411-445 Process Engineering 3

Credit Points:	12.50
Level:	4 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: Forty-eight hours comprising 12 hours of lectures and 36 hours of problem-solving classes Total Time Commitment: Not available
Prerequisites:	411-331 Heat and Mass Transport Processes 1, 411-303 Reactor Engineering, 411-393 - Bioprocess Engineering , 411-336 Process Dynamics and Control and 411-337 Practical and Computer Laboratory,
Corequisites:	CHEN30013/CHEN40006 Chemical Engineering Management
Recommended Background Knowledge:	-
Non Allowed Subjects:	-
Core Participation Requirements:	-
Coordinator:	Mr John Lloyd Provis
Contact:	-
Subject Overview:	Students completing this subject will develop experience in critical thinking by tackling ill-defined engineering tasks as well as organising and prioritising tasks to meet deadlines. Their analytical and written communication skills will be enhanced. They will gain an appreciation of the tools and resources used in the design of process plants. Their understanding of issues relating to project management and plant safety will be deepened. Content: Practise in conducting chemical plant feasibility and design studies through a series of assignments in the following areas: process plant economic analysis, sensitivity of economics to external influences, consideration of political, environmental and other effects on project viability. Integrated process design of chemical plants including the necessary documentation and the consideration of control strategy for safe operation. Discussion of the various tools and resources available for design of chemical plants. Issues relating to project and safety management.
Objectives:	On completion of this subject, students should be able to understand the steps involved in designing a chemical processing facility, and to competently undertake many aspects of the design process. This will include both technical and non-technical aspects, in particular the need for such a facility to operate safely and economically.
Assessment:	Twelve variously weighted written assignments spread across the semester; many are completed within the subject's weekly 3-hour class sessions.
Prescribed Texts:	-
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 analyse and utilise a variety of information sources

	# ability to communicate effectively, not only with engineers but also with the community at large # 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 (Chemical Engineering) Bachelor of Engineering (Chemical and Biomolecular Engineering) Bachelor of Engineering (Chemical) and Bachelor of Science Bachelor of Engineering(Biochemical Engineering)and Bachelor of Science