985CE Bachelor of Engineering (Computer Engineering)/Bachelor of Science

Year and Campus:	2010
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	
Coordinator:	A/Prof Jamie Evans
Contact:	Melbourne School of Engineering Building 173, Grattan Street The University of Melbourne VIC 3010 Australia General telephone enquiries + 61 3 8344 6703 + 61 3 8344 6507 Facsimiles + 61 3 9349 2182 + 61 3 8344 7707 Email **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)**
Course Overview:	**THE COURSE STRUCTURE BELOW ONLY APPLIES TO RE-ENROLLING STUDENTS WHO COMMENCED THEIR STUDIES PRIOR TO 2008** Students enrolled in the BE/BSc and the BE(IT)/BSc, planning to undertake a science major in computer science, may take this accelerated sequence of subjects in order to maximise their choice of computer or electrical engineering electives in their final two years of study.
Objectives:	Completing the Electrical/ Computer Engineering degree will enable students to rigorously integrate the mathematics of signals, systems and information with the science of electrical phenomena, in the formulation and solution of problems in areas such as telecommunications, monitoring and automation, energy distribution, and digital computing. We aim to develop: scientific understanding of electrical phenomena as a basis for mathematical modelling and abstraction in analysis and design; problem-solving and design skills; the ability to construct simulations and laboratory experiments; and good communication skills.
Course Structure & Available Subjects:	The standard BE/BSc combined degrees require a total of 500 points, within which students must take a minimum of 300 engineering points and 237.5 science points. The total points of a standard course can be kept to 500 as at least 50 points of core material within the various streams of engineering also earn science points. **BE/BSc course structure** To satisfy course requirements students must: take the set of core engineering subjects prescribed for the branch of engineering being studied. This will include the professional study requirements in one of chemical engineering, civil engineering, environmental engineering, mechanical engineering; and either electrical, computer or software engineering; accumulate a minimum of 237.5 science points is required comprising between 75 and 125 points at 100-level; completion of 50 points of a prescribed science major at the 300-level. Detailed information on the science majors available is contained within the course entry for the Bachelor of Science (**course code 755-BB (/view/2008/755-BB)**) With regard to the science component note that: There are no specific requirements at the 200-level. Science points are awarded for the completion of science subjects listed in the Faculty of Science section of this Handbook. The majority of subjects listed in this section earn science credit, although there are exceptions. Some subjects offered by the Department of Information Systems, Department of Mathematics and Statistics, and School of Earth Sciences do not

earn science credit. If a subject does not earn science credit it is labelled as non-science in the subject description. Any subject that does not appear in the science section of this Handbook is a non-science subject.

The engineering component may require the completion of specific (generally 100-level) science subjects. These subjects are detailed in the requirements of the various engineering courses that follow in the departmental entries.

A science major in computer science is not available to students undertaking the Software Engineering stream in the BE. These students will be required to undertake a major in an alternative science discipline (e.g. mathematics and statistics).

Students will not normally be permitted to complete more than 237.5 science points.

Selection of science subjects

Students are normally able to enrol in any subjects earning science credit where they have satisfied the prerequisite and corequisite requirements. These requirements are included in individual subject descriptions. Note that some science subjects are quota-restricted as the demand for the subject exceeds the number of places available. Selection into quota subjects is based on academic merit. Refer to the Faculty of Science section Quota subjects

Students who commenced prior to 1999

Students who first enrolled in the combined engineering/science course before 1999 must complete the requirements set out above with the exception that they do not need to complete a prescribed science major, but rather 50 points at 300-level made up of science subjects of their choice.

Subject Options:	
	THERE WILL BE NO FIRST TO THIRD YEAR ENTRY INTO THIS COURSE

Note: Students who commenced 3rd year in 2009 and have not completed, (or who have failed), the third year subjects required in the Bachelor of Engineering degree please see a course adviser.

The following Third year Engineering subjects are available in 2010

Subject	Study Period Commencement:	Credit Points:
ELEN30007 Electronic Circuit Design 2	Semester 1	12.50
ELEN30002 Stochastic Signals and Systems	Semester 1	12.50
ELEN30003 Communication Systems	Semester 2	12.50
ELEN30005 Fields and Transmission Lines	Semester 1	12.50
ELEN30008 Signal Processing 1 (Fundamentals)	Semester 2	12.50
COMP20003 Algorithms and Data Structures	Semester 1, Semester 2	12.50
SWEN20003 Object Oriented Software Development	Semester 2	12.50
ELEN30011 Electrical Device Modelling	Semester 2	12.50
ELEN30013 Electronic System Implementation	Semester 2	12.50

Credit may not be obtained for:

both 431-330 Design laboratory and 431-305 Electronic System Implementation

both 431-303 Electrical Device Modelling and 431-328 Digital Systems3

Fourth year

Approved CSSE 300-level subjects, including 433-322 (100 points)
Note: To ensure breadth, students in the computer engineering stream taking a computer science major for the BSc are required to complete 431-331 Electronic Circuit Design 2 and 431-327 Communication Systems. Students are also expected to complete 25 points of non-technical electives as part of their final year.

	Fifth year
	Subjects as for the final year of the single computer or electrical BE or BE (IT) program, including 25 points of non-technical electives. (100 points) Students taking the combined course in computer science with computer engineering should note that they are required to enrol in 431-400 Project Work, to ensure breadth in the combined degree.
Entry Requirements:	There is no further entry into this combined course.
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/
Further Study:	On completion of a Bachelor of Engineering, students may choose to apply for candidature in a masters by research or PhD degree. They may also apply to undertake an a one year Advanced Masters coursework degree.
Graduate Attributes:	The Bachelor of Engineering is a professional degree. Graduates can obtain professional recognition by joining Engineers Australia who has accredited these programs. The Bachelor of Engineering also delivers on the University graduate attribute
Generic Skills:	An Engineering graduate has a unique skill set comprising a blend of technical, business and interpersonal skills. Upon completion of the Bachelor of Engineering at the University of Melbourne, students will have strong analytical skills, the ability to lead teams and projects and the creativity to look at problems in a way that provides innovative solutions. Our graduates are known for their high standards and professionalism, their understanding of global issues and their outstanding communication skills. For details, see "Objectives".