Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: SEDIMENTOLOGY AND STRATIGRAPHY

Unit ID: SCGEO2112

Credit Points: 15.00

Prerequisite(s): (SCGEO1102 or SCGEO1103)

Co-requisite(s): Nil

Exclusion(s): (SCGEO2104 and SCGEO3101 and SCGEO3105)

ASCED: 010703

Description of the Unit:
This unit will provide students with the conceptual tools to recognise, describe and interpret the common sedimentary rocks. It is ideal for those wishing to undertake studies in geoscience, environmental science and related fields.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

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 Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory						
Intermediate			✔			
Advanced						

Learning Outcomes:

Knowledge:

K1. Infer the broad processes responsible for the formation of sedimentary rocks
K2. Determine the spatial variation in sediment/rock type as influenced by the environment of deposition
K3. Cite the principles of stratigraphy

Skills:

S1. Describe sedimentary rocks comprehensively
S2. Classify sedimentary rocks appropriately

Application of knowledge and skills:

A1. Perform elementary stratigraphic correlation
A2. Use sedimentary characteristics in the deciphering of structurally complicated terrain
A3. Interpret sedimentary rocks in terms of their facies significance

Unit Content:

Topics may include:

- Textural analysis of sedimentary rocks (grain size, shape, sorting, fabric)
- Sedimentary structures, trace fossils and bioturbation
- Classification of sedimentary rocks
- Mechanisms of sedimentary transport and deposition
- Diagenesis of carbonate rocks
- Sedimentary facies analysis
- Principles of stratigraphy
- Correlation

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are be embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor	Development and acquisition of FEDTASKS in the Unit	
	Learning Outcomes (KSA)	Assessment task (AT#)

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	**Assessment task (AT#)**
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, interact and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: • Using effective verbal and non-verbal communication • Listening for meaning and influencing via active listening • Showing empathy for others • Negotiating and demonstrating conflict resolution skills • Working respectfully in cross-cultural and diverse teams.	S1, S2, A1, A3	AT1, AT2, AT3
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: • Creating a collegial environment • Showing self -awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative	A3	AT1
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically • Evaluating ideas, concepts and information • Considering alternative perspectives to refine ideas • Challenging conventional thinking to clarify concepts • Forming creative solutions in problem solving	A1, A3, K1	AT1, AT3
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Finding, evaluating, managing, curating, organising and sharing digital information • Collating, managing, accessing and using digital data securely • Receiving and responding to messages in a range of digital media • Contributing actively to digital teams and working groups • Participating in and benefiting from digital learning opportunities	Not applicable	Not applicable
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life.	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, S1, S2, A2	Laboratory / field practicals	Reports	25%-35%
K1, A2, A3, V2	Poster preparation	Poster presentation	15%-25%
K1, K2, K3, A1, V1	Correlation exercises	Correlation Report	5%-15%
K1, K2, K3, S1, S2, A1, A2, A3	Understanding of lecture material	Final examination	35%-55%

Alignment to the Minimum Co-Operative Standards (MiCS)

The Minimum Co-Operative Standards (MiCS) are an integral part of the Co-Operative University Model. Seven criteria inform the MiCS alignment at a Course level. Although Units must undertake MiCS mapping, there is NO expectation that Units will meet all seven criteria. The criteria are as follows:

1. Co-design with industry and students
2. Co-develop with industry and students
3. Co-deliver with industry
4. FedTASK alignment
5. Workplace learning and career preparation
6. Authentic assessment
7. Industry-link/Industry facing experience

MiCS Course level reporting highlights how each Course embraces the principles and practices associated with the Co-Operative Model. Evidence of Course alignment with the MiCS, can be captured in the Course Modification Form.

MICS Mapping has been undertaken for this Unit No

Date:

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool