CHEN90012 Process Equipment Design

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 x one hour lectures + 1 x one hour tutorial per week Total Time Commitment: Estimated 120 hours
Prerequisites:	ONE of: **Subject** / **Study Period Commencement:** / **Credit Points:** ENGR10004 Engineering Systems Design 1 — Semester 1, Semester 2 — 12.50 ENGR90021 Engineering Communication — Semester 1, Semester 2 — 12.50 PLUS BOTH of: **Subject** / **Study Period Commencement:** / **Credit Points:** ENGR30001 Fluid Mechanics & Thermodynamics — Semester 1, Semester 2 — 12.50 CHEN30005 Heat and Mass Transport Processes — 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:	Prof George Franks
Contact:	Email: **gvfranks@unimelb.edu.au (mailto:gvfranks@unimelb.edu.au)**
Subject Overview:	Application to the design of chemical equipment. 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 (40%); One assignment due in three or more parts during semester (60%). Students must pass both components of assessment in order to

	pass the subject.A mark of 40% or more in the end of semester examination is required to pass the subject.
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
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
Related Majors/Minors/ Specialisations:	B-ENG Chemical Engineering stream B-ENG Chemical and Biomolecular Engineering stream Master of Engineering (Biomolecular) Master of Engineering (Chemical)