CHEN90017 Process Engineering Case Studies

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 1 x one hour lecture + 1 x three hour workshop per week Total Time Commitment: Estimated 120 hours
Prerequisites:	Students must have taken the following subjects prior to enrolling in this subject:

Subject	Study Period Commencement:	Credit Points:
CHEN30005 Heat and Mass Transport Processes	Semester 1	12.50
CHEN30001 Reactor Engineering	Semester 1	12.50
CHEN90020 Chemical Engineering Management	Semester 1	12.50

Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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/
Coordinator:	Dr Dalton Harvie
Contact:	Email: **daltonh@unimelb.edu.au (mailto:daltonh@unimelb.edu.au)**
Subject Overview:	This subject is intended to provide opportunities for advanced project work in process engineering. Material taught in other chemical engineering subjects will be reinforced by a series of assignments in which ill-defined and open-ended process engineering problems will be tackled. This subject will include the following topics: # Practice in the development and application of selection criteria for making appropriate engineering decisions; # Extended development of process simulation techniques; # Heat and power integration; # Safety, including HAZOP and quantitative risk assessment techniques; # Sustainable engineering; # Environmental Impact Assessment; # Technical report writing.
Objectives:	On completion of this subject students should be able to: # Solve open-ended design problems in process engineering; # Use pinch analysis and energy analysis techniques to minimise plantwide energy consumption; # Use simulation tools to design complex chemical plant flowsheets.

Assessment:	Two essays, each worth 10% and of no more than 700 words in length: seven in-class assignments, each to be completed within 3 hours and worth in total 50%: Two major assignments, each worth 15% and of no more than 1000 words in length. Word limits do not include appendices, diagrams, tables, computations or computer output. Assignments are due throughout the semester from weeks 1 to 12.
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:	# 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 Master of Engineering (Biomolecular) Master of Engineering (Chemical)