

Course Outline (Higher Education)

School:	School of Health and Life Sciences
Course Title:	LANDSCAPE RESTORATION AND MINE SITE REHABILITATION
Course ID:	SCENV3120
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED Code:	010905

Description of the Course :

This course 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, 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:

AQF Level of Program						
	5	6	7	8	9	10
Level						
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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SCENV3120 LANDSCAPE RESTORATION AND MINE SITE REHABILITATION

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

Course 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.

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Values:

- V1.** Appreciate the role of restoration and rehabilitation in society
- V2.** Appreciate the social and political contexts in which restoration and rehabilitation is conducted
- V3.** Appreciate the need for long-term commitment to habitat restoration and mine site rehabilitation.
- V4.** Appreciate the role of building bridges across political, scientific and social boundaries in transforming degraded lands into resilient ecosystems

Graduate Attributes:

FedUni graduate attributes statement. To have graduates with knowledge, skills and competence that enable them to stand out as critical, creative and enquiring learners who are capable, flexible and work ready, and responsible, ethical and engaged citizens.

Attribute	Brief Description	Focus
Knowledge, skills and competence	Development of skills in critical analysis of technical and professional methods in the field, and monitoring and reporting of rehabilitation work	High
Critical, creative and enquiring learners	Ability to source and critically assess information to make informed judgements regarding implementation of best practice rehabilitation works	High
Capable, flexible and work ready	Understanding of political and community programs around land rehabilitation	Medium
Responsible, ethical and engaged citizens	An appreciation responsibility of companies and individuals to consider the environment in planning	Medium

Learning Task and Assessment:

Learning Outcomes Assessed	Learning 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	Theory examination	30-50%

Adopted Reference Style:

Other (Austral Ecology)