Unit Outline (Higher Education)

Institute / School: Institute of Education, Arts & Community

Unit Title: SENIOR SCIENCE CURRICULUM 2

Unit ID: EDDDE3118

Credit Points: 15.00

Prerequisite(s): (EDBED3038 or EDDDE3018)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 070301

Description of the Unit:
This unit is designed to follow on from Senior Science Curriculum 1 focusing on curriculum and pedagogy in the Senior Science specialist teaching area for undergraduate Pre-Service Teachers. Pre-service teachers will develop confidence and competence in teaching Physics, Chemistry, Environmental Science, or Biology at VCE level. They will develop skills in course and unit planning, pedagogy, assessment and reporting and will further develop their knowledge of the field of Science as it relates to education.

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						

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

Learning Outcomes:

Knowledge:

K1. Demonstrate a sound knowledge of the VCE Study Designs in Biology, Chemistry, Physics or Environmental Science particularly in Units 2 and 4.

K2. Continue to display a cohesive knowledge of the appropriate Biological, Chemical, Physical or Environmental science, and how they interact in effective teaching.

K3. Demonstrate good understandings of the rationale, methodology and teaching techniques relevant to VCE Biology, Chemistry, Physics or Environmental Science.

K4. Design detailed teaching plans for Units 2 and 4 and within the unit framework design lesson plans, unit plans and area of study plans which integrate a range of activities, resources and materials to support learning, including the use of ICT and other learning technologies.

K5. Continue to understand and develop the links between effective planning, teaching, and assessment areas, specifically School Assessed Coursework in Unit 4.

Skills:

S1. Devise valid methods for assessment in VCE Units 2 and 4, in line with VCE guidelines for Biology, Chemistry, Physics or Environmental Science.

S2. Show further skill development in the teaching of Biology, Chemistry, Physics or Environmental Science using theoretical frameworks and practical ability to produce effective learning for a wide range of students.

S3. Continue to use a variety of technologies in the classroom in order to assist learning.

S4. Design, implement, assess and report on School Assessed Coursework in VCE Units 3 and 4.

S5. Be skilled communicators who can effectively articulate and justify their practices.

Application of knowledge and skills:

A1. Teach a conceptually difficult component of a VCE course and receive feedback whilst on school placement.

A2. Design a VCE Science curriculum with learning activities (including use of ICT), assessment tasks and links to the relevant VCE Study Design

A3. Plan School Assessed Coursework for Units 3 or 4 and discuss issues related to student achievement within the VCE assessment system

Unit Content:

Topics may include:

- The Victorian Certificate of Education and the specific structure and content in VCE Units 1, 2, 3 and 4 in Biology, Chemistry, Physics or Environmental Science with a particular focus on understanding concepts in Units 2 and 4
- Discussion of methodology and teaching strategies in VCE Biology, Chemistry, Physics or Environmental Science with reference to school placement experiences
- The development of VCE Units 2 and 4 courses into effective learning and teaching sequences that cater for students with varying capabilities and characteristics
- School Assessed Coursework requirements and design of assessment for Unit 4
- Further consideration of general issues of the assessment system at VCE level

- Observing practicing teachers of Units 2 and 4 in Biology, Chemistry, Physics or Environmental Science and discussing content, teaching approaches and assessment issues
- Preparing students with a range of abilities for examinations in VCE Biology, Chemistry, Physics or Environmental Science
- Investigating the introduction and content of the Australian Curriculum into Senior Sciences.

Graduate Attributes

The Federation University Federation 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 Courses. Graduate attribute attainment typically follows an incremental development process mapped through Course progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all attributes must be directly assessed in each Course**

Graduate attribute and descriptor		Development and acquisition of GAs in the Unit	
		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.	K2, S1	AT1
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.	K2, A2	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.	Not addressed	Not addressed
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.	S5, A1	AT1
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.	S2, A3	AT2, AT3

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, K5, S2, S3, S5, A1 APST 2.1, 2.5, 3.1, 3.3, 3.4, 3.5, 4.1, 4.2	Plan and teach a conceptually difficult content area in Unit 2 or Unit 4 Biology, Chemistry, Physics or Environmental Science, using strategies to address difficulties and develop effective student learning.	Teaching Performance	10-20%
K1, K2, K3, K4, K5, S1, S2, S3, S5, A2 APST 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1	Design a unit plan with a sequence of lessons for VCE Biology, Chemistry, Physics or Environmental Science for VCE Units 2 and 4, including teaching strategies which cater for diverse learners resources (including the use of ICT) and assessment approaches	Curriculum Design	40 -60%
K1, K2, K3, K5, S1, S4, S5, A3 APST 5.1, 2.5, 3.1, 3.3, 3.4, 4.1 5.1	Plan School Assessed Coursework tasks for Unit 4 in VCE Science with consideration given to the VCAA SAC requirements, their place in the curriculum, and a personal reflection on issues related to assessment in VCE.	Assessment Design	30-40%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool