

ELEN90017 Topics in Instrumentation

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: Up to 36 hours of lectures Total Time Commitment: 200 hours
Prerequisites:	Enrolment in a research higher degree (Masters or PhD) in Engineering.
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:	Assoc Prof Marcus Brazil
Contact:	Email: elen-subjectenquiry@unimelb.edu.au (mailto:elen-subjectenquiry@unimelb.edu.au)
Subject Overview:	<p>AIMS</p> <p>This subject is intended to give students a rigorous introduction to measurement devices and instruments, including analogue, digital and optical devices, as well as embedded systems.</p> <p>INDICATIVE CONTENT</p> <p>The course content will include a selection of topics from:</p> <ul style="list-style-type: none"> # principles and limitations of electrical instruments (analogue and digital) # principles and limitations of optical instruments; # embedded systems
Learning Outcomes:	<p>INTENDED LEARNING OUTCOMES (ILO)</p> <p>On completion of this subject, the student should have:</p> <ol style="list-style-type: none"> 1 An understanding of the underlying principles of a range of measurement devices 2 A knowledge of how such devices are used within engineering systems
Assessment:	The assessment will consist of: Continuous assessment, consisting of written homework assignments and/or project work or presentations, to be completed during the semester and not exceeding 30 pages in total (approximately 55-60 hours of work), worth 40%; A written examination, not exceeding 3 hours, at the end of semester, worth 60%. Intended Learning Outcomes (ILOs) 1 and 2 are assessed in the final written examination, and continuous assessments.
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 # 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 # 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 # Openness to new ideas and unconventional critiques of received wisdom # Profound respect for truth and intellectual integrity, and for the ethics of scholarship.
Notes:	<p>LEARNING AND TEACHING METHODS</p> <p>This subject is delivered through lectures and homework assignments.</p> <p>INDICATIVE KEY LEARNING RESOURCES</p> <p>Students are provided with lecture notes, including worked examples, assignment problems, and recommended reading lists comprising textbooks and journal articles.</p> <p>CAREERS / INDUSTRY LINKS</p> <p>Exposure to research literature and the rigour expected at the level of postgraduate study.</p>
Related Course(s):	Master of Philosophy - Engineering Ph.D.- Engineering