

ENGR10004 Engineering Systems Design 1

Credit Points:	12.50
Level:	1 (Undergraduate)
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 x one hour lectures + 1 x three hour workshop per week Total Time Commitment: Estimated 120 hours
Prerequisites:	A mark of at least 25 in VCE Math Methods or equivalent OR Admission into the Bachelor of Science
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:	Dr Gavin Buskes
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Subject Overview:	Engineering Systems Design 1 introduces students to the world of engineering through a mix of design projects, interactive workshops and lectures. This subject centres on the engineering method, the approach to problem solving and engineering design that makes engineers unique. The subject will prepare students for an exciting and rigorous engineering education that will allow them to serve an increasingly complex society.
Objectives:	At the completion of this subject students should be able to: <ul style="list-style-type: none"> # Explain the importance of engineers and engineering in society # Discuss the differences between the key engineering disciplines # Explain the importance and principles of sustainable development and safety # Identify problems and formulate solution strategies # Describe how engineers use mathematical models to approximate behaviour of a design # Use models to evaluate trade offs between alternative designs # Write MATLAB programs to perform a variety of simple tasks
Assessment:	Subject journal (10%) 3 team-based team projects due throughout the semester (30% in total) A written 3 hour end of semester examination (60%) Students must pass the end of semester examination to pass the subject

Prescribed Texts:	Introduction to Engineering: Modeling and Problem Solving, Jay B. Brockman, Wiley, 2009.
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2012/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2012/B-COM) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2012/B-MUS) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>At the completion of this subject students should have developed their:</p> <ul style="list-style-type: none"> # Problem solving and analytical skills # Capacity to tackle unfamiliar problems # Communication skills through written and oral presentations # Ability to plan work and be efficient in time management # Hands-on skills through practical projects # Sense of intellectual curiosity # Appreciation of different learning styles # Ability to work effectively in a team environment
Notes:	Students enrolled in the BSc (new degree only) will receive science credit for the completion of this subject.
Related Course(s):	Bachelor of Engineering
Related Majors/Minors/Specialisations:	B-ENG Chemical Engineering stream B-ENG Chemical and Biomolecular Engineering stream B-ENG Civil Engineering stream B-ENG Electrical Engineering stream B-ENG Mechanical Engineering stream B-ENG Software Engineering stream Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.
Related Breadth Track(s):	Chemical Engineering