



Course Outline (Higher Education)

School:	School of Education
Course Title:	MATHEMATICS CURRICULUM 1
Course ID:	EDBED3028
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(EDDDE3001)
ASCED:	070301

Description of the Course:

This course is the first in a sequence of two that focuses on curriculum and pedagogy in the Mathematics specialist teaching area for undergraduate Pre-Service Teachers. This course prepares Pre-service Teachers to teach in secondary schools with the major emphasis being on Years 7 to 10. It includes the nature and aims of mathematics education and will focus on contemporary teaching strategies used in schools. A constructivist perspective on learning will be encouraged and issues of gender, culture, and literacy in mathematics considered.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

Knowledge:

- K1.** Examine effective teaching strategies and the selection of resources for Mathematics at a secondary level.
- K2.** Analyse contemporary curriculum policies and guidelines relevant to teaching Mathematics in years 7-10.
- K3.** Explore the application and integration of technology in Mathematical investigations and presentations.
- K4.** Explore mathematical literacy and its importance in developing mathematical skills.

Skills:

- S1.** Use the current policy documents as a guide to develop curriculum.
- S2.** Reflect on the thinking processes associated with the teaching and learning of Mathematics.
- S3.** Incorporate appropriate technology resources in the learning of Mathematics.
- S4.** Assess student work and give appropriate feedback to enhance student learning and as a basis for informing future planning.

Application of knowledge and skills:

- A1.** Write an analysis of a Mathematics textbook incorporating theoretical understandings about the teaching and learning of Mathematics.
- A2.** Design a lesson sequence that incorporates the use of technology, including ICT, to expand curriculum learning opportunities for students and enhance student engagement.
- A3.** Examine assessment techniques in mathematics with reference to contemporary research.
- A4.** Accurately assess a student work sample, give appropriate feedback and determine the next level of learning for that student.

Course Content:

Topics to be covered

- Engagement techniques in mathematics.
- Examine issues related to the mathematical literacy and the barriers these can create to learning.
- Linking mathematics curriculum content to mathematical activities.
- Making links to previous mathematical knowledge.
- Designing learning activities in mathematics.
- Designing learning sequences in mathematics.
- Examining real world contexts for mathematics.
- Organising mathematics content into effective learning sequences.
- Development of ICT activities that support the learning of mathematics.
- Effective assessment that guides learning.
- The use of formative and summative assessment in mathematics.
- Topic planning and the importance of diagnostic assessment.

Values:

- V1.** Appreciate an understanding of the nature and place of Mathematics as a critical filter for further education and training
- V2.** Consider the inclusiveness or otherwise of Mathematics and the values we model and explicitly teach.
- V3.** Value the place of mathematics and Mathematics education in society.
- V4.** Enjoy teaching and learning mathematics.

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.	K2, S2,	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.	K1, 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.	S3, K4,	AT2
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.	K3,	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.	A4,	AT3

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K2 S2 A1 APST 2.1	Critical analysis of a textbook used in Mathematics classrooms. Current research and theories will support views, ideas and recommendations.	Essay	20 - 30%
K1, K3 S1, S3 A2 APST 2.2, 2.3, 2.5, 2.6 3.2 3.4	Development of a sequence of lessons, or component of a lesson, which includes use of technology including ICT, mathematical literacy, assessment and teaching and learning rationale.	Lesson Planning	30 - 40%
K2, K3, K4, S4 A3, A4 APST 2.1 5.1	Essay on forms of assessment used in the mathematics classroom. Analysis of a sample of student work.	Essay Analysis of student work	30 - 40%

Adopted Reference Style:

APA

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

Fed Cite - [referencing tool](#)