

→ start with ○○○

science@melbourne



THE UNIVERSITY OF
MELBOURNE

Earth Sciences

Bachelor of Science

FIRST YEAR

625 101 The Global Environment *Sem 1* (12.5 pts)

625 104 The Earth Atmosphere and Oceans
Semester 2 (12.5 pts)

Geology

Atmosphere & Ocean Sciences

SECOND YEAR

625 **Geology of Southeast Australia****
Summer Sem (February) (12.5 pts)
625 Earth Structure & Dynamics
Sem 1 (12.5 pts)
625 Earth Composition
Sem 1 (12.5 pts)

625 Weather and Climate Systems
Sem 1 (12.5 pts)

625 **Earth Surface Processes****
Sem 2 (12.5 pts)

625 The Atmospheric Environment
Sem 2 (12.5 pts)

THIRD YEAR

625 Structural Geology &
Geodynamics *Sem 1* (12.5 pts)
625 Geochemistry & Petrogenesis
Sem 1 (12.5 pts)
625 Hydrogeology & Environmental
Management *Sem 1* (12.5 pts)

625 Dynamic Meteorology &
Oceanography *Sem 1* (12.5 pts)
625 Atmosphere & Ocean
Interaction *Sem 1* (12.5 pts)

625 Sedimentary Geology
Sem 2 (12.5 pts)
625 Economic Geology
Sem 2 (12.5 pts)
625 **Advanced Field Geology****
Sem 2 (12.5 pts)

625 Global Climates of the Past
Sem 2 (12.5 pts)
625 Modern & future Climates
Sem 2 (12.5 pts)

FOURTH YEAR & POSTGRADUATE STUDIES

Students in Earth Sciences often continue on to Honours and Postgraduate (PhD and Masters) studies. Entry into Honours requires 50 points of 300-level geology subjects or 300-level atmosphere/oceans subjects or a science degree with specialisation in physical or mathematical sciences. Honours includes course work as well as a research project which is written up as a thesis.

geology rocks!

** Multi day field trip unit

weather is cool!

→ start with ○○○

science@melbourne



THE UNIVERSITY OF
MELBOURNE

Earth Sciences

Bachelor of Science

625 101 The Global Environment *Semester 1* (12.5 pts)

Coordinator Dr S Gallagher (with lectures by Prof Mike Sandiford & Prof Andrew Gleadow)

Contact Thirty-six lectures (three per week), 24 hours practical (two hours per week)

Subject Description

This subject examines five topics. The Earth covers the origin of the earth in a planetary system; the physical and chemical structure of the earth; the geosphere; hydrosphere; and atmosphere; and origin and composition of the atmosphere. Geological Materials covers minerals: the nature of crystalline substances; rocks as aggregates of minerals; an introduction to igneous, sedimentary and metamorphic rocks. Plate Tectonics covers why plate tectonics?; where plates collide-volcanoes, earthquakes, continental collision and mountain building; where plates part-continental drift, sea-floor spreading, mid-oceanic ridges; and within plates-uplift, weathering and erosion, transport of sediment, subsidence and sedimentation, volcanism. The Basics of Weather and Climate covers the earth in space; the importance of its orbital characteristics; and cold poles and warm equator. The Atmosphere covers basic properties of the troposphere, stratosphere, mesosphere; the friction layer; the lapse-rate; and vertical and mean-sea-level distributions of pressure, temperature, rainfall. On completion of this subject, students should comprehend the materials that the earth is made of; the diverse processes from continent-scale to microscopic-scale which shape the earth; the mode of formation of the rocks which make up the geological record; and the structure of the earth's atmosphere. Students will have developed the skills to observe, in the laboratory and the field, basic properties of the global environment.

Assessment

A 3-hour end-of-semester written examination and a 2-hour practical examination during the semester. Short tests may also be held during the practical sessions. A reading topic will be assessed in the examination.

625 104 The Earth, Atmosphere & Oceans *Semester 1* (12.5 pts)

Coordinator Dr S Gallagher (with lectures by Dr Stephen Gallagher, Dr Todd Lane & Prof Andrew Gleadow)

Contact Thirty-six lectures (three per week), 24 hours practicals, 8 hours field work.

Subject Description

This subject will allow students to gain a better understanding of the processes governing the geological and climatic evolution of the Earth. This will be achieved by a series of field trips, hands on and theoretical investigations of Victoria's geology and meteorology. The first part reviews minerals, rocks and fossils. This is followed by a field trip to the Mornington Peninsula to collect fossil, rocks and minerals that are used to interpret the geological evolution of the region. The second part is a review of the climate and oceanography of the Earth, and a discussion of fundamental meteorological processes. Using a series of meteorological case studies, practical application of atmospheric and oceanographic analyses will be applied to our regional environment. A third series of studies includes structural, metamorphic and economic aspects of our regional geology. These studies are integrated with a field case study at Studley Park. On completion of this subject, students should understand concepts of meteorology and climate and be able to identify the basic components that make up Planet Earth. Students will appreciate the contribution of geology and meteorology to the interpretation of the history of Planet Earth.

Assessment

A 3-hour end-of-semester written examination and a 2-hour practical examination during the semester. Short tests may also be held during the practical sessions. Two field assignments. A reading topic will be assessed in the examination.

geology rocks!

Dream Large

Earth Sciences



THE UNIVERSITY OF
MELBOURNE

weather is cool!