Tuition covers environmental geology, geochemistry, geophysics, hydrogeology and groundwater contamination, mineral and petroleum exploration and resources, palaeontology, remote sensing and many more exciting subjects. Field work in different regions of New South Wales is an essential part of geology courses. A major in geology develops skills which may lead to a wide range of exciting and highly-paid careers involving the use of sophisticated technology and the exploration of interesting destinations.

Marine Science. Marine scientists look at all aspects of the marine environment, encompassing many sciences from biology to geology. Within the School of BEES, marine science can be studied with an emphasis on biology, earth sciences or oceanography. Marine Biologists look at life on the shore and in the oceans and estuaries, whereas Marine Geologists study the structure and topography of the ocean floor, ocean sedimentation and marine resources.

Environmental Science describes very broad area of study that includes all aspects of the world around us, our impact upon it and how we should manage our activities to maintain a sustainable balance with nature. UNSW offers a 4-year Environmental Science degree in which the final (4th) year is an Honours year. Discipline specialisations within the BEnvSc degree include biology, chemistry, geography, earth science, marine biology, microbiology and oceanography.
The Honours program provides a final undergraduate year (4th year) that is a very different experience to earlier years. With fewer formal classes, you are required to undertake your own research project, which provides solid training in critical evaluation, communication, presentation and research techniques. The Honours year prepares you for further research and significantly enhances employment prospects. The final year of the Advanced Science degree and the Environmental Science degree is an Honours year. However, Honours is available to all students who have performed well in the earlier years.

Degree at UNSW
BEES offers a broad range of undergraduate and postgraduate degrees. Careers, depending on the degree completed, can range from wildlife management, agriculture, forestry, conservation, natural resource management, community development, agriculture and urban and social planning.

Undergraduate Degrees in Biological, Earth and Environmental Sciences

<table>
<thead>
<tr>
<th>Degree</th>
<th>UNSW Codes</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science ★</td>
<td>3970</td>
<td>3 years full-time</td>
</tr>
<tr>
<td>Bachelor of Science (Advanced Science) ❖</td>
<td>3972</td>
<td>4 years full-time</td>
</tr>
<tr>
<td>Bachelor of Environmental Science ✫</td>
<td>3988</td>
<td>4 years full-time</td>
</tr>
<tr>
<td>Bachelor of EnvSc/Arts ✫</td>
<td>3932</td>
<td>5 years full-time</td>
</tr>
<tr>
<td>Bachelor of Science and Business ★</td>
<td>3925</td>
<td>3 years full-time</td>
</tr>
<tr>
<td>Bachelor of Science (International) ★</td>
<td>3987</td>
<td>4 years full-time</td>
</tr>
</tbody>
</table>

★ majors include biology, earth science, ecology, geography and marine science.
❖ majors include biological science, earth science, ecology, geochemistry, human geography, marine & coastal science, physical geography.
✝ Specialisations – biology, chemistry, earth science, geography, marine biology, microbiology and oceanography.
Postgraduate Degrees

Postgraduate degrees offered include:

- Graduate Diploma by research or coursework
- Master of Science by research or coursework
- Master of Philosophy by research or coursework
- Doctor of Philosophy by research

Postgraduate Research

Our School of BEES has an outstanding reputation for quality research both within Australia and internationally. Research within BEES is clustered within two general thematic areas; Ecology and Evolutionary Biology, and Environmental Change and Sustainability. Within these two themes, there are four focal points for research:

1. Dynamics of Temperate Marine Systems;
2. Spatial Information Systems;
3. Vertebrate Conservation and Ecology; and

Other areas of research within our School include resource management, cultural and economic change, and a host of related interests within the biological and earth sciences. BEES has dedicated field stations which support our research and teaching activities at Cowan (Hawkesbury sandstone, NW Sydney), and Smiths Lake (coastal lake, four hours north of Sydney) and uses the UNSW field station at Fowlers Gap (arid zone, far west NSW) and the Chowder Bay marine station (Sydney Harbour). These field stations provide excellent access to a wide variety of terrestrial, estuarine and marine habitats.

Current PhD Projects

A very wide variety of PhD projects are currently being undertaken at our School. Projects cover diverse areas of the natural sciences such as animal behaviour, ecology, genetics, human geography and geology. For specific examples, here are a few current PhD topics from the areas of palaeontology and marine biology.

In palaeontology, there are many projects including:

- observing the form, function and phylogeny of enigmatic Australian mammals;
- the ecology and extinction of the large-bodied fauna from Southeast Asia; and
- the early evolution and distribution of possums.

In marine biology, current projects include investigating:

- the effects of invasive species on marine biodiversity; climate change and its effects on marine organisms; and
- the spatial distribution of marine animals in Antarctic waters.
**Career Opportunities**

Tomorrow’s workplace will demand ever-increasing levels of flexibility from the workforce. Professionals can expect to undertake several ‘rounds’ of after-school training and at least three different careers during their working life.

In many workplaces, employees are now expected to be able to change roles, adapt to different tasks, solve problems and apply new skills across very diverse areas. Consequently, it is essential for school leavers to choose professional training options that provide both a depth of knowledge in an academic discipline as well as a broad range of skills that are in tune with tomorrow’s needs. Most employers identify a list of skills or tasks to be performed by the successful job applicant - many of these are taught in the School of Biological, Earth and Environmental Sciences.

**Biology** is an extremely-broad discipline providing an array of career options and necessitating the matching of interests, skills and personality to the requirements of various occupations. Many of us like to work outdoors and may therefore be attracted to jobs in agriculture, animal care (zoos, animal parks, veterinary nursing, aquaculture), botanic gardens, horticulture and forestry. Biologists with good communication skills can work as teachers in schools, museums, zoos, nature centres or for the media.

Environmental interests could lead to a career as an ecologist, marine biologist, plant or animal geneticist, or as a consultant/advisor on the conservation and management of the environment and natural resources, both plant or animal. Biologists are employed by co-operatives, federal and state agencies, local government, business, nonprofit organisations and universities.

**Geographers** enjoy careers with many employers, in both the private and public sector as well as nationally and internationally. Geographers are involved in natural resource or social planning, environmental or urban management, environmental research or social policy research. Having the skills to develop and use information technology and to analyse and interpret social and environmental data makes professionally-trained geography graduates the key personnel involved in decision making processes associated with government, the business sector and community groups. Consequently, geographers are employed: by NGOs to organise international aid; by community and welfare organisations to target limited social and welfare resources to the most needy in our communities; by the business sector to advise on management decisions; by governments to assist with the development of urban and environmental policies and the legal framework required for assessment of human interaction with the environment.

**Many geologists** find employment in mineral and energy exploration and related fields, while others are employed in the construction of dams or tunnels. Others explore for underground water or monitor and study coastal processes and their impact. Geoscientists are employed in identifying natural hazards, such as landslides and earthquake risk, and in a variety of environmental studies. Geoscientists can be found in merchant banking, stock broking and investment analysis, in computer systems management and in numerous branches of state and federal governments. Working as a geoscientist is an interesting, varied and financially rewarding career choice.

**Alternatively, graduates may continue to study their chosen specialty as postgraduates, which can lead to fulfilling careers in research.**
A Student’s Perspective

Scott Philip  
Science major in Marine Biology

Going to university seemed like the logical next move after finishing school, and a step toward opening up the door to a solid career path. Someone once told me that many things come and go, but your education can never be taken from you. I decided to study what interested me rather than pleasing others, and UNSW offered courses that really grabbed my attention. UNSW also offered the best facilities and had a great reputation. The fact that Coogee Beach is just down the road didn’t hinder my choice either! Studying as part of a short-term exchange program in Singapore has been one of the course highlights for me, as have many of the field trips I have conducted as part of my degree.

The friendships I have made with my classmates have also contributed to one of the best aspects of my degree. High school learning and university learning are completely different - at university, it’s all up to you. I know it’s a cliché, but what you put into your study is what you get out. Studying Science has also challenged me in terms of developing my skills in communication, teamwork, problem-solving and time management - skills that can be applied in the ‘real world’. The flexibility of my Science degree was a huge plus - it allowed me to explore areas outside of my major.