

610-332 Bio-organic Chemistry

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Lectures
Time Commitment:	Contact Hours: 36 lectures (3 per week for 12 weeks) Total Time Commitment: 120 hours total time commitment.
Prerequisites:	Either at least one of the following: # 610-220 (prior to 2009) # 610-221 (prior to 2009) or # 25 points of second year level biochemistry subjects.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
Coordinator:	Dr Spencer Williams
Subject Overview:	<p>Upon completion of <i>Bio-organic Chemistry</i>, students should have developed an understanding of the principal modes of terpenoid biosynthesis operating in living organisms, the organic chemistry that underpins the pathways of primary metabolism, the chemistry of two major biological polymers (proteins and carbohydrates), and modern methods of chemical biology. Students should also develop interdisciplinary skills and an understanding of the philosophical methodological bases of research activity.</p> <p>Students should also appreciate the importance of rational, critical and independent thought in chemical and biological science and in the understanding of organic chemistry.</p> <p>The subject will cover the following topics. Natural products (12 lectures): the conception, establishment and application of biosynthetic theories as they apply to steroids, terpenoids and carotenoids; Metabolism (12 lectures): a mechanistic, chemical and stereochemical treatment of primary metabolism; Vitamins (for example, thiamine, pantothenic acid, lipoic acid) and their role as components of co-enzymes in metabolism; Biological polymers and chemical biology (12 lectures): peptide and protein chemistry; chemoselective ligations in chemical biology; carbohydrate structure and synthesis; and biological information storage.</p>
Objectives:	.
Assessment:	Optional written assignments not exceeding six pages due during the semester (20%); a 3-hour written examination in the examination period (80%). If a student does not hand in the assignment(s) the examination mark will constitute the entirety (or part thereof) of the final assessment.
Prescribed Texts:	J McMurry, Organic Chemistry 6th edn, Brooks/Cole 2006
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses:

	<p># Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09)</p> <p># Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04)</p> <p># Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04)</p> <p># Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)</p> <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject.
Related Course(s):	Bachelor of Biomedical Science
Related Majors/Minors/ Specialisations:	Biotechnology