

B-SCI Bachelor of Science

Year and Campus:	2012 - Parkville
CRICOS Code:	002153M
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	300 credit points taken over 36 months full time. This course is available as full or part time.
Coordinator:	The Program Director for the Bachelor of Science is Associate Professor Michelle Livett
Contact:	<p>Eastern Precinct Student Centre The Eastern Precinct (building 138) (between Doug McDonnell building and Eastern Resource Centre)</p> <p><i>Enquiries</i> Phone: 13 MELB (13 6352) Email: 13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)</p>
Course Overview:	The Bachelor of Science (BSc) course is designed to provide excellent science education across a broad range of science and technology areas of study and equip students with a range of knowledge and skills to enhance their science studies. The degree will provide flexible pathways to employment, research higher degrees and many professional postgraduate programs.
Objectives:	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. These BSc-specific attributes are incorporated into the University graduate attributes summary (see 'Graduate Attributes') and are indicated in italics.
Course Structure & Available Subjects:	<p>Students commencing the BSc from 2011 onwards Successful completion of 300 points comprising:</p> <ul style="list-style-type: none"> # 225 points of science subjects including: <ul style="list-style-type: none"> # At least 62.5 points at Level 1 # At least 62.5 points at Level 2 # At least 75 points at Level 3 (including 50 points of a prescribed science major at Level 3) # 50 points of breadth subjects including at least 12.5 points at Level 2 or Level 3 # 25 points (either science subjects or breadth subjects) at Level 1, 2 or 3 <p>Additional requirements:</p> <ul style="list-style-type: none"> # No more than 125 points at Level 1 may be included in the BSc # No more than 37.5 points of breadth at Level 1 may be included in the BSc # Progression: Students must normally complete 50 points of study at one subject year level before proceeding to the next subject year level. # Diversity of Level 1 science study: Students must complete Level 1 subjects from at least two different areas of study. A maximum of 37.5 points at Level 1 from any single area of study may be completed. The areas of study available are: Biology; Chemistry; Earth Sciences; Engineering Systems; Geography and Environments; Informatics; Mathematics and Statistics; Physics; Psychology; Vision Sciences <p>Science points.</p> <p>Subjects attracting science points in the BSc are listed below.</p> <p>Special Arrangements:</p> <p>In the case of the study area of History and Philosophy of Science (HPS), students who seek to undertake further subjects in order to complete the equivalent of a major in HPS will be permitted to take up to 25 points of additional breadth study in HPS, replacing 25 points of the science requirements of the BSc. For a BSc student, the equivalent of a major in HPS is</p>

the completion of 100 points of HPS subjects (25 points at Level 1, 37.5 points at Level 2 and 37.5 points at Level 3 including HPSC30035 Knowledge in the Making. These students will be required to satisfy all other completion requirements of the BSc. This arrangement is only available to students who have not completed any other breadth subjects for credit in the BSc. In order to complete the 112.5 points required at Level 3 within this arrangement (i.e. across science and HPS studies), students should consider undertaking a Level 3 HPS subject in the second year of their course.

Students who commenced the BSc prior to 2011

Successful completion of 300 points comprising:

225 points of science subjects including:

- # between 62.5 and 100 points at Level 1;
- # at least 125 points across Level 2 and Level 3;
- # completion of 50 points of a prescribed science major at Level 3.

Plus either

- # 75 points of breadth subjects including:
 - # between 12.5 and 37.5 points at Level 1;
 - # at least 12.5 points at Level 3.

Or

- # 50 points of breadth subjects including at least 12.5 points at Level 2 or Level 3 and
- # 25 points (either science subjects or breadth subjects) at Level 1, 2 or 3

Additional requirements

- # Students may complete no more than 37.5 points of breadth at Level 1;
- # Students must complete between 75 and 125 points at Level 1 across both components (science and breadth subjects);
- # Students must complete at least 75 points at Level 3 as part of the Bachelor of Science.
- # Progression: Students must complete at least 50 science points at Level 1 before proceeding to Level 2 science subjects;
- # Diversity of Level 1 science study: Students must complete Level 1 subjects from at least two different areas of study. A maximum of 37.5 points at Level 1 from any single area of study may be completed. The areas of study available are: Biology; Chemistry; Earth Sciences; Engineering Systems; Geography and Environments; Informatics; Mathematics and Statistics; Physics; Psychology; Vision Sciences.

Science points.

Subjects attracting science points in the BSc are listed below.

Special Arrangements:

In the case of the study area of History and Philosophy of Science (HPS), students who seek to undertake further subjects in order to complete the equivalent of a major in HPS will be permitted to take up to 25 points of additional breadth study in HPS, replacing 25 points of the science requirements of the BSc. For a BSc student, the equivalent of a major in HPS is the completion of 100 points of HPS subjects (25 points at Level 1, 37.5 points at Level 2 and 37.5 points at Level 3 including HPSC30035 Knowledge in the Making. These students will be required to satisfy all other completion requirements of the BSc. This arrangement is only available to students who have not completed any other breadth subjects for credit in the BSc.

