



Course Outline (Higher Education)

School:	School of Education
Course Title:	SCIENCE CONTENT AND PEDAGOGY 2
Course ID:	EDMST6122
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	070301

Description of the Course :

This course further develops an understanding of Science as a "critical subject in secondary schooling" for students' future educational and employment opportunities. It allows participants opportunities to develop their confidence and competence in teaching Science at a secondary level. Within the theme of making Science relevant and interesting for all students, this course 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, etc.)

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

(On successful completion of the course the students are expected to be able to):

Knowledge:

- K1.** Consider the nature of Science as a constantly developing field of knowledge and the processes of scientific thinking which support this development.
- K2.** Examine and apply contemporary curriculum policies and guidelines relevant to teaching and assessing Science in the middle years.
- K3.** Explore different approaches to assessment and their underlying philosophies, be able to apply these in practical situations, and examine their effectiveness.
- K4.** Examine a range of theoretical and pedagogical approaches, including constructivism, relevant to learning and teaching in Science and how they can be applied to practice.
- K5.** Know about a range of effective learning, thinking and teaching strategies related to Science.
- K6.** Apply critical, creative and practical understandings of the effective use of information technology in Science curriculum.
- K7.** Explore a range of resources to engage Science students in learning.
- K8.** Apply ethical practices and safe conduct in relation to Science practices.
- K9.** Identify how literacy and numeracy skills can be developed among students in Science.

Skills:

- S1.** Plan and construct teaching sequences which address current scientific understandings; the links between Science and society; students' diverse backgrounds, abilities and needs; and curriculum policy requirements.
- S2.** Use a variety of effective teaching and learning strategies and resources including technology in teaching practice.
- S3.** Articulate and justify teaching practices by making thoughtful connections to theory.
- S4.** Communicate effectively with learners and colleagues.
- S5.** Apply literacy and numeracy teaching strategies in the Science teaching area.

Application of knowledge and skills:

- A1.** Develop a teaching journal that provides evidence of the planning of learning sequences and reflection on practice including specific key teaching skills.
- A2.** Design a curriculum unit based on constructivist theory, contemporary curriculum guidelines, inclusion strategies and relevant instructional models.
- A3.** Research assessment strategies and construct an assessment plan related to a curriculum unit.

Course Content:

Topics may include:

- 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.
- Further development and critical evaluation of teaching strategies in relation to constructivist theory and the achievement of authentic learning by individual students.
- Exploring, creating and organising resources and connecting to professional and discipline-based networks and community.

- Examining HITS (high impact teaching strategies) and their relevance to Science.
- Evaluation, assessment and feedback approaches.

Values:

- V1.** Science is relevant to all students and can be made engaging to students.
- V2.** Critically evaluate teaching practice in relation to changes in education, Science and society.
- V3.** Contribute to the growth of Science in education and help create scientifically literate people in society.

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)	Code A. Direct B. Indirect N/A Not addressed	Assessment task (AT#)	Code A. Certain B. Likely C. Possible N/A Not likely
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.	K2	A	AT1	A
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.	K3	B	AT2	B
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.	K8	A	AT1	A
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.	K7	B	AT2	B
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.	K6	B	AT2	B

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K2, K3, K6, S3, S4, A3	Research, preparation, analysis and commentary on assessment approaches used in the Science classroom.	Analysis	30 - 50%
K1, K2, K3, K4, K5, K6, K7, K8, K9, S1, S2, S3, S5 A2	Preparation of a unit of work based on constructivist theory, contemporary curriculum frameworks, inclusion strategies and relevant instructional models.	Researched unit of work	50 - 70%

Adopted Reference Style:

APA