

Course Outline

School / Portfolio: Faculty of Science and Technology

Course Title: LANDSCAPE EVOLUTION

Course ID: SCGEO2111

Credit Points: 15.00

Prerequisite(s): (SCGEO1102 or SX511)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED Code: 010703

Program Level:

AQF Level of Program						
	5	6	7	8	9	10
Level						
Introductory	■	■	■	■	■	■
Intermediate	■	■	✓	■	■	■
Advanced	■	■	■	■	■	■

Learning Outcomes:

This intermediate course presents concepts related to the fields of geomorphology, environmental and engineering geology. At the completion of this course, students should be able to:

Knowledge:

- K1.** Describe and classify physical landforms, and link them to the processes that create them.
- K2.** Review the role of geology and geological time in landscape evolution.
- K3.** Discuss exogenic and endogenic geologic hazards.
- K4.** Evaluate the strength and stability of soil and rock, and identify areas susceptible to failure.
- K5.** Outline fundamental concepts relating to the interaction of humans with the geological environment.

Skills:

- S1.** Identify characteristic landscape components and geology from topographic maps, aerial photographs, and other remote sensing images.
- S2.** Quantitatively analyse landforms and geomorphic processes.
- S3.** Conduct hazard risk assessments.

Application of knowledge and skills:

- A1.** Formulate hypotheses and mitigation techniques for observations/data collected in the lab and field.
- A2.** Demonstrate research and communication skills.

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Course Content:

Topics may include:

- Major morphological features of Earth`s Continents and Ocean Basins.
- Weathering and soil formation.
- Geological Systems and associated landforms (slope, river, groundwater, glacier, shoreline, aeolian, and tectonic systems).
- Agents of landscape change (factors of uplift and denudation, such as, climate change, geology, humans, etc.).
- Risk and mitigation of exogenic hazards (fluvial, coastal, mass movement, and glacial)
- Risk and mitigation of endogenic hazards (seismic and volcanic).
- Remote sensing.
- Planetary geomorphology.

Values and Graduate Attributes:

Values:

- V1.** Appreciate the unique and complex way the landscapes of Earth and the planets evolved to their present-day morphologies.
- V2.** Become aware of the impact of mankind on natural landscapes.

Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Geomorphology is a bridging discipline between multiple avenues of Science. This course aims to motivate students to see and experience the interlinking nature of the world around us.	High
Self Reliance	Within this course students grasp concepts of both natural and man-induced landscape change, learn how to analyse using a systematic approach, and practice technical writing skills. Such capabilities will aid in any personal or professional aspirations.	High
Engaged Citizenship	Several concepts of Environmental Geology are introduced in this unit, which prepares students to evaluate, mitigate and manage several societal and environmental issues such as coastal hazards, landslide hazards, and seismic hazards.	Medium
Social Responsibility	As with most university lecture and lab settings, this course emphasises responsible behaviour and integrity towards lecturers, tutors, demonstrators, and peers.	Low

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
K1-K5, S1-S3, A1, A2	Practical application of key concepts.	Practical reports	20 - 40%
K1-K5, S1-S3, A1	Field Excursion(s) to examine landscapes and landscape components.	Attendance and excursion report	5 - 10%
K1-K5, S1-S3, A1, A2	Research into selected elements of the course content. Communicate results of research in a professional manner	Assignment(s)	10 - 30%

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K1-K5, S1, S2, A1	Review of lecture, practical and reading content.	Quizzes and Examination(s)	40 - 60%

Adopted Reference Style:

Other (Australian Journal of Earth Sciences)