



# Course Outline (Higher Education)

<b>Institute / School:</b>	Institute of Education, Arts & Community
<b>Course Title:</b>	SENIOR SCIENCE CURRICULUM 2
<b>Course ID:</b>	EDMAS6118
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	(EDMAS6018)
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	Nil
<b>ASCED:</b>	070105

## Description of the Course:

This course 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 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.** Articulate a sound knowledge of the VCE Study Designs in Biology, Chemistry, Physics or Environmental Science particularly in Units 2 and 4.
- K2.** Display a cohesive knowledge of the appropriate Biological, Chemical, Physical or Environmental science, and how they interact in effective teaching.
- K3.** Understand the rationale, methodology and teaching strategies for practical activities and investigations relevant to VCE Biology, Chemistry, Physics or Environmental Science.
- K4.** Identify and examine the links between effective planning, teaching, and assessment areas, specifically School Assessed Coursework in Unit 4.
- K5.** Develop and trial moderation practices appropriate for VCE Biology, Chemistry, Physics or Environmental Science.

**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.** 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.** Select and use a variety of technologies in the Senior Science classroom in order to assist learning.
- S4.** Design, implement, assess and report on School Assessed Coursework in VCE Units 3 and 4.
- S5.** Communicate effectively and articulate and justify decisions related to practice.

**Application of knowledge and skills:**

- A1.** Develop teaching skills and learning sequences for VCE units 3 and 4 senior science.
- A2.** Develop and moderate a School-Assessed Coursework (SAC) task for VCE Unit 4.

**Course Content:**

- 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 .
- Appreciation of the strategies for conducting safe and effective scientific practical activities at the VCE level.
- Development of teaching strategies for supporting student-designed scientific investigations at the VCE level. Understanding School Assessed Coursework requirements and design of assessment for Unit 4 Further consideration of general issues of the assessment system at VCE level.
- Understanding and implementing moderation practices for School Assessed Coursework for Unit 4.
- Preparing students with a range of abilities for examinations in VCE Biology, Chemistry, Physics or 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 to be 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 course, and all must be directly assessed in each program.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	<p>Students at this level will demonstrate an advanced ability in a range of contexts to effectively communicate, interact and work with others both individually and in groups. Students will be required to display high level skills in-person and/or online in:</p> <ul style="list-style-type: none"> <li>• Using and demonstrating a high level of verbal and non-verbal communication</li> <li>• Demonstrating a mastery of listening for meaning and influencing via active listening</li> <li>• Demonstrating and showing empathy for others</li> <li>• High order skills in negotiating and conflict resolution skills</li> <li>• Demonstrating mastery of working respectfully in cross-cultural and diverse teams.</li> </ul>	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5 A1, A2	AT1, AT2
FEDTASK 2 Leadership	<p>Students at this level will demonstrate a mastery in professional skills and behaviours in leading others.</p> <ul style="list-style-type: none"> <li>• Creating and sustaining a collegial environment</li> <li>• Demonstrating a high level of self-awareness and the ability to self-reflect and justify decisions</li> <li>• Inspiring and initiating opportunities to lead others</li> <li>• Making informed professional decisions</li> <li>• Demonstrating initiative in new professional situations</li> </ul>	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5 A1, A2	AT1, AT2
FEDTASK 3 Critical Thinking and Creativity	<p>Students at this level will demonstrate high level skills in working in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>• Reflecting critically to generate and consider complex ideas and concepts at an abstract level</li> <li>• Analysing complex and abstract ideas, concepts and information</li> <li>• Communicate alternative perspectives to justify complex ideas</li> <li>• Demonstrate a mastery of challenging conventional thinking to clarify complex concepts</li> <li>• Forming creative solutions in problem solving to new situations for further learning</li> </ul>	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5 A1, A2	AT1, AT2

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	<p>Students at this level will demonstrate the ability to work competently across a wide range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>• Mastering, exploring, evaluating, managing, curating, organising and sharing digital information professionally</li> <li>• Collating, managing complex data, accessing and using digital data securely</li> <li>• Receiving and responding professionally to messages in a range of professional digital media</li> <li>• Contributing competently and professionally to digital teams and working groups</li> <li>• Participating at a high level in digital learning opportunities</li> </ul>	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5 A1, A2	AT1, AT2
FEDTASK 5 sustainable and Ethical Mindset	<p>Students at this level will demonstrate a mastery of considering and assessing the consequences and impact of ideas and actions in enacting professional ethical and sustainable decisions. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>• Demonstrate informed judgment making that considers the impact of devising complex solutions in ambiguous global economic environmental and societal contexts</li> <li>• Professionally committing to the promulgation of social responsibility</li> <li>• Demonstrate the ability to evaluate ethical, socially responsible and/or sustainable challenges and generating and articulating responses</li> <li>• Communicating lifelong, life-wide and life-deep learning to be open to the diverse professional others</li> <li>• Generating, leading and implementing required actions to foster sustainability in their professional and personal life.</li> </ul>	K1, K2, K3, K4, K5, S1, S2, S3, S4, S5 A1, A2	AT1, AT2

### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, S1, S2, S3, S4, S5, A1, APST 2.1, 2.2, 2.3, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 5.1	Plan the safe and effective teaching of practical skills related to VCE Units 3 & 4 in Biology, Chemistry, Physics or Environmental Science, including designing lesson plans for practical lessons and documenting teaching strategies related to student-designed scientific investigations.	Teaching Performance and Planning	40-60%
K1, K2, K3, K5, S1, S4, S5, A2, APST 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, and the curriculum, and a personal reflection on issues related to assessment in VCE. Moderate with peers.	Assessment Design	40-60%

### Adopted Reference Style:

APA

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

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