

TEAC 1025 MATHEMATICAL PATTERNS AND RELATIONSHIPS (WSTC)

Credit Points 10

Legacy Code 700137

Coordinator Michael CASEY ([https://directory.westernsydney.edu.au/search/name/Michael CASEY/](https://directory.westernsydney.edu.au/search/name/Michael%20CASEY/))

Description Students will use a variety of investigative techniques to highlight the evidence of patterns and relationships in mathematics. The inherent structure of mathematics will be approached through the examination of various mathematical systems. In addition, students will examine the nature of mathematical thought including inductive and deductive reasoning. This subject contributes directly to the achievement of a sound foundation in mathematics.

School Education

Discipline Teacher Education: Early Childhood

Student Contribution Band HECS Band 1 10cp

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

Level Undergraduate Level 1 subject

Co-requisite(s) Students enrolled in the combined Diploma/Bachelor programs must have passed or be enrolled in the College Preparatory subjects in order to enrol in this subject

Equivalent Subjects TEAC 1024 - Mathematical Patterns and Relationships
TEAC 1040 - Mathematical Patterns and Relationships (Block)

Restrictions

Students must be enrolled at Western Sydney University, The College. Students enrolled in Extended Diplomas must pass 40 credit points from the preparatory subjects listed in the program structure prior to enrolling in this University level subject.

Assumed Knowledge

A demonstrated knowledge of basic mathematics.

Learning Outcomes

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

1. Demonstrate and apply skills and understandings of number theory and numeration systems.
2. Demonstrate and apply skills and understanding of multiple representations and ways of calculating fractions and decimals.
3. Understand and apply calculations of factors and multiples
4. Use patterns and relationships in number and their application to real life problems.
5. Recount the historical evolution of measurement systems.
6. Explain the basic feature of the metric system and the relationships between the Hindu-Arabic numeration system and the metric system.
7. Explain the mathematical patterns and relationships that can be found in space and geometry.

8. Apply basic geometrical concepts and principles.
9. Explain geometrical patterns and relationships in the environment.
10. Apply knowledge of the metric system to investigations of real-life problems.

Subject Content

1. Patterns and relationships in geometry:
 - environmental instances and applications
 - basic concepts, principles and relationships
2. Patterns and relationships in number:
 - number patterns in space
 - factors, multiples, prime numbers,
 - fractions and decimals
 - number patterns
 - number theory
3. Mathematical systems
 - transformational geometry
 - numeration systems
 - number systems
4. Mathematical reasoning
 - historical evolution of mathematical thought
 - inductive and deductive reasoning
 - the investigation of mathematical ideas
5. Measurement
 - basic features of the metric system
 - relationship to the numeration system the investigation of mathematical ideas

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.

Item	Length	Percent	Threshold	Individual/Group Task
Quiz	30 minutes	10	N	Individual
Intra-session Exam 1	1 hour	25	N	Individual
Applied Project A	150 words	10	N	Individual
Intra-session Exam 2	1 hour	25	N	Individual
Applied Project B	1,500 words	30	N	Individual

Teaching Periods

Term 1

Bankstown

Day

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=TEAC1025_22-T1_BA_D#subjects)

Nirimba Education Precinct

Day

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Parramatta City - George St

Day

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Term 2

Parramatta City - George St

Day

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Term 3

Bankstown

Day

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