



# Course Outline

## EDBED3101 LEARNING AND TEACHING MATHEMATICS II

**Title:** LEARNING AND TEACHING MATHEMATICS II

**Code:** EDBED3101

**Formerly:** TJ792

**School / Division:** School of Education

**Level:** Introductory

**Pre-requisites:** (EDBED1006 or TJ591)

**Co-requisites:** Nil

**Exclusions:** (TJ792)

**Progress Units:** 15

**ASCED Code:** 070103

### Objectives:

After successfully completing this course, students should be able to:

#### Knowledge:

- Examine theories and approaches related to the learning and teaching of mathematics and consider related issues;
- Examine assessment strategies as a basis for evaluation and informing future planning;
- Develop understanding of the application and integration of technology in mathematical investigations and presentations.

#### Skills:

- Reflect on the processes associated with the teaching and learning of mathematics;
- Build personal numeracy skills and competencies;
- Develop skills relating to the teaching and learning of mathematics;
- Critically and creatively interpret the content, processes and standards presented in mathematics curriculum documents, for example VELS and National Curriculum;
- Continue to develop research and reflective skills associated with learners and learning and respond in an informed and critical manner to the contemporary issues and approaches related to mathematics learning and teaching;
- Examine and explore the application of technology in mathematical environments, investigations and presentations;
- Develop assessment strategies as a basis for evaluation and informing future planning;

#### Values:

- Develop an appreciation of their role as a teacher of mathematics;



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- Value the place of mathematics and mathematics education in society;
- To enjoy mathematics.

### Content:

Topics may include:

- Studies related to number and numeracy; measurement and estimation; shape, space and location; mathematical modelling; reasoning and strategies; mathematical ways of thinking; the nature of proof; and functions and graphs;
- Current approaches to the learning and teaching of mathematics in diverse educational environments;
- Language of mathematics and mathematical language – reading, writing and speaking mathematics;
- Examination and analysis of the VELS/National Curriculum as a guideline for organizing and evaluating the scope, sequence and connectedness of lesson, unit and curriculum plans for mathematics associated with the early years to the middle years of schooling;
- Exploration of strategies for teaching and learning mathematics, the methods of planning and evaluation associated with the Early years to Middle years of schooling;
- Understanding the role of assessment as a means for informing future learning;
- Planning, programming, assessment and reporting and their interconnections in mathematics;
- Teaching and learning strategies in mathematics as a P – 10 progression with a focus on studies related to number, numeracy and algebra, chance and data & modeling with functions, which will be approached as a P-6 progression;
- The use and integration of Information and Communication Technologies in mathematics education;
- Issues related to the contemporary teaching and learning of mathematics.

### Learning Tasks & Assessment:

Learning Task	Assessment	Weighting
<p>The completion of an analysis of a collected sample of student work. The advantages, disadvantages and limitations of the particular item will be explored, the mathematical strengths and weaknesses of the students completing the item will be examined and the use of the item to inform future teaching will also be conducted. This analysis will be supported with references and justification.</p> <p>Relates to Objectives: K1, K2, S1, S2, S3, S4, S5, S7, V1, V2, V3</p>	<p>Written analysis of the collected sample of student work.</p>	<p>30 – 50%</p>
<p>Study of Mathematics Learning and Teaching</p> <p>Plan, conduct and evaluate a Self-Study in Mathematics Learning and Teaching. This will incorporate: journal research; reflective practice; planning, implementing and evaluating a micro lesson; completion/evaluation of a 'Multiple Perspectives Analysis'. The use of ICT in these lessons will be encouraged.</p> <p>Relates to Objectives: K1, K3, S1, S2, S3, S4, S5, S6, V1, V2, V3</p>	<p>Lesson plan, written reflection, and multiple perspectives analysis.</p>	<p>40 – 60%</p>



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## Adopted Reference Style:

APA