

## 755BB Bachelor of Science

<b>Year and Campus:</b>	2010 - Parkville
<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>	300 credit points taken over 36 months full time. This course is available as full or part time.
<b>Coordinator:</b>	-
<b>Contact:</b>	Eastern Precinct Student Centre <a href="mailto:epsc-contact@unimelb.edu.au">epsc-contact@unimelb.edu.au</a> (mailto: <a href="mailto:epsc-contact@unimelb.edu.au">epsc-contact@unimelb.edu.au</a> ) <a href="http://www.studentcentre.unimelb.edu.au/eastern">http://www.studentcentre.unimelb.edu.au/eastern</a> (http:// <a href="http://www.studentcentre.unimelb.edu.au/eastern">www.studentcentre.unimelb.edu.au/eastern</a> )
<b>Course Overview:</b>	<p>There is no first year intake into this course after 2007.</p> <p>The Bachelor of Science degree is a three year program offering exciting and challenging opportunities in a wide range of areas at the cutting-edge of new technology and knowledge. All students are required to complete a major in a scientific discipline.</p> <p>In 2010 a number of new third year level subjects have been introduced, replacing or adding to subjects previously available within the major. Some previously offered subjects have been cancelled. The University is committed to ensuring that students are not disadvantaged by these changes and students may complete a major as defined by the current structure or a structure detailed in a previous year's handbook applicable to any year the student was enrolled in the course. Students completing third year level subjects across multiple years (e.g. in 2009 and 2010) should refer to advice within each subject entry on non-allowed subject combinations. Students unsure about the structure of their intended major should seek advice from the Science Student Centre.</p>
<b>Objectives:</b>	The Bachelor of Science has the objective of preparing graduates who embody the University of Melbourne graduate attributes, as well as additional attributes more specific to the BSc.
<b>Course Structure &amp; Available Subjects:</b>	<p>A minimum (and maximum) of 300 points is required, which must include at least 237.5 science points, comprising:</p> <ul style="list-style-type: none"> <li># between 75 and 125 science points at the first year subject level;</li> <li># completion of 50 points of a prescribed science major at the third year subject level.</li> </ul> <p>All subjects attracting <b>science points</b> are indicated as such within the individual subject description.</p> <p>Note that:</p> <ul style="list-style-type: none"> <li># at least 75 science points at first year subject level must be completed;</li> <li># a maximum of 125 points of science and non-science subjects at first year subject level can be included;</li> <li># at least 50 points at the first year subject level must be completed before proceeding to second year level subjects;</li> <li># there are no second year subject level requirements;</li> <li># the 300 points can include up to 62.5 non-science points. Of the 62.5 non-science points, up to 25 points can be at the first year subject level. The only exception to this is if students undertake a sequence of first year subject level language subjects: in these cases the 62.5 non-science points can include up to 37.5 points at the first year subject level;</li> <li># students completing a major in psychology must complete 50 science points at the third year subject level (37.5 points of prescribed third year subject level psychology subjects plus an additional 12.5 points of third year level science subjects)</li> </ul>
<b>Majors/Minors/ Specialisations</b>	<p><b>Science majors available in this course</b></p> <p>All students in the BSc are required to complete a science major.  A science major is defined as 50 points at third year level in an approved science discipline.</p> <ul style="list-style-type: none"> <li># The psychology major is the clear exception to this rule as the psychology major requires completion of nine compulsory subjects and at least one elective (a minimum of 125 points</li> </ul>

in total). This major also only specifies 37.5 points at third year level. Although the major study in psychology only requires 37.5 points at third year level, all undergraduate science students must complete a minimum of 50 points of third year level science subjects to satisfy their degree requirements.

- # The biotechnology major is also comprised of less than 50 points at third year level, but it can only be undertaken in conjunction with another life sciences major.
- # The environmental science major can only be undertaken in conjunction with a second science major (which cannot be biotechnology or history and philosophy of science).
- # The history and philosophy of science major can only be undertaken in conjunction with a second science major (which cannot be biotechnology or environmental science).

To complete a major, students complete one of the science majors listed below. Students may not complete alternative combinations of subjects to major unless approval is obtained from the Faculty of Science. Contact the Science Student Centre for further information.

The descriptions of science majors may vary from year to year. Students may complete a major as defined by the current structure or structure detailed in a previous year's handbook applicable to any year the student was enrolled in the course.

