CHEN90017 Process Engineering Case Studies

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours Total Time Commitment: Estimated 120 hours
Prerequisites:	# 411-303 Reactor Engineering # 411-641 Heat and Mass Transport Processes # 411-643 Chemical Engineering Management
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/
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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 relief systems design and quantitative risk assessment, # Troubleshooting # Sustainable development
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 # Design a relief valve system for a small chemical facility.
Assessment:	A series of assignments, variously weighted, spread across the semester each involving a written report of up to 5, 000 words, not including appendices, diagrams, tables, computations and computer output.
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 Course(s):	Bachelor of Engineering