ELEN90031 Advanced Topics in Communications

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 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:	**AIMS** The subject will cover some important fundamentals of communications and network theory, and the way these fundamentals are applied in the design of modern communication systems. **INDICATIVE CONTENT** Topics may include: # Recent standards in telecommunications # Recent trends in optical communications # Broadband in fixed and wire-free media # Energy efficiency in telecommunication # Silicon photonics # The impact of latency in communications # Fundamentals of network optimization and design.
Learning Outcomes:	**INTENDED LEARNING OUTCOMES (ILO)** Having completed this subject it is expected that the student be able to: 1 Demonstrate an in-depth understanding of some current research topics within the broad area of communications theory or networking 2 Formulate and solve optimization or design problems in communications theory or networking
Assessment:	Continuous assessment of homework assignments, not exceeding 30 pages in total over the semester (approximately 55-60 hours of work), worth 40% Final examination at the end of

	semester, worth 60%. Hurdle requirement: Students must pass the written exam to pass the subject. ILOs 1 and 2 are assessed in the final exam and the submitted assignments.
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 # 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.
Related Course(s):	Master of Philosophy - Engineering Ph.D.- Engineering