The following science majors are available to single degree BSc students:

Major/Minor/Specialisation
Anatomy
Atmosphere and Ocean Sciences
Biochemistry and Molecular Biology
Biotechnology
Botany
Cell Biology
Chemistry
Computer Science
Conservation and Australian Wildlife
Ecology
Environmental Science
Genetics
Geography
Geology
History and Philosophy of Science
Immunology
Marine Biology
Mathematics and Statistics (Applied Mathematics specialisation)
Mathematics and Statistics (Pure Mathematics specialisation)
Mathematics and Statistics (Statistics specialisation)
Mathematics and Statistics (Operations Research specialisation)
Mathematics and Statistics (Financial Mathematics specialisation)
Mathematics and Statistics (Mathematical Physics specialisation)
Mathematics and Statistics (Discrete Mathematics specialisation)

	Microbiology
	Microbiology, Infection and Immunology
	Neuroscience
	Neuroscience (Behavioural Neuroscience specialisation)
	Pathology
	Pharmacology
	Physics
	Physics (Mathematical Physics specialisation)
	Physiology
	Psychology
	Reproduction and Development
	Vision Science
	Zoology
<b>Subject Options:</b>	For a list of all subjects available as science credit please see the <b>Science Student Centre (<a href="http://www.ssc.science.unimelb.edu.au/">http://www.ssc.science.unimelb.edu.au/</a>)</b> website
<b>Entry Requirements:</b>	There is no first year intake into this course after 2007. For enquiries about admission requirements for later year entry into this program, please contact the Science Student Centre.
<b>Core Participation Requirements:</b>	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
<b>Further Study:</b>	Honours and Masters level studies are available as indicated at <b><a href="http://www.science.unimelb.edu.au">http://www.science.unimelb.edu.au</a></b> ( <a href="http://www.science.unimelb.edu.au">http://www.science.unimelb.edu.au</a> )
<b>Graduate Attributes:</b>	In science at the University of Melbourne we expect to educate our students in the fundamental skill of transforming information into knowledge. This outcome is fully consistent with the University's general ambition for our graduates, and emphasises the transferability of the skills practised in science. Throughout their course students will find that many of the abilities that they develop are shared by, and so are valued by and are applicable to, activities in all walks of life. In particular, these are the skills that are essential to providing leadership to the science-technology base of the Australian economy and culture. Bachelor of Science graduates have a broad knowledge of science across a range of disciplines, with a higher level of understanding in one or more of these disciplines. They also have an appreciation of the historical background and evolution of scientific concepts. They have the knowledge, skills and attitude to enable them to adapt to scientific, technological and social change and have a sense of intellectual curiosity and a desire for lifelong learning. Science graduates are particularly strong in their cognitive skills. They are able to: synthesize information from a range of sources, evaluate this, and add new ideas to their existing knowledge; observe, record and evaluate data or evidence appropriately; deal with complex data sets and apply their strong numerical competence to identify and analyse key factors and components; make effective use of information to identify and solve problems; and synthesize and integrate disparate elements into a meaningful whole. Graduates take these skills further in the creative realm, formulating hypotheses which can be tested for validity. They are used to extrapolating from the known to the unknown and are comfortable working with analogues rather than needing to deal with literal situations. They understand the need to question and clarify before developing a response to a particular issue or problem, enabling them to analyse critically. Having undertaken laboratory and tutorial

	<p>classes, science graduates are adept at activity planning as well as the application of theory to practice. They understand the principles of project and experimental design. Some students will have found collaborative learning an efficient tool, while others will find their practical work enhanced by effective teamwork. Science disciplines value clear reporting. Consequently, the science graduate has developed skills of efficient and effective communication of ideas and results, whether in the accepted modes of scientific report writing or through more informal oral presentations. Graduates recognise the need to present information and ideas in an effective written form that is appropriate to the purpose and the reader. The need to manage the multiplicity of tasks (lectures, laboratory and assignment work) means that science graduates are aware of the need to structure and manage time effectively and efficiently, to retain balance and to prioritise their activities. They are able to juggle several tasks simultaneously, take responsibility for their own work independently or within a group, and to plan their schedule appropriately. The breadth of the Science @ Melbourne program, which allows students to undertake other disciplines such as humanities or commerce within the science degree, means that many science graduates will have been exposed, directly or indirectly, to thoughts and ideas from all parts of knowledge. These graduates are aware of the breadth and depth of knowledge in areas beyond their specific areas of specialisation. In the longer term, these graduates have the knowledge, skill and attitude to enable adaptation to scientific, technological and social change. They have a sense of intellectual curiosity and a desire for lifelong learning and a capacity to be creative and innovative. These attributes enable them to continue to develop their own professional abilities as well as contributing to the development of the profession in which they are employed.</p>
<p><b>Generic Skills:</b></p>	<p>Bachelor of Science graduates:</p> <ul style="list-style-type: none"> <li># have a broad knowledge of science across a range of disciplines, with a higher level of understanding in one or more of these disciplines;</li> <li># when solving scientific problems: <ul style="list-style-type: none"> <li>- are capable of applying appropriate knowledge,</li> <li>- are able to access relevant information,</li> <li>- understand the principles of project and experimental design,</li> <li>- have a capacity to apply practical skills and technology;</li> </ul> </li> <li># are able to communicate the results of their studies in both written and oral form;</li> <li># have an appreciation of the historical background and evolution of scientific concepts;</li> <li># have the knowledge, skill and attitude to enable adaptation to scientific, technological and social change, have a sense of intellectual curiosity and a desire for lifelong learning, and a capacity to be creative and innovative.</li> </ul>