



The University of Southern Queensland

Course specification

Description: Natural Products Chemistry

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CHE	3301	44286	2, 2005	ONC	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	2
ASCED code:	010599

STAFFING

Examiner: Ray Marshall

Moderator: Tania van den Ancker

REQUISITES

Pre-requisite: CHE2202

RATIONALE

This course presents material relating to chemical aspects of natural products. The course will familiarise the student with some of the more important classes of natural products.

SYNOPSIS

This course is offered in even years only. This course will cover such topics as natural products and medicinal chemistry. Each topic is viewed from a chemical perspective and may involve such concepts as mechanisms, structural elucidation and structure activity relationships. A compulsory laboratory component has been designed to compliment the theoretical aspects of the course.

OBJECTIVES

On completion of this course students should be able to demonstrate an understanding of the:

1. chemical activity of a variety of natural products;
2. mechanisms by which some natural products work;
3. chemistry used in the identification of natural products;
4. role of metal ions in biological systems;
5. use of inorganic chemistry in medicine;
6. laboratory techniques associated with natural products chemistry.

TOPICS

	Description	Weighting (%)
1.	Elements from the chemistry/mechanisms/identification of natural products Objectives (2-4)	35.00
2.	Bioinorganic chemistry, Objectives (5-6)	35.00
3.	Laboratory The practical classes will be organised in such a manner as to give hands on understanding of several named reactions and other material covered within the course of lectures	30.00

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).

To be advised.

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.

Farrell, NP 1999, *Uses of inorganic chemistry in medicine*, The Royal Society of Chemistry, Cambridge.

Fenton, DE 1999, *Biocoordination Chemistry*, OUP, Oxford.

Herz, W (ed) 1999, *Progress in the Chemistry of Organic Natural Products*, Springer-Verlag, Wien.

(ISBN 3211832645)

Kaim, W & Schwederski, B 1996, *Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life*, Wiley, New York.

Milner, P (ed) 1999, *High Resolution Chromatography*, Oxford University Press, Oxford.

(ISBN 0-199636494)

Patrick, GL 2001, *An Introduction to Medicinal Chemistry*, 2nd edn, Oxford University Press, Oxford.

(ISBN 0-198505337)

Thomson, RH 1993, *The Chemistry of Natural Products*, 2nd edn, Blackie Academic & Professional, London.

Torssell, K 1997, *Natural Product Chemistry*, 2nd edn, Swedish Pharmaceutical Society, Apotekarsocieteten, Stockholm.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	2.00
Laboratory or Practical Classes	32.00
Lectures	26.00
Private Study	60.00
Report Writing	32.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
1.5 HR RESTRICTED TEST	29.00	29.00	19 Jul 2005 (see note 1)
ASSIGNMENT 1 WITH SEMINAR	20.00	20.00	19 Jul 2005 (see note 2)
ASSIGNMENT 2 WITH SEMINAR	20.00	20.00	19 Jul 2005 (see note 3)
ACTIVE SEMINAR PART'P'TION	1.00	1.00	19 Jul 2005 (see note 4)
LAB REPORTS	30.00	30.00	19 Jul 2005 (see note 5)

NOTES

1. Lecturer will advise the date of the restricted test early in the Semester.
2. Assignment 1 is with a Seminar with the date to be determined in consultation with the Lecturer of the course.
3. Assignment 2 is with a Seminar with the date to be determined in consultation with the Lecturer of the course.
4. Dates for Seminars will be advised during the Semester by the Lecturer.
5. Lecturer will advise details of due dates for Lab Reports.

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 satisfactorily the laboratory reports students must score at least 50%. All written reports for practical work must be submitted within one teaching week (normally 7 days) after completion of the experimental work. To complete satisfactorily the restricted test, students must score at least 50%. To complete satisfactorily the assignments with seminars, students must score at least 50%. To complete satisfactorily Assessment 4, students must actively participate in all of the seminars thereby gaining the 1 mark for this item.

- 3 Penalties for late submission of required work:
If students submit assignments after the due date without prior approval then a penalty of 10% 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 a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by satisfactorily completing all summative assessment items (the test, seminars and reports).
- 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 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. With the Examiner's approval, candidates may, take an appropriate non- electronic translation dictionary (but not technical dictionaries) into the examination. This will be subject to perusal and, if it is found to contain annotations or markings that could give the candidate an unfair advantage, it may be removed from the candidate's possession until the appropriate disciplinary action is completed.
- 7 Examination period when Deferred/Supplementary examinations will be held:
Any Supplementary work for this course must be submitted by the end of week 5 of the following semester. Any Deferred examinations for this course will be held at a time suitable to both the student and the course examiner but must occur no later than the end of the next semester's exam period.
- 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

- 9 In order to attend laboratory classes, students must provide and wear appropriate personal protective equipment. This shall include a laboratory coat, closed in shoes, and safety glasses. Such equipment must be approved by supervising staff. Failure to provide and wear the appropriate safety equipment will result in students being excluded from classes.
- 10 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. Students must retain a copy of each item submitted for assessment. If requested by the Examiner, students will be required to provide a copy of assignments submitted for assessment purposes. Such copies should be despatched to USQ within 24 hours of receipt of a request being made. The examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.