZ.

Young, A & Young, R 2001, *Soils in the Australian landscape*, Oxford University Press, Melbourne.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessments	36.00
Examinations	2.00
Lectures	39.00
Private Study	65.00
Tutorials	13.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	150.00	15.00	03 Apr 2008
ASSIGNMENT 2	250.00	25.00	30 May 2008
2 HOUR CLOSED EXAMINATION	600.00	60.00	END S1 (see note 1)

NOTES

1. 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 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 extenuating circumstances then a penalty of 5% of the assigned mark may apply for each working day late up to a maximum of ten working days at which time a mark of zero can be recorded for that assignment.

4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade in a course a student must obtain at least 50% of the total weighted marks 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 Closed Examination, candidates are allowed to bring only writing and drawing instruments into 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).