CHEN30015 Process Engineering Case Studies

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	This subject is not offered in 2013.
Time Commitment:	Contact Hours: 1 x two hour lecture + 1 x three hour workshop per week Total Time Commitment: Estimated 120 hours
Prerequisites:	Students must have completed the following subjects prior to enrolling in this subject:

Subject	Study Period Commencement:	Credit Points:
CHEN30005 Heat and Mass Transport Processes	Not offered 2013	12.50
CHEN30001 Reactor Engineering	Not offered 2013	12.50

(Prior to 2010 CHEN40003 Reactor Engineering)

Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	CHEN90017 Process Engineering Case Studies
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry.The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Contact:	Email: **daltonh@unimelb.edu.au (mailto:daltonh@unimelb.edu.au)**
Subject Overview:	This subject is intended to be a capstone subject for the chemical systems major. It will bring together the knowledge that has been gained in other chemical systems subjects to provide the student with an overview of chemical and biomolecular engineering practice. The subject will include a number of presentations by chemical and biomolecular engineers working in industry. The following technical topics will be addressed through these lectures and a sequence of problem solving exercises: # Development and application of selection criteria for making appropriate engineering decisions # Safety, including HAZOP and Quantitative Risk Assessment techniques # Sustainable engineering, including Life Cycle Analysis, Environmental Impact Assessment and heat integration techniques # Technical report writing # Methods for effectively working in teams
Objectives:	On completion of this subject students should be able to: # Approach and solve basic open-ended design problems in process engineering # Be able to apply fundamental principals learnt in other subjects to real-world engineering problems # Understand what is required for effective engineering safety management # Appreciate the practical issues surrounding sustainable engineering # Identify the context within which engineers operate

	# Understand the variety of career paths open to graduate engineers. The learning objectives of this subject are: # Ability to apply knowledge of basic science and fundamental engineering skills to real-world problems # Ability to communicate effectively, not only with engineers but also with the community at large # Ability to undertake problem identification, formulation and solution # Ability to function effectively as an individual and in (multi-cultural) teams # Understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development.
Assessment:	Two minor assignments, completed individually, each worth 10% and approximately 700 words in length, both to be completed within the first half of semester (20%) Sevein in-class assignments, completed in groups (about 100 words each pro rata), each to be completed within 3 hours and worth in total 50%, spaced evenly thoughout the semester from weeks 1 to 12 (50%) Two major assignments, completed in groups, each worth about 15% and approximately 1000 words in length (pro rata), both to be completed within the second half of semester (30%) Please note: Word limits do not include appendices, diagrams, tables, computations or computer output Word limits will be applied pro rata for assignments conducted in groups
Prescribed Texts:	None
Recommended 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:	# Ability to apply knowledge of basic science and engineering fundamentals # Ability to communicate effectively, not only with engineers but also with the community at large # Ability to undertake problem identification, formulation and solution # Ability to utilise a systems approach to design and operational performance # Ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member # Understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development
Related Majors/Minors/ Specialisations:	B-ENG Chemical Engineering stream B-ENG Chemical and Biomolecular Engineering stream Chemical Systems Master of Engineering (Biomolecular) Master of Engineering (Chemical) Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.