Unit Outline (Higher Education)

Institute / School:	Institute of Education, Arts & Community
Unit Title:	Science Curriculum 2
Unit ID:	EDMAS6117
Credit Points:	15.00
Prerequisite(s):	(EDMAS6017)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	070105

Description of the Unit:

This course follows on from Science Curriculum 1 providing Pre-Service Teachers (PSTs) with further opportunities to development their confidence and competence in teaching Science at a secondary level. Within the theme of making Science relevant and interesting for all students it links Science and language; aims for a critical understanding of curriculum issues and curriculum planning skills including excursions and exploration of Science resources; the effective use of ICT for learning in Science; and knowledge of assessment issues and strategies.

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	☐	☐	☐	☐	☐	☐

Level of Unit in Course	AQF Level of Course					
	5	**6**	**7**	**8**	**9**	**10**
Intermediate	☐	☐	☐	☐	☐	☐
Advanced	☐	☐	☐	☐	✔	☐

Learning Outcomes:

Knowledge:

K1. Examine and apply contemporary curriculum policies and guidelines relevant to teaching and assessing Science in the middle years.

K2. Explore different approaches to assessment and their underlying philosophies, be able to apply these in practical situations, and examine their effectiveness.

K3. Examine a range of theoretical and pedagogical approaches and teaching dispositions, including constructivism, relevant to learning and teaching in Science and how they can be applied to practice.

K4. Know about a range of effective learning, thinking and teaching strategies related to Science.

K5. Apply critical, creative and practical understandings of the effective use of information technology in Science curriculum.

K6. Explore a range of resources to engage Science students in learning.

K7. Apply ethical practices and safe conduct in relation to Science practices and understand complex issues the teaching of science and STEM including the use of ICT in schools.

K8. Research and identify how literacy and numeracy skills can be developed among students in Science

Skills:

S1. Construct a variety of assessment tasks relevant to the teaching of science and a diversity of student learning needs.

S2. Use various strategies and resources including technology ethically in teaching practice.

S3. Articulate and justify teaching practices by making thoughtful connections to theory.

S4. Apply and evaluate literacy and numeracy teaching strategies in the Science teaching area.

S5. Integrate the teaching of science as part of a broader STEM unit.

Application of knowledge and skills:

A1. Create authentic strategies for assessing science students.

A2. Create a STEM project.

A3. Connect theories about science teaching to curriculum and assessments.

Unit Content:

• Examining Science as a field of human knowledge and endeavour, the links between Science and other areas of knowledge and between the traditional Science disciplines.
• Linking learning theories to curriculum planning, practice and assessment approaches.
• Understanding the contemporary role of science and STEM in schools.
• Exploring, creating and organising resources and connecting to professional and discipline-based networks and community.
• Evaluation, assessment and feedback approaches

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 at this level will demonstrate an advanced ability in a range of contexts to effectively communicate, interact and work with others both individually and in groups. Students will be required to display high level skills in-person and/or online in: • Using and demonstrating a high level of verbal and non-verbal communication • Demonstrating a mastery of listening for meaning and influencing via active listening • Demonstrating and showing empathy for others • High order skills in negotiating and conflict resolution skills\\ • Demonstrating mastery of working respectfully in cross-cultural and diverse teams.	K8, S5, A2, A3.	AT2
FEDTASK 2 Leadership	Students at this level will demonstrate a mastery in professional skills and behaviours in leading others. • Creating and sustaining a collegial environment • Demonstrating a high level of self -awareness and the ability to self-reflect and justify decisions • Inspiring and initiating opportunities to lead others • Making informed professional decisions • Demonstrating initiative in new professional situations.	K1, K2, K3, K4, S1, S2, S3, A1, A3.	AT1, AT2
FEDTASK 3 Critical Thinking and Creativity	Students at this level will demonstrate high level skills in working in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically to generate and consider complex ideas and concepts at an abstract level • Analysing complex and abstract ideas, concepts and information • Communicate alternative perspectives to justify complex ideas • Demonstrate a mastery of challenging conventional thinking to clarify complex concepts • Forming creative solutions in problem solving to new situations for further learning.	K6, K7, K8, S2, S5, A1, A2.	AT1, AT2, A3
FEDTASK 4 Digital Literacy	Students at this level will demonstrate the ability to work competently across a wide range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Mastering, exploring, evaluating, managing, curating, organising and sharing digital information professionally • Collating, managing complex data, accessing and using digital data securely • Receiving and responding professionally to messages in a range of professional digital media • Contributing competently and professionally to digital teams and working groups • Participating at a high level in digital learning opportunities.	K6, K7, K8, S2, S5, A1, A2.	AT1, AT2

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 at this level will demonstrate a mastery of considering and assessing the consequences and impact of ideas and actions in enacting professional ethical and sustainable decisions. Students will be required to display skills in: • Demonstrate informed judgment making that considers the impact of devising complex solutions in ambiguous global economic environmental and societal contexts • Professionally committing to the promulgation of social responsibility • Demonstrate the ability to evaluate ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Communicating lifelong, life-wide and life-deep learning to be open to the diverse professional others • Generating, leading and implementing required actions to foster sustainability in their professional and personal life	K1, K7, S2, A1, A2, A3.	AT1

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K5, K8, S1, S2, S3, S4, A1, A3 APST 2.1, 2.2, 2.3, 3.2, 3,3, 3.4, 3.5, 4.2, 5.1	Develop a series of assessment tasks for a unit of science work, including a diagnostic, formative and summative task, a developmental rubric, example student responses and a learning outcome statement based on the curriculum	Development of assessment resources	40-60%
K1, K3, K4, K5, K7, S1, S2, S3, S4, S5, A2, A3 APST 2.1, 2.2, 2.3, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.4, 5.1	Develop a STEM project for students, that includes student resources, assessment criteria and an example student response and feedback to the student.	Curriculum Planning	40% - 60%

Adopted Reference Style:

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)