Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: FIRE ECOLOGY: BURNING ISSUES FOR SCIENCE AND MANAGEMENT

Unit ID: SCENV3110

Credit Points: 15.00

Prerequisite(s): (At least 60 credit points from SCENV subject-area at any level)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 010999

Description of the Unit:
The role of fire in the ecology of biodiversity and landscapes, particularly from an Australian perspective, is explored. Reflection on the history of fire is used to develop an understanding of the impact of fire on Australian society. The theories and understanding that underpin approaches to fire planning and management that achieve ecological and social outcomes are considered in detail.

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:

Students undertaking the unit are expected to be able to demonstrate the following knowledge and skills.

Knowledge:

K1. Recognise, interpret and use the language of fire ecology
K2. Describe and scrutinise the theory underpinning fire ecology
K3. Examine the history of fire in Australia
K4. Recognise the social context of fire in Australia, and internationally

Skills:

S1. Investigate and compile information to address issues in fire management and planning
S2. Examine the role of fire ecology in fire management and planning using a science-based approach
S3. Apply suitable field-based techniques to address fire planning and management requirements

Application of knowledge and skills:

A1. Apply knowledge to predict fire behaviour and the outcomes of fires of varying intensity, frequency, size and occurrence
A2. Practice the fundamental knowledge, methods, technology and approaches used in fire planning and management
A3. Integrate sound ecological thinking to justify fire planning and management decisions

Unit Content:

Fire ecology: Burning Issues in Science and Management explores the role of fire in the ecology of flora and fauna and how fire is managed in the Australian environment. Fire management forms a key component of environmental management in Australia and this unit considers the history and ongoing role of fire from an ecological and social perspective.Students will explore current issues in fire management and will become familiar with current industry standards used by fire management agencies.

Topics may include:

- History of fire in Australia
- Fire behaviour
- Fire regimes and ecological processes
- Fire and flora
- Fire and fauna
- Fire under changing climate
- Fire management
- Burning Issues for Science and Management
- Living with fire: Policy and social issues

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, A2	AT4
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, A3	AT4
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, S1, A1	AT1, AT2, 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	S3	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, S2, S3	AT2, AT3

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, S1, S2, S3, A1, A2, A3	Review of learning and skills practice	Test	30%-40%
K1, K2, K4, S1, S2, S3, A1, A2, A3	Collation and review of information, field assessment, data analysis, mapping and discussion	Development of a planned fire report to current industry standards	30%-40%
K1, K2, K4, S1, S2, S3, A1, A2, A3	Present the outcomes of the review of information, field assessment, data analysis and mapping as an exercise in information sharing	Presentation	10-20%
K1, K3, K4, S1, A3	Reflection on the issues and literature relevant to fire and associated discussions with peers	Literature review and bibliography development, tutorial discussions and associated freewrites and reflections	20%-30%

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