



The University of Southern Queensland

## Course specification

This version produced 23 Jun 2008.

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: Organic Chemistry 2

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CHE	3302	66217	2, 2007	ONC	1.00	Toowoomba

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS002
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	010501

## STAFFING

## REQUISITES

Pre-requisite: CHE2202

## RATIONALE

This subject builds upon the work studied in Organic Chemistry 1. Apart from being a vital and exciting part of chemistry, a knowledge of modern organic synthesis is essential for anyone wishing to make new molecules (such as potential anti-cancer drugs, enzyme inhibitors, or neurochemicals).

## SYNOPSIS

This course is offered in even years only. This course is designed to stress the important principles and concepts of reaction mechanisms and organic synthesis. The course will cover reaction mechanisms and the design of organic synthesis including retrosynthetic analysis via the synthon approach. A laboratory component is included to complement the work covered in the theory component. A field trip to an nmr facility may also be included as part of the laboratory component.

## OBJECTIVES

On successful completion of this course students will be able to:

1. demonstrate an understanding of reaction mechanisms;
2. design advanced synthetic organic reactions;
3. use the technique of retrosynthetic analysis and the synthon approach in rational chemical design;
4. utilise their practical experience in synthetic organic chemistry.

## TOPICS

	Description	Weighting (%)
1.	Named synthetic reactions, mechanisms and their role in modern organic synthesis.	25.00
2.	Retrosynthetic analysis of a variety of functional groups. Functional group interconversions and chemical equivalent compounds. The rational design of synthesis based on retrosynthetic analysis will also be covered.	50.00
3.	Laboratory The practical classes will give a hands on understanding of several named reactions and other material covered in the lectures.	25.00

## 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).

McMurry, J 2004, *Organic Chemistry*, 6th edn, Brooks/Cole Publishing, Pacific Grove.

McMurry, J 2004, *Study guide and solutions manual for Organic Chemistry*, 6th edn, Brooks/Cole Publishing, Pacific Grove.

Warren, S G 1978, *Designing Organic Syntheses: a programmed introduction to the synthon approach*, Wiley, New York.

## 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.

Coates, R M (ed) 1999, *Handbook of reagents for organic synthesis*, Wiley & Sons, Chichester, NY, Vol 1-4.

(ISBN 0471979244)

Smith, M 2001, *March's advanced organic chemistry*, J Wiley, New York.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	4.00
Laboratory or Practical Classes	32.00
Lectures	26.00
Private Study	70.00
Report Writing	30.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
IN CLASS ASSIGNMENTS	25.00	25.00	19 Jul 2006 (see note 1)
LAB REPORTS	25.00	25.00	19 Jul 2006 (see note 2)
2 HR RESTRICTED EXAM	50.00	50.00	END S2 (see note 3)

### NOTES

1. Lecturer will advise of the dates.
2. Lecturer to advise due dates of the laboratory reports.
3. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

## 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 the practical reports satisfactorily, students must submit reports for correction no later than one teaching week (normally 7 days) after the completion of the experimental work. To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment 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 receiving a passing grade a student must achieve 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 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 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. 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.