

411-452 Biomolecular Engineering Design Project

Credit Points:	18.75
Level:	4 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus. A self-learning engineering design project, conducted as a team, aided by lectures and consultation sessions.
Time Commitment:	Contact Hours: Fifty-four hours (18 hours of lectures and 36 hours of consultation sessions). Total Time Commitment: Estimated non-contact time commitment of 144 hours.
Prerequisites:	411-392 Fermentation Process Principles; 411-391 Bionanoengineering; 411-343 Chemical Engineering Management; 411-303 Reactor Engineering; 411-204 Chemical Engineering Thermodynamics; 411-336 Process Dynamics and Control; 411-337 Practical and Computer Laboratory; 411 441 Heat and Mass Transport Processes 2; 411-442 Process Equipment Design; 411-445 Process Engineering 3
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	<p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p>
Coordinator:	Assoc Prof Sandra Kentish
Subject Overview:	<p>This unit requires the students to undertake a major design task utilising the knowledge gained throughout the Biomolecular Engineering course. This comprises the following tasks: design of a process to meet a specified requirements; feasibility study of alternative processes which meet the specification; determination of sequence for investigation of a Biomolecular Engineering manufacturing project and preparation of a report; preparation of flow sheets; confirmation of effects of market forecast; economic evaluation; preparation of estimates for the specification of instrumentation location, staff and labour requirements and safety precautions. There will be a series of lectures on various aspects of design.</p> <p>The objectives are to allow students to learn the skills necessary to complete a Biomolecular Engineering feasibility study and to carry out the integrated process and equipment design for an industrial Biomolecular Engineering process. they will be presented with an initially poorly-defined task for which much of the design data is not available. In completing the design they will apply most of the skills learned in their course and will learn to function as a part of a team and manage their time effectively.</p>
Objectives:	<p>On completion of this subject students should be able to:</p> <ul style="list-style-type: none"> # apply the skills necessary to complete a biomolecular engineering feasibility study and # carry out the integrated process and equipment design for an industrial chemical and/or biochemical process, which is an initially poorly-defined task for which much of the design data is not available. In completing the design they will apply most of the skills learned earlier in their course. # function as part of a team and manage their time effectively.

Assessment:	A technical report of up to approximately 20,000 words with computations and diagrams.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>The subject will enhance the following generic skills:</p> <ul style="list-style-type: none"># The ability to undertake problem identification, formulation and solution.# The ability to function effectively as a team member.# Capacity for independent thought.# The ability to communicate effectively orally and in writing.# The ability to plan work and use time effectively.
Related Course(s):	Bachelor of Engineering (Chemical and Biomolecular Engineering)