MATH 1042 MATHEMATICS FOR THE DIGITAL WORLD (WSTC)

Credit Points 10

Coordinator Michael Casey (https://directory.westernsydney.edu.au/search/name/Michael Casey/)

Description In the ever-evolving field of information and communications technology, a strong grasp of mathematics can set you apart. This subject is designed to equip aspiring ICT professionals with a solid mathematical foundation. You will explore algebraic and trigonometric problem-solving and explore number systems crucial to computing and programming applications. Through a combination of inductive and deductive reasoning, you will gain the skills to develop and apply problem-solving strategies across a range of contexts in the field.

School Computer, Data & Math Sciences

Discipline Mathematics

Student Contribution Band

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 an existing College Diploma program listed below:

- 7188 Diploma in Culture, Society and Justice
- 7189 Diploma in Health Science
- 7190 Diploma in Business
- 7191 Diploma in Information and Communication Technologies
- 7192 Diploma in Building Design and Construction
- 7193 Diploma in Engineering Studies
- 7194 Diploma in Creative Industries and Communications
- 7195 Diploma in Arts
- 7196 Diploma in Science
- 7197 Diploma in Education Studies

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Select and apply arithmetic and algebraic techniques to solve computational problems.
2. Utilise trigonometry, coordinate systems, matrices, and determinants in computing applications.
3. Interpret and apply various number systems as well as modular arithmetic in computing contexts.
4. Demonstrate an understanding of elementary sets, probability, and functions including computing algorithms and data structures.
5. Utilise inductive and deductive reasoning to develop and apply problem-solving strategies within computing environments.

Subject Content

- Number systems, including binary, octal, hexadecimal and indigenous Australian number systems.
- Basic arithmetic and algebraic expressions
- Boolean operators and introduction to subnetting
- Solving equations algebraically and graphically
- Elementary functions including linear, quadratic, exponential and logarithmic.
- Geometry and trigonometry
- Coordinate systems, introduction to matrices
- Inductive and deductive reasoning
- Introduction to probability and sets

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	Mandatory
Report	a) 350 words (or equivalent) b) 500 words (or equivalent)	35	N	Individual	N
Applied Project	1200 words or equivalent	35	N	Individual	N
Viva Voce	10 minutes	30	N	Individual	N

Teaching Periods

Autumn Block 4 (2025)

Nirimba Education Precinct

On-site

Subject Contact Michael Casey (https://directory.westernsydney.edu.au/search/name/Michael Casey/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=MATH1042_25-AB4_BL_1#subjects)

Penrith (Kingswood)

On-site

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Spring Block 4 (2025)

Nirimba Education Precinct

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