Course Outline (Higher Education)

School: School of Engineering, Information Technology and Physical Sciences

Course Title: GENERAL SCIENCE: LANDSCAPE EVOLUTION

Course ID: SCGEO2111

Credit Points: 15.00

Prerequisite(s): (SCENV1001 or SCGEO1103)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 010703

Description of the Course :
This course addresses concepts related to the fields of geomorphology, environmental, and engineering geology. Disciplines that focus on the physical environment and the processes that have created them and are also altering them, particularly the human component. Topics include weathering and erosion, fluvial hazards, slope stability, shoreline evolution, eolian systems, tectonics and landscapes, and planetary geomorphology. Students will also have the opportunity to conduct risk assessments and propose mitigation strategies.

Grade Scheme: Graded (HD, D, C, etc.)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
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.

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:

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

The Federation University FedUni graduate attributes (GA) are entrenched in the Higher Education Graduate Attributes Policy (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program

progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		**Development and acquisition of GAs in the course**			
		Learning Outcomes (KSA)	**Code** A. Direct B. Indirect N/A Not addressed	**Assessment task (AT#)**	**Code** A. Certain B. Likely C. Possible N/A Not likely
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3, K4, K5, S1, S2, S3, A1	A	Practical Reports, Excursion Report, Assignment, Final exam/test	A
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	Not applicable	Not applicable	Not applicable	Not applicable
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K5, S3	A	Assignment	C
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	A2	A	Practical Reports, Assignment, Final exam/test	A
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	Not applicable	Not applicable	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	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%
K1-K5, S1, S2, A1	Review of lecture, practical and reading content.	Final examination/test.	40 - 60%

Adopted Reference Style:

Australian Harvard