Unit Outline (Higher Education)

Institute / School:	Institute of Education, Arts & Community
Unit Title:	MATHEMATICS CURRICULUM 2
Unit ID:	EDMAS6114
Credit Points:	15.00
Prerequisite(s):	(EDMAS6014)
Co-requisite(s):	Nil
Exclusion(s):	(EDBED3128 and EDDDE3101)
ASCED:	070105

Description of the Unit:

This course examines contemporary issues in Mathematics education as well as the congruence between pedagogy, curriculum, and assessment. Pre-service teachers will be required to explore specific issues relating to current practice in the teaching of Mathematics in Years 7-10 and 11 and 12. They will be required to design and critically evaluate learning and assessment tasks, self-evaluate pedagogy, and conduct research into key issues related to learning Mathematics in school. A particular focus will be the differentiation of learning content for learners in Mathematics.

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						
Advanced					✔	

Learning Outcomes:

Knowledge:

K1. Demonstrate an understanding of inclusive strategies for Mathematics at a secondary level.

K2. Develop an understanding about processes of acceleration and remediation in Mathematics.

K3. Demonstrate understanding of contemporary curriculum documents and guidelines relevant to teaching Mathematics in years 7-10 and in VCE.

K4. Understand the congruence between pedagogy, curriculum, and assessment.

K5. Demonstrate understanding of effective teaching strategies for Mathematics at the secondary level.

Skills:

S1. Write lesson plans and activities appropriate to a particular level of Mathematics.

S2. Research and present historical and contemporary issues in Mathematics education.

S3. Identify and critically analyse specific issues relating to current practice in the teaching of Mathematics in Years 7-10 and the VCE.

S4. Design forms of assessment with real world contexts consistent with curriculum documents.

S5. Design differentiated learning that caters for a range of abilities and interests.

Application of knowledge and skills:

A1. Produce, present, examine and evaluate an assessment task related to a real-world mathematical problem.

A2. Design, present and self-evaluate a lesson plan around the themes of acceleration and remediation.

A3. Research and write a position paper related to a key issue in the teaching and learning of Mathematics.

Unit Content:

- Developing content for diverse learners.
- Examine a range of effective teaching strategies in mathematics including group work.
- Linking mathematics curriculum content to mathematical activities.
- Making links to previous mathematical knowledge.
- Organise content into effective learning sequences.
- Identifying strategies to support inclusion in Mathematics.
- Engagement strategies for students of all abilities.
- Differentiation of activities to cater for students of all abilities
- Using diagnostic assessment to determine groupings within classes.
- Developing assessments at a VCE level.
- Giving feedback to students and responding to feedback from colleagues.
- Equity issues faced by Australian Mathematics educators.

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**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are 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 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 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: • Using and demonstrating a high level of verbal and non-verbal communication • Demonstrating a mastery of listening for meaning and influencing via active listening • Demonstrating and showing empathy for others • High order skills in negotiating and conflict resolution skills • Demonstrating mastery of working respectfully in cross-cultural and diverse teams.	K1, S1, A1, A2	AT2
FEDTASK 2 Leadership	Students at this level will demonstrate a mastery in professional skills and behaviours in leading others. • Creating and sustaining a collegial environment • Demonstrating a high level of self -awareness and the ability to self-reflect and justify decisions • Inspiring and initiating opportunities to lead others • Making informed professional decisions • Demonstrating initiative in new professional situations.	K1, S2	AT1
FEDTASK 3 Critical Thinking and Creativity	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: • Reflecting critically to generate and consider complex ideas and concepts at an abstract level • Analysing complex and abstract ideas, concepts and information • Communicate alternative perspectives to justify complex ideas • Demonstrate a mastery of challenging conventional thinking to clarify complex concepts • Forming creative solutions in problem solving to new situations for further learning.	K4, S4, S5	AT2
FEDTASK 4 Digital Literacy	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: • Mastering, exploring, evaluating, managing, curating, organising and sharing digital information professionally • Collating, managing complex data, accessing and using digital data securely • Receiving and responding professionally to messages in a range of professional digital media • Contributing competently and professionally to digital teams and working groups • Participating at a high level in digital learning opportunities.	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 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: • Demonstrate informed judgment making that considers the impact of devising complex solutions in ambiguous global economic environmental and societal contexts • Professionally committing to the promulgation of social responsibility • Demonstrate the ability to evaluate ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Communicating lifelong, life-wide and life-deep learning to be open to the diverse professional others • Generating, leading and implementing required actions to foster sustainability in their professional and personal life	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K3, K5, S2, S3, A3, APST 1.2, 4.1	Position paper related to a key issue in the teaching and learning of Mathematics which examines contemporary research and makes recommendations to a School Council.	Report	30%-50%
K1, K2, K3, K4, S1, S4, S5, A1, A2 APST 2.1, 2.2, 2.3, 3.1, 3.2,3.3, 4.1, 4.2, 5.1	Research, design, present and self- evaluate two learning sequences one based around the theme of acceleration and one based around remediation. Included will be the development of an assessment task and rubric.	Teaching Design and Performance	50% - 70%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool