Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: Invasive Species: Ecology, Management and Challenges

Unit ID: SCENV2804

Credit Points: 15.00

Prerequisite(s):   Nil

Co-requisite(s):   Nil

Exclusion(s):   (SCENV2800)

ASCED: 050901

Description of the Unit:

This unit provides a detailed coverage of the impact, ecology, control and management of invasive species in diverse settings, including natural and protected areas, agricultural landscapes and in human society. The impacts explored include ecological, commercial and financial impacts through to the impacts that invasive species have on native species management, including the significant threats posed to native species conservation. The ongoing impacts and future scenarios in the face of a changing climate are considered, as are those around biosecurity.

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

Work Experience:

No work experience

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. Understand and describe the traits that define invasive species, both native and introduced.

K2. Recognise significant invasive species categories that exist in the Australian landscape and understand their origin, and the invasion curve.

K3. Identify and evaluate the impact of significant invasive species that are, or have the potential to become, a threat to agriculture, the environment (natural and modified), or human values in Australia.

K4. Develop a broad understanding of the management techniques and challenges associated with the control of different invasive species and appreciate how these vary according to the type of invasive species.

K5. Understand biosecurity concerns around potential risk species point of entry, prevention and mitigation.

Skills:

S1. Learn how to use weed identification tools and resources.

S2. Carry out a site assessment and report on evidence of invasive species impact.

S3. Consult relevant scientific literature and appropriate websites and recommend a suitable management strategy for a particular situation.

S4. Evaluate control methods and approaches to manage elevated invasive species populations.

Application of knowledge and skills:

A1. Apply knowledge of invasive plant species and use of suitable resources to identify common weed species in the field and in a laboratory setting.

A2. Develop survey strategies to monitor invasive species in the landscape.

A3. Demonstrate the capacity to critically evaluate suitable literature on invasive species control and management, including challenges, and present findings to a relevant audience.

A4. Contextualise knowledge and skills developed during fieldtrip and tutorials to engage in a meaningful way with Industry and community.

Unit Content:

The content of this unit explores issues related to the impact of native and introduced invasive species and covers topics around the recognition and suitable control techniques of weed species/plant disease (including managing herbicide resistance), and challenges associated with managing different categories of pest animals/disease. Additional topics consider biosecurity concerns, global change and future distribution of invasive species.

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.	Not applicable	Not applicable
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	Not applicable	Not applicable
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.	Not applicable	Not applicable
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 attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
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, K3, K4, S1, S3, S4, A3, A4	Task 1. Invasive plant ecology and biocontrol study.	Assignment, which may include a visual component (e.g. poster) and a written report.	20-35%
K1, K2, K3, K4, K5, S3, S4, A3, A4	Task 2. Invasive animal management review.	Assignment, which may include a written report and an oral presentation.	20-35%
K1, K2, K3, K4, K5, S1, S2, S3, S4, A1, A2, A3, A4	Task 3. Review of learning, understanding and skills practices.	Final online test, which may include semester quizzes and/or practical worksheets related to tutorials and field excursion.	40-60%

Adopted Reference Style:

APA ()

Refer to the library website for more information

Fed Cite - referencing tool