421-306 Geotechnical Engineering

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: Thirty hours of lectures, eighteen hours of tutorials and problem solving sessions. Total Time Commitment: Not available
Prerequisites:	421-209 Geomechanics 1
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 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. 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
Coordinator:	Dr Sam Yuen
Contact:	Dr Samuel Yuen Department of Civil & Environmental Engineering Phone: +61 3 8344 6716 Email: s.yuen@civenv.unimelb.edu.au
Subject Overview:	Students completing this unit should understand how to make simplifications to complex soil conditions, how to establish strength/deformation characteristics of the soil and how to apply fundamental geomechanics knowledge learned in earlier units to solve problems involving the stability of an earth mass. Topics covered include design of earth retaining structures; stability of slopes, seepage analysis, settlement and bearing capacity of shallow footings; site investigation and limit state design in geotechnical engineering.
Objectives:	Students completing this unit should understand # how to make simplifications to complex soil conditions, # how to establish strength/deformation characteristics of the soil and # how to apply fundamental Geomechanics knowledge learned in earlier units to solve problems involving the stability of an earth mass.
Assessment:	One 3-hour end of semester written examination (60%), together with three assignments of 2000 words each due throughout the semester (40%). A grade of 40% out of the 60% written examination must be attained in order 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
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 # in-depth technical competence in at least one engineering discipline # 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 # expectation of the need to undertake lifelong learning, capacity to do so # capacity for independent critical thought, rational inquiry and self-directed learning # intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity
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