



Course Outline (Higher Education)

School:	School of Education
Course Title:	PRIMARY SCIENCE EDUCATION
Course ID:	EDMAS6049
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(EDMAS6043)
ASCED:	070103

Description of the Course:

This course is designed to examine key theoretical and pedagogical perspectives and issues in the teaching of science and technology with children, with emphasis on developing children`s skills of working scientifically, designing and making products. Students are introduced to a range of current curriculum documents and a variety of teaching strategies used in schools including lesson and unit planning, implementing and enacting curriculum, monitoring and reflecting upon learning and reporting. The course addresses important conceptual ideas and processes about embedding science and technology into classroom learning, understanding science as a human endeavour and the differences in learning progressions in science and technology.

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

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

On successful completion of the course pre-service teachers will demonstrate their capacity to:

Knowledge:

- K1.** Recognise key theoretical, philosophical and pedagogical perspectives for teaching science and technologies (Design and Technologies; Digital Technologies).

- K2.** Examine a range of cross-curriculum documents and resources to develop an integrated unit of work which incorporates science and technologies (Design and Technologies; Digital Technologies), and links to cross-curricular priorities and general capabilities in the current curriculum.
- K3.** Engage students in inquiry learning that focuses on a place, time or social issue relating to science, technology, the humanities and social sciences.
- K4.** Investigate how educators can embrace diversity, teach for social justice and develop understandings of how events shape societies and places within them.
- K5.** Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.

Skills:

- S1.** Critically consider how students understand and express their experiences of the world at a local and global level and how to develop an ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change.
- S2.** Demonstrate the ability to link discipline-based domains of science and technology (Design and Technologies; Digital Technologies), including links to general capabilities and cross-curricular priorities.
- S3.** Apply literacy and numeracy strategies in the teaching of science and technologies.
- S4.** Organise classroom activities and provide clear directions.

Application of knowledge and skills:

- A1.** Using a range of resources and knowledge of student learning and effective teaching strategies, plan lesson sequences in science and technology, plan and present a lesson for reflection, and plan a lesson sequence that includes information and communication technology, general capabilities and cross-curricular priorities.
- A2.** Assess learners in ways that acknowledge and engage with diversity and diverse learners using a variety of assessment methods.
- A3.** Investigate teaching resources and associated pedagogical frameworks and consider how resources can be adopted in teaching.

Course Content:

- Key theoretical and pedagogical perspectives and issues in the teaching of science and technologies (Design and Technologies; Digital Technologies) with children.
- Methods and skills that are crucial to scientific inquiry, designing and making products.
- Current curriculum documents, including reference to general capabilities and cross-curricular priorities, and a variety of teaching strategies used in schools.
- Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.
- Conceptual ideas and processes about embedding science and technology (Design and Technologies; Digital Technologies), into classroom learning, understanding science as a human endeavour and the differences in learning progressions in science and technology (Design and Technologies; Digital Technologies).
- Literacy and numeracy teaching strategies in science and the technologies.

Values:

- V1.** Develop an attitude of inquiry that leads to an enjoyment of and enthusiasm for teaching science and technology, as well as humanities and social sciences.
- V2.** Reflect critically on the role of primary school teachers in terms of drawing upon students'™ experiences across science, technology, the humanities and social sciences.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1; K2; K4; K5; S1; S3; A1; A2; A3	AT1; AT2
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	K1; K4; K5; S2; S3; A1	AT1; AT2
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K4; S1; A2	AT1; AT2
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	K2; K3; K5; S4; A1	AT1; AT2
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	K2; K3; S4; A1; A2	AT1; AT2

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S1, S2, S4, A1, A2, A3 APST: 1.2, 1.5, 2.1, 2.2, 2.3, 6.3	Using current curriculum documents, research, plan and present an 'Engage' or 'Tuning in' lesson. Write a personal reflection on the activity, noting the key scientific underpinnings, teaching strategies and student outcomes.	Seminar Presentation / teaching activity.	40-60%
K1, K2, K3, K4, K5, S1, S2, S3, S4, A1, A2, A3. APST: 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4,	Develop a coherent, active and meaningful inquiry unit of work with a theme that has a focus discipline in science and technology and enables integration across disciplines.	Integrated Unit of work	40-60%

Adopted Reference Style:

APA

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

Fed Cite - [referencing tool](#)

Professional Standards / Competencies:
Australian Professional Standards for Teachers (AITSL) - Graduate Teacher: Initial

Attribute	Assessed	Level
Professional Knowledge		
1. Know students and how they learn		
1.2 Understand how students learn Demonstrate knowledge and understanding of research into how students learn and the implications for teaching.	Yes	Advanced
1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds Demonstrate knowledge of teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural, religious and socioeconomic backgrounds.	Yes	Advanced
1.4 Strategies for teaching Aboriginal and Torres Strait Islander students Demonstrate broad knowledge and understanding of the impact of culture, cultural identity and linguistic background on the education of students from Aboriginal and Torres Strait Islander backgrounds.	Yes	Advanced
1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities.	Yes	Advanced
1.6 Strategies to support full participation of students with disability Demonstrate broad knowledge and understanding of legislative requirements and teaching strategies that support participation and learning of students with disability	Yes	Advanced
2. Know the content and how to teach it		
2.1 Content and teaching strategies of the teaching area Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area.	Yes	Advanced
2.2 Content selection and organisation Organise content into an effective learning and teaching sequence.	Yes	Advanced
2.3 Curriculum, assessment and reporting Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.	Yes	Advanced

2.4 Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and non-Indigenous Australians Demonstrate broad knowledge of, understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages.	Yes	Advanced
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Professional Engagement

6. Engage in professional learning

6.3 Engage with colleagues and improve practice Seek and apply constructive feedback from supervisors and teachers to improve teaching practices.	Yes	Advanced
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