**Majors/Minors/
Specialisations**

Completion of 50 points of study at third year level.

A number of these science majors include specialisations. Descriptions of the specialisations are located within the majors.

N.B.

- # The Computer Science major and the Software Systems major will not be available after 2013. Students who commenced either of these majors but are not due to complete the B-SCI until after 2013 should complete the Computing and Software Systems major (Level 3 subjects offered from 2014).
- # The Science Informatics major will not be available after 2013. Students who commenced this major but are not due to complete the B-SCI until after 2013 should complete the Informatics major (Level 3 subjects offered from 2014).

Major/Minor/Specialisation
Agricultural Science
Animal Health and Disease
Animal Science and Management
Atmosphere and Ocean Science
Biochemistry and Molecular Biology
Bioengineering Systems
Biotechnology
Cell and Developmental Biology
Chemical Systems
Chemistry
Civil Systems
Computer Science
Ecology and Evolutionary Biology
Electrical Systems
Environmental Science
Food Science
Genetics
Geography
Geology
Geomatics
Human Structure and Function
Marine Biology
Mathematical Physics
Mathematics and Statistics
Mechanical Systems
Microbiology, Infection and Immunology
Neuroscience
Pathology
Pharmacology
Physics
Physiology
Plant Science
Psychology

	<table border="1"> <tr><td>Science Informatics</td></tr> <tr><td>Software Systems</td></tr> <tr><td>Zoology</td></tr> </table> <p>Majors available from 2014</p> <p>The following majors will be introduced from 2014. The Level 3 subjects required for these majors will be offered for the first time in 2014.</p> <table border="1"> <tr><td>Major/Minor/Specialisation</td></tr> <tr><td>Computing and Software Systems</td></tr> <tr><td>Informatics</td></tr> </table> <p>Subjects available for science credit</p> <p>A full list of subjects available for science credit for the new generation Bachelor of Science course (B-SCI).</p> <table border="1"> <tr><td>Major/Minor/Specialisation</td></tr> <tr><td>Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.</td></tr> </table>	Science Informatics	Software Systems	Zoology	Major/Minor/Specialisation	Computing and Software Systems	Informatics	Major/Minor/Specialisation	Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.
Science Informatics									
Software Systems									
Zoology									
Major/Minor/Specialisation									
Computing and Software Systems									
Informatics									
Major/Minor/Specialisation									
Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.									
Subject Options:	<p>See reference (above) to 'Subjects available for science credit'.</p> <p>Refer to the 'Find Breadth Subjects' section of the Handbook for advice on breadth subject options in the Bachelor of Science.</p>								
Breadth Options:	<p>Breadth subjects offer you the opportunity to choose additional subjects from outside your major study area (learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)).</p> <p>View breadth subjects for this course (/faces/htdocs/user/breadth/BreadthSearchResults.jsp?breadthcourse=B-SCI&year=2012).</p>								
Breadth Tracks:	Available Breadth Tracks								
Entry Requirements:	<p>For the most up-to-date admission requirements, go to:</p> <p>http://www.futurestudents.unimelb.edu.au (http://www.futurestudents.unimelb.edu.au)</p>								
Core Participation Requirements:	<p>The Bachelor of Science welcomes applications from students with disabilities. It is University and degree 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 degree. The Bachelor of Science requires all students to enrol in subjects where they will require: the ability to comprehend complex science, technology and/or engineering systems related information; the ability to clearly and independently communicate a knowledge and application of science, technology and engineering systems principles and practices during assessment tasks; and in some areas of study the ability to actively and safely contribute in clinical, laboratory, and fieldwork/excursion activities. Students must possess behavioural and social attributes that enable them to participate in a complex learning environment. Students are required to take responsibility for their own participation and learning. They also contribute to the learning of other students in collaborative learning environments, demonstrating interpersonal skills and an understanding of the needs of other students. Assessment may include the outcomes of tasks completed in collaboration with other students. There are additional inherent academic requirements for some major studies and subjects, and these requirements are listed within the description of the requirements for each of these majors and subjects. Students who feel their disability will impact on meeting this requirement are encouraged to discuss this matter with the relevant Subject Coordinator and the Disability Liaison Unit: http://www.services.unimelb.edu.au/disability/ Major#specific core participation requirements Agricultural Science Major Specific Core Participation requirements: Fieldwork and Practicals The sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component, as is specimen and microscope work. Animal Health and Disease</p>								

	<p>Major (Veterinary Bioscience Specialisation) Specific Core Participation requirements: Practical classes This major requires all students to actively, independently and safely participate in all practical classes, utilising a range of observational, communication, motor, intellectual, and behavioural and social skills. Visual acuity, muscle coordination, balance, and sensory tactile perception are essential for participation. Details of the participation requirements can be found at http://www.vet.unimelb.edu.au/docs/CoreParticipationReqs.pdf</p> <p>Animal Health and Disease Major (Animal Disease Biotechnology Specialisation) Specific Core Participation requirements: Practical classes This major requires all students to actively, independently and safely participate in all practical classes, utilising a range of observational, communication, motor, intellectual, and behavioural and social skills. Visual acuity, muscle coordination and balance are essential for participation. Details of the participation requirements can be found at http://www.vet.unimelb.edu.au/docs/CoreParticipationReqsBSc.pdf</p> <p>Animal Science and Management Major Specific Core Participation requirements: Fieldwork, practicals and laboratory experiments The sites essential to this fieldwork are not wheel chair accessible and may require students to traverse broken ground. Students are also required to undertake experiments including specimen and microscope work with assessment reliant on careful observation and visual interpretation of results. Practical may also involve handling and working with animals.</p> <p>Chemical Systems Specific Core Participation requirements: Laboratory experiments This major requires students to undertake experiments using specialist software with assessment reliant on careful observation and visual interpretation of results.</p> <p>Ecology and Evolutionary Biology Major Specific Core Participation requirements: Fieldwork The sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component.</p> <p>Food Science Major Specific Core Participation requirements: Laboratory experiments This major requires students to undertake experiments using specialist software with assessment reliant on careful observation and visual interpretation of results.</p> <p>Geology Major Specific Core Participation requirements: Fieldwork The sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component, as is specimen and microscope work.</p>
<p>Further Study:</p>	<p>The Bachelor of Science degree provides pathways to honours, graduate professional entry degrees or, upon completion of appropriate research training preparation following the BSc, research higher degrees.</p> <p>Honours Depending on the major undertaken, students may apply for an Honours program upon completion of the Bachelor of Science. Refer to the course entry for further details: https://handbook.unimelb.edu.au/view/current/BH-SCI (../view/current/BH-SCI)</p> <p>Graduate Professional Entry Degrees For students who wish to continue professional studies at graduate level, the degree provides a pathway into a range of graduate professional entry programs, some of which also provide research training. http://futurestudents.unimelb.edu.au/grad/grad-programs/professional-entry (http://futurestudents.unimelb.edu.au/grad/grad-programs/professional-entry)</p> <p>Research Higher Degrees For students who wish to explore science research questions in greater depth, there will be opportunities to proceed to Research Higher Degrees at masters and doctoral level. Research training preparation within the Honours year, Postgraduate Diploma or a Masters degree will be required as preparation for a research higher degree.</p>
<p>Graduate Attributes:</p>	<p>The Melbourne Experience enables our Bachelor of Science graduates to become: Academically excellent Our graduates will be expected to: have a strong sense of intellectual integrity and the ethics of scholarship have a broad knowledge of science across a range of fields, with an in-depth understanding in one or more scientific disciplines understand the methods of science, and the history and evolution of scientific concepts be intellectually curious and apply a rigorous, critical and logical approach to enquiry understand the principles of sound project and experimental design, including data analysis reach a high level of achievement in writing, generic research activities, problem-solving and communication apply outstanding analytical, quantitative and technical skills to problem solving and, where relevant, design be critical and creative thinkers, with an aptitude for continued self-directed learning be adept at learning in a range of ways, including through information and communication technologies Knowledgeable across disciplines Our graduates will be expected to: examine critically, synthesise and evaluate knowledge across a broad range of disciplines expand their analytical and cognitive skills through learning experiences in diverse subjects have the</p>

	<p>capacity to participate fully in collaborative learning and to confront unfamiliar problems have a set of flexible and transferable skills for different types of employment, including: excellent organisational, planning and time management skills ability to access, evaluate and utilise information from diverse sources ability to communicate their ideas effectively in both written and verbal formats to both specialists and non-specialists knowledge, skills and attitude that enable adaptation to scientific, technological and social change. Leaders in communities Our graduates will be expected to: initiate and implement constructive change in their communities, including professions and workplaces have excellent interpersonal and decision-making skills, including an awareness of personal strengths and limitations mentor future generations of learners engage in meaningful public discourse, with a profound awareness of community needs Attuned to cultural diversity Our graduates will be expected to: value different cultures be well-informed citizens able to contribute to their communities wherever they choose to live and work have an understanding of the social and cultural diversity in our community respect indigenous knowledge, cultures and values Active global citizens Our graduates will be expected to: accept social and civic responsibilities be advocates for improving the sustainability of the environment have a broad global understanding, with a high regard for human rights, equity and ethics</p>
Generic Skills:	<p>A detailed description of the generic skills expected of a graduate of the Bachelor of Science is contained within the University graduate attributes summary (see 'Graduate Attributes').</p>