Course Outline

EDGDP6004 TEACHING AND LEARNING MATHEMATICS

Title: TEACHING AND LEARNING MATHEMATICS

Code: EDGDP6004

Formerly: TC491

School / Division: School of Education

Level: Advanced

Pre-requisites: Nil

Co-requisites: Nil

Exclusions: (TC491)

Progress Units: 15

ASCED Code: 070103

Objectives:

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

Knowledge:

- Have a sound knowledge of theories about how other people construe and learn mathematics;
- Have knowledge of a broad range of theories and approaches related to the learning and teaching of mathematics and consider related issues;
- Develop understanding of the application and integration of technology in mathematical investigations and presentations;

Skills:

- Develop skills relating to the teaching and learning of mathematics
- Reflect on the processes associated with the teaching and learning of mathematics;
- Develop skills in their own personal mathematical competence;
- Critically and creatively interpret the content, processes and standards presented in mathematics curriculum documents, for example VELS and National Curriculum;
- Develop assessment strategies as a basis for evaluation and informing future planning;

Values:

- Develop an appreciation of their role as a teacher of mathematics;
- Value the place of mathematics and mathematics education in society;
- To enjoy mathematics.

Content:

This unit focuses on various aspects of:

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;
- 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 for primary school mathematics associated with the early years to the middle years of schooling;
- Exploration of strategies for teaching mathematics, the methods of planning and evaluation;
- Understanding the role of assessment as a means for informing future learning;
- Planning, programming, assessment and reporting and their interconnections in mathematics in the primary school;
- Teaching and learning strategies in mathematics and the primary school 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.

Learning Tasks & Assessment:

Learning Task	Assessment	Weighting
The completion of an analysis of two samples of student assessment. The advantages, disadvantages and limitations of the particular assessment items will be explored, the mathematical strengths and weaknesses of the students completing the items will be examined and the use of the items to inform future teaching will also be conducted. A comparison of the two samples will be supported with references and justification. Relates to Objectives: K1, K2, S1, S2, S3, V1, V2	Written analysis of the samples of students' assessment.	40 – 60%
Relates to Objectives: K1, K2, K3, S1, S2, S3, V1, V2, V3 Development of the teaching resources, with a written justification.	Development of a number of teaching resources based around a particular theme, with a referenced justification. Materials will be presented to the class during tutorial time, and photos accompanied with a brief written statement will be placed on Moodle.	30 – 50%

Adopted Reference Style:

APA