Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	SCIENTIFIC COMMUNICATION
Unit ID:	SCCOR1200
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(SCCOR2200)
ASCED:	019999

Description of the Unit:

Scientific Communication provides students with an opportunity to develop essential communication skills through a range of carefully scaffolded authentic science communication tasks. Throughout this unit students will have multiple opportunities to develop both their written and oral communication skills and will learn how to present complex scientific ideas to a range of diverse audiences. After successfully completing this unit, students will be able to use scientific reporting and grammatical conventions; record and present scientific information in an appropriate format; interpret and explain experimental data; search the literature to locate relevant, credible sources of scientific information; cite and reference appropriately; construct reference lists and bibliographies; prepare and deliver written and oral reports; detect and avoid plagiarism.

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

Knowledge:

K1. Recognise the grammatical conventions used in scientific and technical reports.

K2. Examine the need for appropriate attribution of the work and ideas of others and discuss the nature and consequences of plagiarism.

K3. Discuss the history of science communication and the constributions of First Nations Peoples to science

K4. Identify and recognise the key features of effective communication in science.

K5. Recognise that scientific knowledge is both contestable and testable by further inquiry

Skills:

S1. Use digital technology to create scientific communication suitable for different audiences

S2. Locate and critically evaluate relevant, credible sources of scientific information; cite and reference these sources appropriately.

S3. Design and deliver effective oral and written scientific communication, tailored to a particular audience.

S4. Write scientific reviews and reports using correct structure, grammar and spelling.

S5. Use appropriate technology to facilitate group work, written work and effective communication.

Application of knowledge and skills:

A1. Demonstrate effective communication of scientific ideas to varied audiences in a range of relevant formats.

A2. Exhibit strategies for working effectively in groups to construct and deliver scientific communication

A3. Explore Indigenous knowledge as science and communicate this through contemporary digital communication

Unit Content:

Scientific Communication explores the fundamental role that effective communication has in science, with a key focus on students developing quality communication skills to enhance their university learning experience. Students gain experience in effective writing, delivering oral presentations, adapting communication strategies to an audience, using appropriate technology, time management, working in groups and working independently.

Topics may include:

- Communicating scientific concepts: Styles and strategies
- Written communication: writing styles, grammatical conventions
- Identifying and evaluating sources of scientific information
- Citing and referencing
- Recognizing and avoiding plagiarism
- Reviewing, editing and tracking documents

- Visual representations of scientific information
- Effective oral communication techniques
- Working in groups: communication, collaboration and collusion
- Reflection, evaluation and feedback

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.	S5 A2	AT1
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	S2	AT2
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	AT3

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- K5, S1-S5, A1-A3	Formal scientific communication tasks	Written and / or oral presentation(s)	20-40%
K1-K5, S1-S5, A1-A3	Academic research and writing tasks	Written reports, tutorial activities, quizzes	20-40 %
K1- K5, S1-S5, A1-A3	Research task aligned with scientific discoveries	Contemporary scientific communication task	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