

## 857-CE Bachelor of Engineering (Computer) and Bachelor of Science

<b>Year and Campus:</b>	2008
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Level:</b>	Undergraduate
<b>Duration &amp; Credit Points:</b>	
<b>Contact:</b>	-
<b>Course Overview:</b>	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.
<b>Objectives:</b>	-
<b>Subject Options:</b>	<p>THERE WILL BE NO FIRST YEAR ENTRY INTO THIS DEGREE IN 2008</p> <p>-----</p> <p><b>Accelerated program for a major in computer science in the BSc component of the Bachelor of Engineering</b></p> <p><b>Second year</b></p> <p><b>Semester 1</b>  431-204 Digital Systems 2: System Design 12.5  433-252 Software Engineering Principles &amp; Tools 12.5  431-210 Electrical Circuits 2 12.5  620-122 Mathematics B (Advanced) 12.5  or  620-142 Mathematics B 12.5</p> <p><b>Semester 2</b>  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</p> <p><b>Third year</b></p> <p><b>Semester 1</b>  431-325 Stochastic Signals and Systems 12.5  or  620-201 Probability 12.5  433-253 Algorithms and Data Structures 12.5  431-331 Electronic Circuit Design 2 12.5  620-231 Vector Analysis 12.5</p> <p><b>Semester 2</b>  431-327 Communication Systems 12.5  431-328 Digital Systems 3: Circuits and Systems 12.5  431-330 Design Laboratory 12.5  433-255 Logic and Computation 12.5</p> <p><b>Fourth year</b>  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.</p> <p><b>Fifth year</b>  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.</p> <p>-----</p> <p><b>Accelerated program for a major in mathematics in the BSc component of the Bachelor of Engineering</b></p>

**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 &amp; 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 &amp; Thermal Physics(Adv) 12.5

or

640-243 Quantum Mechanics &amp; 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:**

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**Core Participation Requirements:**

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**Further Study:**

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