



# Unit Outline (Higher Education)

**Institute / School:** Institute of Education, Arts & Community

**Unit Title:** Senior Science Curriculum 1

**Unit ID:** EDBED3038

**Credit Points:** 15.00

**Prerequisite(s):** (Pass in 3 Senior Science Courses)

**Co-requisite(s):** Nil

**Exclusion(s):** (EDDDE3018)

**ASCED:** 070301

**Description of the Unit:**

This unit is designed to introduce 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

**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						

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Articulate a sound knowledge of the content and teaching strategies relevant to teaching VCE Study Designs in Biology, Chemistry, Physics or Environmental Science particularly in Units 1 and 3.
- K2.** Display a solid knowledge of the appropriate biological, chemical, physical or earth & space sciences, the relationship to educational contexts, and how they interact in effective teaching.
- K3.** Understand 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.** Examine resources, including ICT, relevant to the teaching of Biology, Chemistry, Physics or Environmental Science at VCE level.
- K5.** Examine the links between effective planning, teaching, and assessment areas.

#### 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.** Trial and evaluate teaching approaches for 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.** Communicate effectively and articulate and justify decisions related to practice.

#### Application of knowledge and skills:

- A1.** Create and deliver a series of VCE Unit 1 lessons in senior science.
- A2.** Create a curriculum plan related to VCE Unit 3 in senior science.

#### Unit Content:

Topics to be covered: The Victorian Certificate of Education: the structure, role of VCAA and assessment approaches where formative assessment is used to inform the summative assessment. The specific structure concepts and content in VCE Units 1, 2, 3 and 4 in Biology, Chemistry, Physics or Environmental Science with a focus on Units 1 and 3, and the organisation of this into an effective learning and teaching sequence. Discussion of methodology and teaching strategies to engage students in VCE Biology, Chemistry, Physics or Environmental Science with particular focus on clear directions for laboratory work, incorporation of a range of resources including ICT, demonstrations, safety in all areas, activity-based learning and classroom management. Know and understand literacy and numeracy teaching strategies as applied to Senior Science. Evaluation and assessment issues at VCE level issues at the school level for Unit 1 and school assessed coursework introduction at Unit 3. Preparing students with a range of abilities for examinations (VCAA) in Biology, Chemistry, Physics, and Environmental Science.

#### FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to

prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**tttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, inter-act and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: <ul style="list-style-type: none"> <li>Using effective verbal and non-verbal communication</li> <li>Listening for meaning and influencing via active listening</li> <li>Showing empathy for others</li> <li>Negotiating and demonstrating conflict resolution skills</li> <li>Working respectfully in cross-cultural and diverse teams.</li> </ul>	Not applicable	Not applicable
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: <ul style="list-style-type: none"> <li>Creating a collegial environment</li> <li>Showing self-awareness and the ability to self-reflect</li> <li>Inspiring and convincing others</li> <li>Making informed decisions</li> <li>Displaying initiative</li> </ul>	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: <ul style="list-style-type: none"> <li>Reflecting critically</li> <li>Evaluating ideas, concepts and information</li> <li>Considering alternative perspectives to refine ideas</li> <li>Challenging conventional thinking to clarify concepts</li> <li>Forming creative solutions in problem solving.</li> </ul>	Not applicable	Not applicable
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: <ul style="list-style-type: none"> <li>Finding, evaluating, managing, curating, organising and sharing digital information</li> <li>Collating, managing, accessing and using digital data securely</li> <li>Receiving and responding to messages in a range of digital media</li> <li>Contributing actively to digital teams and working groups</li> <li>Participating in and benefiting from digital learning opportunities.</li> </ul>	Not applicable	Not applicable

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: <ul style="list-style-type: none"> <li>• Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts</li> <li>• Committing to social responsibility as a professional and a citizen</li> <li>• Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses</li> <li>• Embracing lifelong, life-wide and life-deep learning to be open to diverse others</li> <li>• Implementing required actions to foster sustainability in their professional and personal life.</li> </ul>	Not applicable	Not applicable

### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, K5, S1, S2, S3, S4, A1	Plan, teach and provide a rationale for a series of lessons, incorporating a range of teaching strategies, and related to key knowledge from an Area of Study in VCE Unit 1 in Biology, Chemistry, Physics or Environmental Science.	Teaching performance and planning	40-60%
K1, K2, K3, K4, K5, S1, S2, S3, S4, A2	Design and justify a curriculum plan including a formative and summative assessment map for an Area of Study in VCE Unit 3 in Biology, Chemistry, Physics or Environmental Science.	Curriculum planning and assessment task.	40-60%

### Adopted Reference Style:

APA ()

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

Fed Cite - [referencing tool](#)