Genetics
Bachelor of Science

2015 SAMPLE COURSE PLANS

SAMPLE 1:

<table>
<thead>
<tr>
<th>First Year</th>
<th>Semester 1</th>
<th>BIOL10004 Biology of Cells and Organisms</th>
<th>CHEM10003 Chemistry 1</th>
<th>Science Elective</th>
<th>Breadth</th>
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<tbody>
<tr>
<td>Semester 2</td>
<td>BIOL10005 Genetics &amp; The Evolution of Life</td>
<td>CHEM10004 Chemistry 2</td>
<td>Science Elective</td>
<td>Breadth</td>
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<td>Second Year</td>
<td>Semester 1</td>
<td>GENE20001 Principles of Genetics</td>
<td>GENE20003 Experiments in Genetics</td>
<td>Science Elective</td>
<td>Breadth</td>
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<tr>
<td>Semester 2</td>
<td>GENE20002 Genes and Genomes</td>
<td>BCMB20002 Biochemistry and Molecular Biology</td>
<td>Science Elective</td>
<td>Breadth</td>
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<td>Third Year</td>
<td>Semester 1</td>
<td>GENE30001 Evolutionary Genetics and Genomics</td>
<td>GENE30002 Genes: Organisation and Function</td>
<td>Science Elective</td>
<td>Breadth</td>
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<td>Semester 2</td>
<td>GENE30004 Genetic Analysis</td>
<td>BIOL30001 Reproduction Physiology</td>
<td>Science Elective</td>
<td>Breadth</td>
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Genetics is the foundation for studies in biology. It is the study of the variation between living things and how this variation is inherited. Genetics can include studies of gene regulation, development, neurogenetics, population genetics and evolution along with genetic disease detection, prevention and treatment in humans and other animals and plants.

A major in Genetics will include molecular genetics, human genetics, evolutionary genetics and genomics which can be applied in areas such as biology, biomedical science, biotechnology, ecology and conservation. You will also develop skills in experiment design, data recording and analysis, and scientific writing.

What careers can this major lead to?
Students with a Genetics major can work in areas such as medical genetics, agriculture, ecology and conservation, and biotechnology. Employers include research institutes, hospitals, universities, museums, zoos, and federal and state authorities. Career opportunities are also available in industries such as biotechnology and scientific supply companies.

You can also pursue a career using the knowledge and skills gained from the major as a teacher, counsellor, policy maker, journalist or publisher.

What graduate courses does Genetics lead to?
Bachelor of Science graduates with a major in Genetics are well-placed to apply for:

- Professionally focused graduate degrees in the sciences and technology, including biotechnology, environmental systems, informatics, management science, and nanotechnology
- Graduate degrees preparing for a wide range of professions including engineering, law, medicine and other health sciences and teaching
- Masters and Honours pathways to research higher degrees in the sciences and technology within the Melbourne Graduate School of Science, Graduate School of Humanities and Social Sciences, Melbourne School of Engineering, Melbourne School of Land and Environment, and the Faculty of Medicine, Dentistry and Health Sciences