ELEN90047 Mixed Signal Design

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2013.
Time Commitment:	Contact Hours: 1 two hour lecture per week Total Time Commitment: 120 hours
Prerequisites:	None
Corequisites:	Corequisites for this subject are

Subject	Study Period Commencement:	Credit Points:
ELEN90042 Analogue Electronics	Not offered 2013	12.50
ELEN90043 Device Models	Not offered 2013	12.50
ELEN90048 Passive Component Design & Simulation	Not offered 2013	12.50

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/
Contact:	Prof Stan Skafidas Email: **sskaf@unimelb.edu.au (mailto:sskaf@unimelb.edu.au)**
Subject Overview:	Mixed signal components are the interface between the analogue world (continuous time systems) and the discrete world of digital logic. This subject will introduce students to the various A/D structures (Flash, Successive Approximation and Sigma Delta) and D/A architectures. The subject will introduce students to the various mixed signal architectures and ways of improving mixed signal resolution.
Objectives:	Upon successful completion of this subject students should be able to: # Use nano-electronic devices to analyse and build high speed mixed signal circuits and systems; # Build Flash, Sigma Delta, Successive Approximation Analogue to Digital Converters and Digital to Analogue Converters; # Apply technologies such as folding, averaging, interpolation and offset cancellation techniques to improve the performance of mixed signal circuits.
Assessment:	One, written examination (not exceeding three hours) at the end of semester, worth 70%; Continuous assessment of submitted project work (not exceeding 30 pages in total over the semester), worth 30%.
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 science and engineering fundamentals # Ability to undertake problem identification, formulation, and solution # Ability to utilise a systems approach to complex problems and to design andoperationalperformance # Ability to build and test real world systems that meet industry specialisation and manufacturing standards # Capacity for lifelong learning and professional development
Related Course(s):	Master of Nanoelectronic Engineering