

Course Outline (Higher Education)

Faculty: Faculty of Education and Arts

Course Title: SCIENCE CURRICULUM 2

Course ID: EDBED3020

Credit Points: 15.00

Prerequisite(s): (EDDDE3002)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED Code: 070301

Grade Scheme:

Graded (HD, D, C, etc.)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component:

No

Program Level:

AQF Level of Program						
	5	6	7	8	9	10
Level						
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

Learning Outcomes:

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.** Develop a repertoire of effective learning, thinking and teaching strategies related to Science.

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- K6.** Apply critical, creative and practical understandings of the 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 and understand complex issues related to environmental sustainability.
- 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.** Develop a research question and conduct an independent investigation that involves reading contemporary research and policy, talking to experienced teachers, examining personal experiences and articulating findings.
- S5.** Communicate effectively with learners and colleagues.
- S6.** 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.
- A2.** Design a curriculum unit based on constructivist theory, current Year 7-10 curriculum and the E5 instructional model
- A3.** Construct an assessment plan related to a curriculum unit.

Course 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.
- Further development and critical evaluation of teaching strategies in relation to constructivist theory and the achievement of authentic learning by individual students.
- Developing and organising resources and connecting to professional and discipline-based networks. Evaluation, assessment and feedback approaches.

Values:

- V1.** Appreciate that Science is relevant to all students and can be made engaging to students.
- V2.** Appreciate that teaching practices change in relation to education, Science and society.
- V3.** Contribute to the growth of Science in education and help to create more scientifically literate people in society.

Graduate Attributes:

FedUni graduate attributes statement. To have graduates with knowledge, skills and competence that enable them to stand out as critical, creative and enquiring learners who are capable, flexible and work ready, and responsible, ethical and engaged citizens.

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Attribute	Brief Description	Focus
Knowledge, skills and competence	PSTs develop an increased understanding of learners, the nature of teaching and learning processes and the way learning occurs in Science contexts and situations. They identify key needs for their professional growth as a Science teacher and engage in on-going professional learning.	High
Critical, creative and enquiring learners	PSTs are able to plan for learning, make judgments about learning and communicate learning and teaching processes. They critically examine and reflect on teaching practice. PSTs build confidence, creativity and capability in teaching Science.	High
Capable, flexible and work ready	PSTs engage in professional discussions with peers and colleagues. They are actively involved in a learning community and develop understandings of social and civic responsibilities and how these can be fostered through the teaching of Science.	High
Responsible, ethical and engaged citizens	PSTs gain an insight into the social and cultural diversity of communities and ways to build these understandings through teaching Science. They contribute to the growth of Science in education and help to create more scientifically literate people.	High

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K4, K5, K6, K7, K8 S3, S4, S5 A1	Critical investigation of a significant issue related to teaching and learning in Science	Research report and peer presentation of an issue relevant to teaching and learning in Science	30 – 40%
K1, K2, K4, K5, K6, K7, K8, K9 S1, S2, S3, S6 A2	Preparation of a course of work based on constructivist theory, current curriculum and the E5 Instructional Model.	Unit of Work	40 – 50%
K2, K3, K4 S3 A3	Preparation, analysis and commentary on assessment approaches used for the unit of work prepared in Assessment Task 2.	Assessment Plan	20 – 30%

Adopted Reference Style:

APA