

MCEN90017 Advanced Motion Control

Credit Points:	12.50						
Level:	9 (Graduate/Postgraduate)						
Dates & Locations:	This subject is not offered in 2011.						
Time Commitment:	Contact Hours: 36 hours lectures, 18 hours of tutorials and project classes Total Time Commitment: 120 hours						
Prerequisites:	N/A <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ELEN90055 Control Systems</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ELEN90055 Control Systems	Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:					
ELEN90055 Control Systems	Semester 1	12.50					
Corequisites:	N/A						
Recommended Background Knowledge:	N/A						
Non Allowed Subjects:	N/A						
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						
Contact:	manziec@unimelb.edu.au (mailto:manziec@unimelb.edu.au)						
Subject Overview:	This subject is concerned with applications of control theory in a variety of complex automated systems. On completion, students should have sufficient knowledge and understanding to make effective use of the relevant research literature, have gained practical experience in the design and implementation of advanced control systems using state-of-the-art development tools, and be familiar with a number of industrial applications. Advanced control topics will be selected from friction modelling and compensation, linear quadratic optimal control and estimation, loop shaping methods, model predictive control, nonlinear control, and fuzzy/neural systems. Applications will be drawn from industrial, medical and transport automation (eg., robots, machine tools, production machines, laboratory automation, automotive and aerospace by-wire systems).						
Objectives:	Upon completion of this subject, students should be able to - <ul style="list-style-type: none"> • apply control theory in complex automated systems drawn from industrial, medical and transport automation • design and implement advanced control systems using state-of-the-art development tools 						
Assessment:	One 2-hour end of semester examination (50%) and three assignments of up to 5000 2500 words each (50%) due in weeks 4, 8 and 12 of the semester						
Prescribed Texts:	TBA						
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 communicate effectively, with the engineering team and the community at large • Capacity for creativity and innovation • Ability to function effectively as an individual, in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member • Capacity for lifelong learning and professional development 						

**Related Majors/Minors/
Specialisations:**

Master of Engineering (Mechatronics)