Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: WETLANDS AND WATER RESOURCES

Unit ID: SCENV3400

Credit Points: 15.00

Prerequisite(s): (SCCHM1001) OR (SCENV1001) OR (SCSUS1500)

Co-requisite(s): Nil

Exclusion(s): (SCENV2400)

ASCED: 019999

Description of the Unit:
This unit covers knowledge and skills applicable to an understanding of the equitable distribution of water resources and the challenges of managing water for both human and environmental systems. Content includes: wetland form and function; impacts of a changing climate; monitoring water quality; wetland ecology; wetland chemistry; and social, cultural, political and legal dimensions to water resource management.

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. Investigate the hydrological cycle and the variable distribution of global water resources

K2. Identify the human demands on water resources and the impact of resource use on aquatic ecosystems

K3. Develop a broad understanding of the social, cultural, political and economic influences on water resource management

K4. Interpret the role of a changing climate on future water security

Skills:

S1. Obtain, evaluate and interpret water quality data

S2. Demonstrate the ability to make assessments of water quality and wetland ecosystem health using physical, chemical and biological methods

S3. Synthesis and interpretation of literature on wetland condition

Application of knowledge and skills:

A1. Effectively communicate scientific concepts around water quality and management to a lay audience

A2. Demonstrate the ability to integrate literature, field and laboratory material into a technical report

A3. Make recommendations on wetland rehabilitation through the development of a tender

Unit Content:

This course provides an in depth investigation of water and catchments, including the variability of the nature of wetlands and the availability and quality of water resources over space and time. These fundamental principles will be employed to examine contemporary issues in water resource management such as environmental and cultural flows, wetland reserves, water allocations and the impact of a changing climate, drawing on examples from Australia and elsewhere. The course will also include practical field and laboratory experience in wetland assessment. It also includes a large component of industry engagement covering many facets of the water industry from resource, environmental, recreational and cultural perspectives.

Topics may include:

- Wetland form and function
- Wetland ecology
- Wetland chemistry
- Water quality and bioassessment techniques
- Changes and impacts to water catchments

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, inter-act 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.	K2, K3, S3, A1, A2, A3	AT1, 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	K4, A3	AT3
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.	K2, K3, K4, S1, S2, S3, A2, A3	AT2, AT3, AT4

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.	S1, S2, A2	AT2
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.	K3, K4, A3	AT1, AT3

Learning Task and Assessment:

The Learning Tasks are aligned with conceptual, technical and professional skills students will devleop throughout this unit and provide materials suitable for a professional portfolio. A combination of individual and group work is included, with both formative and sumative assessments

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S3, A1	Catchment Presentation	Oral Presentation	10-30%
S1, S2	Laboratory Report	Report	10-30%
K2, K3, K4, S3, A1, A2, A3	Wetland Tender	Report	20-40%
K1, K2, K3, K4	Online Test	Test	20-40%

Adopted Reference Style:

Australian Harvard

Refer to the library website for more information

Fed Cite - referencing tool