SWEN90009 Software Requirements Analysis

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2014.
Time Commitment:	Contact Hours: 36 hours, comprising of two 1-hour lectures and one 1-hour workshop per week Total Time Commitment: 200 hours
Prerequisites:	**The following subjects may be taken concurrently:** **Subject** | **Study Period Commencement:** | **Credit Points:** SWEN30006 Software Modelling and Design | Semester 1, Semester 2 | 12.50 ISYS90050 IT Project and Change Management | Semester 1, Semester 2 | 12.50
Corequisites:	None
Recommended Background Knowledge:	433-606 Modelling Complex Software Systems
Non Allowed Subjects:	Students cannot enrol in and gain credit for this subject and: 433-646 Requirements Engineering 433-446 Requirements Engineering
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Contact:	email: **rachelle.bosua@unimelb.edu.au (mailto:rachelle.bosua@unimelb.edu.au)**
Subject Overview:	**AIMS** The aim of this subject is to give students an understanding of the theoretical and technical principles behind systems analysis and software requirements and an understanding of how the theory can be applied to the analysis of socio-technical systems. The subject is core in the MC-ENG Master of Engineering (Software) degree. **INDICATIVE CONTENT** The first step in the development of any non-trivial software system is an analysis of the problem domain in order to formulate a set of 'requirements'. In this subject students will explore the aims, principles, processes and techniques involved in business and domain analysis and the formulation of requirements. Topics covered will include: an understanding of the domain analysis problem; business and domain analysis; an exploration of methods for eliciting, analysing, specifying and validating requirements; requirements metrics; analysis techniques for 'special domains' drawn from a selection of enterprise systems, safety critical systems, usability and security.
Learning Outcomes:	**INTENDED LEARNING OUTCOMES (ILO)**

	At the completion of this subject the student is expected to: 1 Be able to understand the role of requirements in software engineering projects 2 Be able to understand the different types of requirements, the methods for their specification and the role that they play in system analysis 3 Be able to understand the methods for the elicitation, analysis and specification of system requirements and to be able to apply those methods in practice 4 Be able to select methods appropriate to a particular application or problem
Assessment:	A 5000 word project, worked on by teams of 3 – 4 throughout the semester, submitted in week 9 (40%) An individually-based research essay not exceeding 1500 words, submitted in week 12 (20%) 2-hour end-of-semester written examination (40%) Hurdle requirement: To pass the subject, students must obtain: At least 50% overall; At least 50% (30/60) in project work; and At least 50% (20/40) in the written examination Intended Learning Outcomes (ILOs) 1 and 2 are addressed by the individual essay. ILOs 3 and 4 are addressed by the team project. ILOs 1, 2, and 4 are addressed by the end-of-semester 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 completion of this subjects the student should have the following 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 and operational performance # Understanding of the business environment # Ability to communicate effectively both with the engineering team and with the community at large # Ability to manage information and documentation # Capacity for creativity and innovation # Understanding of professional and ethical responsibilities, and commitment to them # Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member
Notes:	**LEARNING AND TEACHING METHODS** The subject comprises a two one-hour lectures and one hour tutorial per week. The lectures are used to elaborate and interpret material and the tutorials are designed to indicate how the lecture material can be applied. The project forms a major component of the practical application of the subject and is used to focus a significant part of the teaching on a practical problem. **INDICATIVE KEY LEARNING RESOURCES** The subject is administered through the Universities Learning Management System (LMS). Templates for the various artefacts, guidelines on analysis processes and links to requirements analysis tools are available through the LMS. A standard environment is made available that includes modelling and diagramming facilities together with material compiled from a number of popular and current textbooks and available textbooks. **CAREERS / INDUSTRY LINKS** The software industry is expanding and along with it the demand for software engineers that are capable of the analytical and management skills beyond programming. The industry is also changing in the nature of the projects being undertaken with many software engineers now working in multidisciplinary project teams. The skills and experience gained in this subject are valued by employers and are often seen as a necessary grounding for a career in software and technology related industries. The subject provides students with a realistic environment in which to apply and learn the theory and practice of requirements engineering. Projects are chosen from case studies that are made

	available to students and where possible industry guest speakers are invited to speak to the case studies.
Related Course(s):	Master of Philosophy - Engineering Ph.D.- Engineering
Related Majors/Minors/ Specialisations:	B-ENG Software Engineering stream Computer Science Master of Engineering (Software with Business) Master of Engineering (Software)