Course Outline (Higher Education)

School: School of Education

Course Title: SENIOR SCIENCE CURRICULUM 1

Course ID: EDDDE3018

Credit Points: 15.00

Prerequisite(s): (A pass in three approved Science discipline courses)

Co-requisite(s): (One approved Science discipline course)

Exclusion(s): Nil

ASCED: 070301

Description of the Course:
This course aims to introduce undergraduate pre-service teachers to the philosophy and structure of the Victorian Certificate of Education and the requirements of teaching classes in Units 1, 2, 3, and 4 of the VCE. Pre-service teachers will relate their work to Physics, Chemistry, Biology or Environmental Science.

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 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						
Intermediate						
Advanced			✔			

Learning Outcomes:

Knowledge:

K1. Demonstrate a sound knowledge of the VCE Study Designs in Biology, Chemistry, Physics or Environmental Science particularly in Unit I and Unit 3.

K2. Display a solid knowledge of the appropriate biological, chemical, physical or earth and space sciences as specified in the Australian curriculum, the relationship to educational contexts, and how they interact in effective teaching.

K3. Demonstrate developing understandings of the rationale, methodology and teaching techniques relevant to VCE Biology, Chemistry, Physics or Environmental Science and how these subjects relate to the teaching of Science.

K4. Demonstrate developing knowledge of resources, including technology, relevant to the teaching of Biology, Chemistry, Physics and Environmental Science at VCE level.

K5. Understand the links between effective planning, teaching, and assessment areas.

K6. Identify the way literacy and numeracy skills can be developed among students in Senior Science.

Skills:

S1. Devise valid methods for assessment in VCE Units 1 and 3 in line with VCE guidelines for Biology, Chemistry, Physics or Environmental Science.

S2. Show developing skills 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. Use a variety of technologies in the classroom in order to assist learning.

S4. Effectively articulate and justify practice.

S5. Use literacy and numeracy teaching strategies in the Senior Science teaching area.

Application of knowledge and skills:

A1. Demonstrate understanding of key concepts in a VCE Science course.

A2. Design, plan and analyse a Senior Science curriculum.

A3. Plan for classroom practices that are inclusive and cater for students needs

A4. Design and provide a written rationale for assessment tasks in VCE units 1.

Course Content:

Topics may include:

- The Victorian Certificate of Education: the structure, role of VCAA and assessment approaches.
- The specific structure and content in VCE Units 1, 2, 3 and 4 in Biology, Chemistry, Physics or Environmental Science with a focus on Unit 1 and Unit 3.
- Methodology and teaching techniques in VCE Biology, Chemistry, Physics or Environmental Science with particular focus on laboratory work, demonstrations, safety in all areas, activity based learning and classroom management.
- Observing practicing teachers of Units 1 and 3 in Biology, Chemistry, Physics or Environmental Science and discussing content, teaching approaches and assessment areas.
- Evaluation and assessment issues at VCE level - issues at the school level for Unit 1 and school assessed coursework at Unit 3.
- Preparing students for examinations (VCAA) in Biology, Chemistry, Physics, and Environmental Science.
- The introduction of the Australian Curriculum in Senior Sciences.

Values:

V1. Be flexible and prepared to adapt to change through knowing how to learn.

V2. Appreciate the importance of being equipped with the skills, motivation and confidence to engage in continuous learning in order to meet the challenges of a changing world.

V3. Appreciate the significance of generally accepted norms of ethical behaviour in the teaching profession and acting in a socially responsible manner in the workplace and other settings.

V4. Become engaged and socially responsible citizens.

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.	S1, A1	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.	S2, A2	AT3
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.	K6, S5	AT3
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.	K5, S4, A3	AT2, AT3
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, S1, A4	AT2

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, K3, K4, K5 S1, S2, S4, A1	Introduce a VCE Science Area of Study	Presentation of an introductory lesson synthesising key concepts and probing student ideas of an Area of Study	10-20%
K1, K2, K3, K4, K5 S1, S2, S4, A4	Assessment tasks for Unit 1 Biology/Chemistry/ Physics or Environmental Science	Rationale for design/selection/implementation of assessment tasks	30-40%
K1, K2, K3, K4, K5, K6 S1, S2, S3, S4, S5 A2, A3	Design, and planning of VCE Senior Science curriculum	Curriculum design project	40-60%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool