

Bachelor of Science (Honours) (Dean's Scholar)

(Geology) | 2020

In this course you will combine fieldwork, practical experience and research to develop knowledge of the composition of Earth and the processes that have impacted, moulded and continue to influence the planet on which we live. You will study how to apply geological techniques (including geological and spatial mapping), and the identification of minerals, fossils, and rocks to understand the structure of the Earth, the location of its natural resources as well as its long-term climate. This will equip you with knowledge of current issues in Geology and enable you to propose strategies and solutions to address these problems.

Major Learning Outcomes

On successful completion of this major students will be able to:

1. Demonstrate broad and coherent knowledge and understanding of the trends, processes and impacts that shape the Earth and its environment including local, national, global, cultural, Indigenous and spatial perspectives.
2. Critically evaluate information and data to assess scientific methods and frameworks in geological sciences.
3. Develop hypotheses and experiments to test against evidence-based scientific facts, laws, principles and evidence.
4. Identify and articulate real world problems derived from the geological sciences.
5. Apply knowledge and appropriate techniques, including those associated with fieldwork, to evaluate possible solutions to real world problems and defend choice of solution against alternatives.
6. Locate, synthesise and evaluate data, information, results and literature pertaining to geological sciences using appropriate methods, measurements, tools and technologies.
7. Communicate geological perspectives and knowledge effectively to a range of audiences using appropriate technologies and communication skills.
8. Demonstrate ethical, professional, public and personal conduct and capacity to reflect on and direct own learning and practice and participate constructively in decision-making within the context of geological science.
9. Independently plan and execute a geological research project.

Course Structure

To qualify for award of the degree, the Bachelor of Science (Honours) (Dean's Scholar) (Geology), a candidate must successfully complete at least 192 credit points, in accordance with the table below:

Year 1

Subject Code	Subject name	Credit points	Session (s)
AUTUMN Year 1			
EESC101	Planet Earth	6	Autumn
EESC105	Introductory Geospatial Analysis	6	Autumn, Spring
SCII101	Global Challenges in Science	6	Autumn
*MATH151 MUST be completed by all students who have not completed NSW HSC Mathematics or equivalent at Band 4 or higher			
MATH151	General Mathematics 1A	6	Autumn
Plus 6 credit points (if not required to do MATH151) of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			
SPRING Year 1			
EESC102	Earth's Interconnected Spheres	6	Spring
EESC103	Earth's Dynamic Surface	6	Spring
Plus 12 credit points of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			
SCIE103	Climate Change	6	Spring
GEOG123	Indigenous Geographies: Questioning Country	6	Spring

Year 2

When selecting 200 level subjects students should note the pre-requisites required for the 300- level subjects they wish to take:

Subject Code	Subject name	Credit points	Session (s)
AUTUMN Year 2			
GEOS215	Sedimentology Stratigraphy and Palaeoenvironments	6	Autumn
EESC207	Advanced Geospatial Analysis	6	Autumn, Spring
Plus 12 credit points of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			
EESC203	Biogeography and Environmental Change	6	Autumn
CRLP200	Career Ready Learning & Practice	6	Autumn
SPRING Year 2			
EESC209	G-cubed: Geochemistry, Geochronology, Geophysics	6	Spring
EESC250	Field Geology	6	Summer 2020/2021
Plus 12 credit points of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			
EESC202	Shaping Earth's Surface	6	Spring

Year 3

Subject Code	Subject name	Credit points	Session (s)
AUTUMN Year 3^			
EESC321	Plate Tectonics, Macrotopography and Earth History	6	Autumn
GEOS309	Igneous-Metamorphic Geology Methods and Processes	6	Autumn
Plus 12 credit points of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			



Subject Code	Subject name	Credit points	Session (s)
EESC323	Fluvial Geomorphology and Sedimentology	6	Autumn
EESC328	Dung, Death and Decay: Modern scientific methods in archaeology	6	Autumn
SPRING Year 3			
EESC326	Resources and Environments	6	Spring
EESC320	Capstone: Earth and Environmental Sciences	6	Autumn, Spring
Plus 12 credit points of elective subjects from the General Elective Schedule, Science Schedule or from the list of suggested subjects below:			
SCII302	Science Interdisciplinary Subject	6	Spring
EESC332	Sedimentology, Stratigraphy and Palaeoenvironments	6	Spring
EESC331	Changing Global Environments	6	Spring

Year 4

Subject Code	Subject name	Credit points	Session (s)
ANNUAL Year 4			
EESC401	Earth and Environmental Sciences Honours Full-time	48	SMAH Annual, SMAH Annual 2019/2020
EESC407	Earth and Environmental Sciences Honours (Part-Time)	24	SMAH Annual, SMAH Annual 2019/2020

^ Students interested in a career in Geology are urged to take more than the minimum required 24 credit points of 300-level EESC/GEOS subjects. A graduate with 30 credit points of 300-level EESC/GEOS subjects has a more comprehensive Geology degree.

NOTE: Students may be required to contribute to food, transport and accommodation costs associated with the provision of field trips that form part of the course of study.

Minors

Students are encouraged to consider taking a *Minor study* as part of the BSc program. Inclusion of a *minor* in support of your *major* area of study allows you to broaden your view, knowledge and expertise while specialising in areas of interest.

Details on Minors can be found at <https://documents.uow.edu.au/handbook/minors/H20008091.html>

Options include (but not limited too): Earth and Environmental Science, Geoscience, Physical Geography, Archaeology, Biochemistry, Biodiversity, Ecology, Molecular Biology, Geology, Marine Biology

A selection of research internships or project-based subjects may also be available to high achieving students wishing to complement their coursework with research projects. Entry into these subjects requires approval from the Head of School.

Entry Requirements and Credit Arrangements

Information on academic and English language requirements, as well as eligibility for credit for prior learning, is available from the Course Finder.

Other Information

For further information please email: smah-students@uow.edu.au

