USC

Course Outline

Code: CHM311
Title: Medicinal Organic Chemistry

School of: Science & Engineering
Teaching Session: Semester 2
Year: 2019
Course Coordinator: Dr Peter Brooks Tel: (07) 5430 2828 Email: pbrooks@usc.edu.au
Course Moderator: Dr Neil Tindale

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1 Description

Medicinal Organic Chemistry extends the concepts covered in CHM202 Organic Chemistry. The course includes biological stereochemistry, reactions of heteroaromatics, advanced analytical and spectroscopic techniques, organic photochemistry, pericyclic reactions and the retro-synthesis approach to target compounds. There will be special emphasis on examples relevant to the Graduate Medical Schools Admission Test. By the end of this course, you will have an advanced knowledge of organic reactions and designing of organic syntheses.

1.2 Course topics

The course covers advanced level organic chemistry mechanisms, reactivity and synthetic strategies, including concerted reactions and biologically significant molecules. The practical component utilises examples drawn from the theory component.

2. What level is this course?

300 level Graduate - Independent application of graduate knowledge and skills. Meets AQF and professional requirements. May require pre-requisites and developing level knowledge/skills. Normally taken in the 3rd or 4th year of an undergraduate program

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

Specific Learning Outcomes On successful completion of this course you should be able to:	**Assessment Tasks** You will be assessed on the learning outcome in task/s:	**Graduate Qualities or Professional Standards mapping** Completing these tasks successfully will contribute to you becoming:
Plan and conduct laboratory experiments	Task 1, Practical reports	Empowered.
Apply and explain mechanisms and reactions in Organic Chemistry	Task 2 Mid Semester exam Task 3. Final Exam	Knowledgeable.

5. Am I eligible to enrol in this course?

Refer to the USC Glossary of terms for definitions of "pre-requisites, co-requisites and anti-requisites".

5.1 Enrolment restrictions

Nil

5.2 Pre-requisites

CHM202

5.3 Co-requisites

Nil

5.4 Anti-requisites

Nil

5.5 Specific assumed prior knowledge and skills (where applicable)

You must have an introductory knowledge of Organic Chemistry

6. How am I going to be assessed?

6.1 Grading scale

Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

6.2 Details of early feedback on progress

In week 4, your tutorial participation and progress with understanding the chemical concepts will be informally assessed, and the opportunity given for student feedback.

6.3 Assessment tasks

Task No.	**Assessment Tasks**	**Individual or Group**	**Weighting %**	**What is the duration / length?**	**When should I submit?**	**Where should I submit it?**
1	Four laboratory reports	Individual	35	Four times 800 words	One week after completing the practical	To the coordinator
2	Mid semester exam	Individual	25	1 hour	Either week 7 or 8	In class
3	Final exam	Individual	40	2 hours	Central examination period	Exam venue
			100%			

Assessment Task 1: Laboratory reports

Goal:	Laboratory skills are an essential of organic chemistry. The laboratory classes develop practical skills in planning and conducting experiments safely. Report writing is extended.
Product:	Four 800 word written reports submitted to Blackboard Assignment
Format:	Standard Scientific Report Title, Abstract, Experimental Procedure, Discussion, References
Criteria:	Demonstration of good laboratory technique assessed by the laboratory supervisor, clear and concise scientific communication in the report.

Assessment Task 2: Mid semester exam

Goal:	This exam will focus on theory and mechanism of organic reactions
Product:	1 hour written exam
Format:	Individual written exam covering the first half of semester's work
Criteria:	Correctly answering the questions on organic reactions and mechanisms

Assessment Task 3: Final exam

Goal:	Demonstrate and apply knowledge of organic mechanisms and reactions
Product:	Written 2 hour exam
Format:	Individual examination during central exam period
Criteria:	Correctly answering questions on organic mechanisms and reactivity

7. What are the course activities?

7.1 Directed study hours

The directed study hours listed here are a portion of the workload for this course. A 12 unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

Location: Specific Campus(es) or online:	**Directed study hours for location:**
USC Sunshine Coast	A two hour lecture each week, a one hour tutorial each fortnight and a three hour practical (Laboratory) each fortnight

7.2 Course content

Week # / Module #	**What key concepts/content will I learn?**
1	Mechanisms explained
2	Retrosynthesis strategies
3	Photochemistry
4-7	Electrocyclic reactions
8	Stereochemistry
9-10	Heteroaromatics
11-12	Analytical & Spectroscopy techniques
13	Revision

Please note - course content is subject to variation.

8. What resources do I need to undertake this course?

Please note that course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site. Please log in as soon as possible.

8.1 Prescribed text(s)

Please note that you need to have regular access to the resource(s) listed below as they are required:

Author	Year	Title	Publisher
Bruice, Paula Yurkanis	2017	Organic Chemistry	Pearson

8.2 Specific requirements

Safety glasses, laboratory coat and covered shoes must be brought to laboratory classes

9. Risk management

Health and safety risks for this course have been assessed as low. Students that suffer asthma or may be pregnant should contact the course coordinator to discuss laboratory classes before enrolling.

It is your responsibility as a student to review course material, search online, discuss with lecturers and peers, and understand the health and safety risks associated with your specific course of study. It is also your responsibility to familiarise yourself with the University's general health and safety principles by reviewing the online Health Safety and Wellbeing training module for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1 Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2 Assessment: Additional requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

a) The final mark is in the percentage range 47% to 49.4%
b) The course is graded using the Standard Grading scale
c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.
To request an extension, you must contact your Course Coordinator and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to Student Hub.

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:
http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.6 General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC South Bank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast -** Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture -** Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890
Email: studentcentral@usc.edu.au