

411-442 Process Equipment Design

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: 36 hours of lectures and 12 hours of tutorials Total Time Commitment: Not available
Prerequisites:	431-202 Engineering Analysis B or equivalent, 411-203 Fluid Mechanics; 411-331 Heat and Mass Transport Processes 1
Corequisites:	CHEN40004 - Heat and Mass Transport Processes 2
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 George Vincent Franks
Subject Overview:	Design of fluid storage and transfer equipment; pressure and non-pressure vessels, pumps and compressors, nozzles, piping, valves. Design of other operational units commonly used in chemical plants; heat exchangers, solid handling devices, fluid processing units. Hydraulic aspects of plate distillation column, packed columns, fluidised beds. Safety and integrity of equipment; safe working stress. Design standards and codes of practice. Flow sheets, plant layout; equipment, piping and site layouts
Objectives:	On completion of this subject students should be able to display an understanding of the principles of process equipment design, the mechanical aspects of the design and operation of process equipment, including safety considerations. Students will have completed detailed designs of several unit operations. Students should be able to develop process flow sheets and lay outs equipment and pipelines in chemical process plants.
Assessment:	One written 3-hour end-of-semester examination (50%); one assignment due in three or more parts during semester (50%). Students must pass both components of assessment in order to pass the subject.
Prescribed Texts:	None
Recommended Texts:	Information Not Available
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 # in-depth technical competence in at least one engineering discipline # ability to undertake problem identification, formulation and solution
Related Course(s):	Bachelor of Engineering (Chemical Engineering) Bachelor of Engineering (Chemical and Biomolecular Engineering) Bachelor of Engineering (Chemical) and Bachelor of Arts Bachelor of Engineering (Chemical) and Bachelor of Commerce Bachelor of Engineering (Chemical) and Bachelor of Laws Bachelor of Engineering (Chemical) and Bachelor of Science Bachelor of Engineering (EngineeringManagement) Chemical Bachelor of Engineering(Biochemical Engineering)and Bachelor of Science