

421-305 Engineering Hydraulics 1

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: Thirty-three hours of lectures, eleven hours of tutorials and four hours of laboratory. Total Time Commitment: Not available
Prerequisites:	421-103 Engineering Statics
Corequisites:	None
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:	Roger Hughes
Subject Overview:	<p>At the conclusion of this subject students should have acquired an appreciation of problems involving fluids at rest and in motion and have developed a sound understanding of engineering hydraulics as applied to environmental and civil engineering situations.</p> <p>Topics covered include fluid statics and kinematics of fluid motion; Bernoulli's equation, application of physical laws in solving flow problems via control volumes (involving the conservation equations of mass and momentum, the energy equation); dynamic similitude, dimensional analysis and physical scale modelling; flow in pipes, rotordynamic pumps, simple pipeline systems, pressure surges in pipes, discharge measurements in pipes; and flow past immersed bodies (introduction to boundary layer theory, lift and drag on immersed bodies).</p>
Assessment:	One written examination of 3-hour duration at the conclusion of the subject (85%) and one formal report on a 1-hour long experiment (15%) in the second half of the semester.
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:	<ul style="list-style-type: none"> # ability to apply knowledge of basic science and engineering fundamentals # ability to undertake problem identification, formulation and solution # capacity for independent critical thought, rational inquiry and self-directed learning # openness to new ideas and unconventional critiques of received wisdom
Related Course(s):	Bachelor of Engineering (Civil Engineering) Bachelor of Engineering (Civil) and Bachelor of Arts

Bachelor of Engineering (Civil) and Bachelor of Commerce
Bachelor of Engineering (Civil) and Bachelor of Laws
Bachelor of Engineering (Civil) and Bachelor of Science
Bachelor of Engineering (EngineeringManagement) Civil
Bachelor of Engineering (EngineeringManagement) Environmental
Bachelor of Engineering (Environmental Engineering)
Bachelor of Engineering (Environmental) and Bachelor of Arts
Bachelor of Engineering (Environmental) and Bachelor of Commerce
Bachelor of Engineering (Environmental) and Bachelor of Laws
Bachelor of Engineering (Environmental) and Bachelor of Science