



Course Outline (Higher Education)

School:	School of Education
Course Title:	LEARNING AND TEACHING MATHEMATICS B
Course ID:	EDBED3112
Credit Points:	15.00
Prerequisite(s):	(EDBED1006 or EDBED1012 or EDFGC2021)
Co-requisite(s):	Nil
Exclusion(s):	(EDFGC3021) (EDBED3106)
ASCED:	070103

Description of the Course :

This course focuses on building personal competence in mathematics learning and teaching so that students increase their conceptual understanding of content. Students will examine the connections between theory and practice; consider the role of reflection in and on learning and be proficient in developing mathematical teaching experiences that enhance student learning.

Grade Scheme: Graded (HD, D, C, etc.)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

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 and review theories and approaches related to the learning and teaching of mathematics

- K2.** Develop research and critical reflective skills associated with mathematics learning and teaching
- K3.** Understand contemporary issues and approaches related to mathematics learning and teaching
- K4.** Develop personal numeracy knowledge, competencies and demonstrate confidence
- K5.** Resource professional mathematics associations and professional development courses

Skills:

- S1.** Develop personal numeracy skills and competencies
- S2.** Critically and creatively interpret the content, processes, and standards presented in a range of mathematics curriculum documents
- S3.** Develop assessment strategies as a basis for learning, teaching and evaluation and for informing future planning and teaching
- S4.** Examine and explore the application of technology in mathematical environments, investigations and presentations
- S5.** Engage in Roundtable Reflective Inquiry
- S6.** Identify, examine and challenge underlying assumptions about learning and teaching mathematics
- S7.** Development mathematical understanding through links with professional development associations
- S8.** Manage classroom activities, including the capacity to provide clear directions

Application of knowledge and skills:

- A1.** Develop a deep understanding of the impact of theory on practice through planning, teaching, evaluating and reflecting on teaching sessions
- A2.** Develop content knowledge related to mathematical skills and concepts and be proficient and confident when teaching
- A3.** Understand the role of reflection in learning and teaching mathematics and become critically reflective practitioners and thinkers
- A4.** Present knowledge and experience of professional mathematical associations to peers and identify the impact of these on PSTs and student learning of mathematics.

Course Content:

- Current approaches to learning and teaching mathematics in diverse educational environments
- Issues related to the contemporary teaching and learning of mathematics
- Teaching and learning strategies associated with the Early Years/Primary Years of Schooling
- Planning, programming, assessment, reporting and their interconnections
- The use and integration of Information and Communication Technologies in Mathematics Education
- Studies related for example to number, algebra, chance and data, which will be approached as a P-6 progression
- Analysis of Curriculum as a guide for organising the scope, sequence and connectedness of lesson, unit and curriculum plans for P-6 mathematics
- Engage with professional mathematics learning communities and improve practice

Values:

- V1.** Develop mathematical teaching confidence and personal competencies
- V2.** To enjoy mathematics
- V3.** Develop understandings related to the creative and engaging experience of mathematics
- V4.** Lifelong learning

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)	Code A. Direct B. Indirect N/A Not addressed	Assessment task (AT#)	Code A. Certain B. Likely C. Possible N/A Not likely
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.	S2	A	AT1, AT2	A
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.	A1	A	AT2	A
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.	N/A	N/A	N/A	N/A
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, S5	A	AT1	A
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.	S8, A2	A	AT1, AT2	A

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1 K2 K3 K4 S1 S2 S4, S5,S8, A1. APST 1.5, 2.1 2.2, 2.5, 3.3, 3.4, 4.2, 4.5	Presentation of a contemporary issue/content area related to teaching and learning mathematics. Present a topic associated with the learning and teaching of mathematics relevant for junior primary, middle primary and upper primary	Peer teaching and feedback (oral/written)	40-60%

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1 K2,K5 S1 S2 S3 S6, S7 A1 A2 A3 A4 APST 1.5, 2.1 2.2, 2.3, 2.5, 3.1, 3.2, 3.4 6.2	Unit of Study of Mathematics, learning and teaching development of three lesson plans; differentiation for students when teaching; feedback strategies; links to curriculum; links to profession development; selection of journal articles related to content topic and review based identification/evaluation of conceptions/misconceptions; a statement of philosophy of mathematics learning and teaching.	Portfolio	40 - 60%
S1 APST 2.5	Complete Numeracy skills test	Hurdle	S/U

Adopted Reference Style:

APA