SWEN90010 High Integrity Systems Engineering

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2012.
Time Commitment:	Contact Hours: 36 hours consisting of 24 one-hour lectures (two per week) and 12 Total Time Commitment: 120 hours This subject will not be offered in 2010.
Prerequisites:	

Subject	Study Period Commencement:	Credit Points:
SWEN90008 Software Processes and Management	Semester 1	12.50
SWEN90006 Software Engineering Methods	Semester 2	12.50

Corequisites:	None
Recommended Background Knowledge:	

Subject	Study Period Commencement:	Credit Points:
SWEN40004 Modelling Complex Software Systems	Semester 1	12.50

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:	Associate Professor Tim Baldwin email: **tbaldwin@unimelb.edu.au (mailto:tbaldwin@unimelb.edu.au)**
Subject Overview:	High integrity systems are systems that must be engineered to a high level of dependability, that is, a high level of safety, security, reliability and performance. In this subject students will explore the aims, principles, techniques and tools that are used to analyse, design and implement dependable systems. Topics include: an introduction to dependable systems; testing methods for dependable systems; fault tolerant systems; safety critical systems; and validating dependable systems.
Objectives:	On completion of this subject students should be able to: # Classify the characteristics of a dependable system and identify these characteristics in domains # Apply advanced testing methods to the validation and measurement of system properties; and # Apply a range of techniques to the analysis, design and validation of high integrity systems
Assessment:	Project work during semester, expected to take about 36 hours (50%) And a 2-hour end-of-semester written examination (50%). To pass the subject, students must obtain at least: 25/50 in project work, And 25/50 in the written examination

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:	On completionof this subject students should have the: # 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 and operational performance Proficiency in engineering design # Ability to manage information and documentation # Capacity for creativity and innovation Understanding of professional and ethical responsibilities, and commitment to them
Related Majors/Minors/ Specialisations:	B-ENG Software Engineering stream Master of Engineering (Software)