Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	LANDSCAPE RESTORATION AND MINE SITE REHABILITATION
Unit ID:	SCENV3120
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	050901

Description of the Unit:
This unit explores the ecological and philosophical basis of restoration and mined land rehabilitation. This is achieved by consideration of significant ecological problems needing active restoration (such as mined landscapes, salinity, erosion, habitat loss, weeds, bush encroachment). Other key elements of restoration are explored such as political programs relevant to restoration and mined land rehabilitation (such as Landcare plans, catchment nutrient and salinity plans, and State of the Environment reporting), planning of restoration and mine site projects (including objectives, strategies, budgeting), restoration and rehabilitation: funding opportunities and requirements, monitoring and management of restoration and rehabilitation efforts (mine site rehabilitation and habitat restoration efforts) and legislation and governance (federal, state and local; international agreements and obligations) relating to landscape restoration and mine site rehabilitation. Restoration and rehabilitation in the face of current and projected climate change also receives attention.

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. Demonstrate an in-depth knowledge of ecological principles and concepts that relate to land degradation processes, restoration ecology and mine site rehabilitation

K2. Define and describe the philosophical and ecological basis of rehabilitation

K3. Distinguish current habitat restoration strategies and mine site rehabilitation techniques and the importance of ongoing monitoring

K4. Identify various political programs that facilitate habitat restoration and mined land rehabilitation as well as relevant policy and legislation

K5. Describe how restoration and rehabilitation are social issues and that relationships between stakeholders (e.g. mining companies, governments and their agencies, science and society) underlie many restoration endeavours, rehabilitation practices and reforms

K6. Describe sources of information, expertise and support, the funding required and funding programs available for effective restoration and rehabilitation programs and subsequent management and monitoring

Skills:

S1. Identify and analyse the scientific, political and social information and knowledge that is relevant to habitat restoration and mine site rehabilitation

S2. Develop management plans for habitat restoration and mine site rehabilitation projects

S3. Complete funding applications for habitat restoration and mined land rehabilitation projects.

S4. Express opinions about key habitat restoration and mine site rehabilitation and communicate effectively: to write scientific reports, make funding applications and work in a group

Application of knowledge and skills:

A1. Evaluate the environmental, social and other costs of land degradation and appreciate the value of ecosystem services

A2. Evaluate differing means of re-establishing ecosystem function and conduct a costs-benefits analysis in terms of economics and environmental considerations as well as fulfilment of legislative requirements

A3. Design, budget and communicate a plan for mine site and degraded land restoration

Unit Content:

Topics may include:

- Ecological and philosophical basis of restoration and mined land rehabilitation
- Significant ecological problems needing active restoration (such as mined landscapes, salinity, erosion, habitat loss, weeds, bush encroachment)
- Political programs relevant to restoration and mined land rehabilitation (such as Landcare plans, catchment nutrient and salinity plans, and State of the Environment reporting)
- Planning of restoration and mine site projects (including objectives, strategies, budgeting)
- Restoration and rehabilitation: funding opportunities and requirements

- Monitoring and management of restoration and rehabilitation efforts (mine site rehabilitation and habitat restoration efforts)
- Legislation and governance (federal, state and local; international agreements and obligations) relating to landscape restoration and mine site rehabilitation.
- Restoration and rehabilitation in the face of current and projected climate change.

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 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.	K1, K2, K3, K4, K6, S2, S3,S4, A2, A3	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	K1, K2, K3, K4, K6, S2, S3,S4, A2, A3	AT 2 & AT 3
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	K1, K2, K3, K4, K5, K6, S1, S2, S3,S4, A1, A2, A3	AT1, AT 2, AT 3, AT 4

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
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	K1, K2, K3, K4, K5, K6, S1, S2, S3,S4, A1, A2, A3	AT1. AT 2, AT3, AT 4
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.	K1, K2, K3, K4, K6, S1, S2, S3,S4, A1, A2, A3	AT2, AT 3, AT 4

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K3, K5, S4, A2	Review of mine site rehabilitation techniques and issues for a selected mine type	Short Report	10-20%
K1, K2, K3, K6, S2, S3, S4, A2, A3	Develop habitat restoration or mine site rehabilitation project.	Project report	20-30%
K2, K4, S3, S4, A2, A3	Development of funding application for habitat restoration or mine site rehabilitation project.	Funding application	20-30%
K1, K2, S1, S4, A1	Review of learning, understanding and skills practices	End Semester Test.	30-50%

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