TEAC 1037 EXPLORING PATTERNS AND RELATIONSHIPS IN MATHEMATICS

Credit Points 10

Legacy Code 102795

Coordinator Kate Mulkern (https://directory.westernsydney.edu.au/search/name/Kate Mulkern/)

Description This subject supports pre-service teachers in the understanding of mathematical processes and content. Pre-service teachers will develop competence and confidence in the content areas of Number and Algebra, Measurement and Geometry; Probability and Statistics. They will be able to solve problems related to these areas and communicate their solution methods, using processes from the Working Mathematically strand. This subject is included in the Foundation Phase of the Bachelor of Education.

School Education

Discipline Teacher Education: Primary

Student Contribution Band HECS Band 1 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 1 subject

Restrictions

Students must be enrolled in the 1876 Bachelor of Education (Primary) or 1717 Bachelor of Education (Primary) Aboriginal and Torres Strait Islander Education.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Understand fundamental concepts of problem solving strategies and mathematical modelling and their application in the solution of open-ended investigations;
2. Apply knowledge of problem solving and the modelling process in variety of mathematical applications;
3. Understand the fundamental concepts of Number and Algebra, Measurement and Geometry; Statistics and Probability;
4. Investigate the connections between Number and Algebra, Measurement and Geometry; Statistics and Probability
5. Use a range of strategies to perform calculations with integers, fractions, decimals, percentages, ratios and rates;
6. Analyse and create patterns with numbers and generalise these patterns into algebraic expressions that can be displayed on the Cartesian Number Plane;
7. Use deductive reasoning to investigate geometrical investigations;
8. Use a range of strategies to perform conversions between measurement units;
9. Analyse data using measures of central tendency and spread;
10. Use appropriate graphical displays of data;
11. Investigate probabilities that result from simple or compound events;
12. Use diagrams, symbols and terminology to communicate and connect mathematical ideas;
13. Use the common conceptual misconceptions in Number and Algebra, Measurement and Geometry; Statistics and Probability to improve understanding.

Subject Content

- skills in The four Operations with integers, fractions and decimals
- patterns and Algebra
- Graphing on The Cartesian number Plane
- Perimeter and area of Plane shapes, quadrilaterals and circles
- parallel lines and angle relationships with transversals
- Volumes of prisms and cylinders
- Operations with ratios and rates
- time and time zones
- financial problems involving The purchase of goods
- data collection, interpretation and display
- mean, mode, median range and Standard deviation
- probability and its?f application to real World problems
- Problem solving strategies
- apply mathematical Problem strategies in real World applications
- positive attitudes about mathematical concepts

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task
Quiz	20-minutes per quiz	20	N	Individual
Report	1,500 words	30	N	Individual
Professional Task	2,000 words	50	Y	Individual

Prescribed Texts

- Booker, G., Bond, D., Sparrow, L., & Swan, P. (2014). Teaching primary mathematics (5th ed.). Frenchs Forest, New South Wales: Pearson Australia

Teaching Periods

Autumn (2024)

Bankstown City

On-site

Subject Contact Kate Mulkern (https://directory.westernsydney.edu.au/search/name/Kate Mulkern/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=TEAC1037_24-AUT_BK_1#subjects)