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

Year and Campus:	2008
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	
Contact:	-
Course Overview:	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:	-
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, which must include: 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 YEAR ENTRY INTO THIS DEGREE IN 2008 Note: Students who commenced 1st year in 2007 who have not completed, (or who have failed), the first year subjects required in the Bachelor of Engineering degree please see a course advisor. --- **Accelerated program for a major in computer science in the BSc component of the Bachelor of Engineering** **Second year** **Semester 1** 431-204 Digital Systems 2: System Design 12.5 433-252 Software Engineering Principles & Tools 12.5 431-210 Electrical Circuits 2 12.5 620-122 Mathematics B (Advanced) 12.5 or 620-142 Mathematics B 12.5 **Semester 2** 431-221 Fundamentals of Signals and Systems 12.5 431-222 Electronic Circuit Design 1 12.5 433-254 Software Design 12.5 620-232 Mathematical Methods 12.5 **Third year** **Semester 1** 431-325 Stochastic Signals and Systems12.5 or 620-201 Probability12.5 433-253 Algorithms and Data Structures12.5 431-331 Electronic Circuit Design 212.5 620-231 Vector Analysis12.5 **Semester 2** 431-327 Communication Systems12.5 431-328 Digital Systems 3: Circuits and Systems12.5 431-330 Design Laboratory12.5 433-255 Logic and Computation12.5 **Fourth year** CSSE 300-level subjects, including 433-313, 433-332 and 433-353. (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. --- **Accelerated program for a major in mathematics in the BSc component of the Bachelor of Engineering** **Second year** **Semester 1** 431-204 Digital Systems 2: System Design 12.5 431-210 Electrical Circuits 2 12.5 620-122 Mathematics B (Advanced) 12.5 or 620-142 Mathematics B 12.5 620-231 Vector Analysis 12.5 **Semester 2** 431-222 Electronic Circuit Design 1 12.5

431-221 Fundamentals of Signals and Systems 12.5
433-252 Software Engineering Principles & Tools 12.5
620-232 Mathematical Methods 12.5

Third year
Semester 1
431-325 Stochastic Signals and Systems 12.5
or
620-201 Probability 12.5
433-253 Algorithms and Data Structures 12.5
431-330 Design Laboratory 12.5
620-2xx Mathematics subject 12.5
Semester 2
431-328 Digital Systems 3: Circuits and Systems 12.5
433-254 Software Design 12.5
433-313 Computer Design 12.5
620-2xx Mathematics subject 12.5

Fourth year
Science subjects 100

Fifth year
Year-long
431-400 Project Work 25
Semester 1
433-332 Operating Systems 12.5
433-353 Networks and Communications 12.5
Non-technical elective 12.5
Semester 2
431-467 Digital Systems 4: High Speed Systems 12.5
Non-technical elective 12.5
Elective 12.5

Accelerated program for a major in physics in the BSc component of the Bachelor of Engineering

Second year
Semester 1
431-204 Digital Systems 2: System Design 12.5
431-210 Electrical Circuits 2 12.5
640-223 Quantum Mechanics & Thermal Physics(Adv) 12.5
or
640-243 Quantum Mechanics & Thermal Physics 12.5
620-231 Vector Analysis 12.5
Semester 2
431-222 Electronic Circuit Design 1 12.5
431-221 Fundamentals of Signals and Systems 12.5
433-152 Algorithmic Problem Solving (Advanced) 12.5
or
433-172 Algorithmic Problem Solving 12.5
620-232 Mathematical Methods 12.5

Third year
Semester 1
431-325 Stochastic Signals and Systems 12.5
or
620-201 Probability 12.5
433-253 Algorithms and Data Structures 12.5
431-330 Design Laboratory 12.5
640-223 Quantum Mechanics & Thermal Physics(Adv) 12.5
or
640-243 Quantum Mechanics & Thermal Physics 12.5
Semester 2
431-328 Digital Systems 3: Circuits and Systems 12.5
433-313 Computer Design 12.5
433-254 Software Design 12.5
640-225 Electromagnetism & Relativity (Adv) 12.5
or

	640-245 Electromagnetism & Relativity 12.5 **Fourth year** **Semester 1** 640-321 Quantum Mechanics (Adv) 12.5 or 640-341 Quantum Mechanics 12.5 640-322 Statistical Physics (Advanced) 12.5 or 640-342 Statistical Physics 12.5 640-393 Laboratory Work A 12.5 Science elective 12.5 **Semester 2** 640-343 Electrodynamics 12.5 640-353 Atomic, Molecular & Solid State Physics 12.5 640-394 Laboratory Work B 12.5 Science elective 12.5 **Fifth year** **Year-long** 431-400 Project Work 25 **Semester 1** 433-332 Operating Systems 12.5 433-353 Networks and Communications 12.5 Non-technical elective 12.5 **Semester 2** 431-467 Digital Systems 4: High Speed Systems 12.5 Non-technical elective 12.5 Elective 12.5
Entry Requirements:	-
Core Participation Requirements:	-
Further Study:	-