

## MCEN40018 Control Systems 2

<b>Credit Points:</b>	12.50
<b>Level:</b>	4 (Undergraduate)
<b>Dates &amp; Locations:</b>	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. On campus only
<b>Time Commitment:</b>	Contact Hours: Thirty-six hours of lectures and 12 hours tutorials Total Time Commitment: 120 hours
<b>Prerequisites:</b>	The prerequisite for this subject is <b>436-382 Control Systems 1 (/view/2010/436-382)</b> .
<b>Corequisites:</b>	N/A
<b>Recommended Background Knowledge:</b>	Information not available
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	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: <a href="http://www.services.unimelb.edu.au/disability">http://www.services.unimelb.edu.au/disability</a>
<b>Coordinator:</b>	Assoc Prof Chris Manzie
<b>Contact:</b>	<a href="mailto:manziec@unimelb.edu.au">manziec@unimelb.edu.au</a> ( <a href="mailto:manziec@unimelb.edu.au">mailto:manziec@unimelb.edu.au</a> )
<b>Subject Overview:</b>	Upon completion students should understand the concepts of linearisation, and state-space control and estimation, be able to obtain state-space realisations of systems in several canonical forms and assess stability, controllability and observability; be able to design a state feedback control law and a state estimator to achieve desired closed looped-response; understand the effects of sampling rates and quantisation, be able to design simple digital controllers to single-output systems using classical and state space-methods; understand how to implement continuous and discrete controllers in the real world; be familiar with case studies or real world controller-design problems, and be able perform least squares identification on linear systems.
<b>Objectives:</b>	No information
<b>Assessment:</b>	Two 1-hour mid-semester tests (7.5% each); Two group assignments, each up to 8000 words (10% each) due throughout the semester; One end-of-semester 3-hour examination (65%).
<b>Prescribed Texts:</b>	None
<b>Recommended Texts:</b>	Franklin Powell and Emain-Naeni, Feedback Control of Dynamical Systems.
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	# 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

	<ul style="list-style-type: none"><li># Ability to undertake problem identification, formulation and solution</li><li># Capacity for independent critical thought, rational inquiry and self-directed learning</li></ul>
<b>Notes:</b>	MCEN40018 Control Systems 2 was formerly 436-470 Control Systems 2.
<b>Related Course(s):</b>	Bachelor of Engineering (Mechanical & Manufacturing) and Bachelor of Arts Bachelor of Engineering (Mechanical & Manufacturing) & Bachelor of Science Bachelor of Engineering (Mechanical & Manufacturing) / Bachelor of Commerce Bachelor of Engineering (Mechanical and Manufacturing Engineering) Bachelor of Engineering (Mechatronics) and Bachelor of Computer Science Bachelor of Engineering (Mechanical & Manufacturing) and Bachelor of Laws