COURSE OUTLINE

TPP104 Mathematics

School: School of Education and Tertiary Access

2026 | Trimester 2

UniSC Sunshine Coast UniSC Moreton Bay UniSC Caboolture UniSC Fraser Coast UniSC Gympie	BLENDED LEARNING	Most of your course is on campus but you may be able to do some components of this course online.
Online	ONLINE	You can do this course without coming onto campus, unless your program has specified a mandatory onsite requirement.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course is designed to improve your mathematical skills for entry into academic programs at the University of the Sunshine Coast. It aims to be inclusive of those who may not have undertaken senior high school mathematics, or for those who may wish to refresh knowledge and understanding of the discipline. This course sets out to nurture a growth mindset for students around basic mathematical concepts. The flexible teaching environment allows for student's concerns around the course concepts to be voiced, questions to be asked, and confidence to be built.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Short lesson videos covering the content. The videos should be watched prior to the tutorials, and followed up with the self-paced quizzes.	1hr	Week 1	12 times
Tutorial/Workshop 1 – You are required to actively participate in individual and group work that will be guided by a tutor. Tutorials will be delivered face-to-face on campus.	2hrs	Week 1	12 times
ONLINE			
Learning materials – Short lesson videos covering the content. The videos should be watched prior to the tutorials, and followed up with the self-paced quizzes.	1hr	Week 1	12 times
Tutorial/Workshop 1 – You are required to actively participate in individual and group work that will be guided by a tutor. Tutorials will be delivered online via conferencing software such as Zoom.	2hrs	Week 1	12 times

1.3. Course Topics

Numbers and Operations

Exploring the meaning of common mathematical symbols, the operations they represent, and the order in which these mathematical operations should be performed.

Algebra and Formulas

Exploring the concept of like terms, manipulation of equations using transposing, and changing the subject of a formula.

Fractions, Percentages, Decimals

Exploring the mathematical manipulation of fractions and how they relate to decimal numbers and percentages.

Proportions and Ratios

Exploring the differences between proportions and ratios, and how they relate to fractions, decimal numbers, and percentages

Rounding and Significant Figures

Exploring the concept of a significant figure and how to round values correctly.

Logarithms and Scientific Notation

Exploring the logarithms and how they relate to powers and roots. Exploring the concept of scientific notation in order to express very large and very small values.

Measurement and Dimensional Analysis

Exploring the use of units, how to change from one to another, and how units give numerical values meaning.

Introduction to Geometry

Exploring the fundamental angle relationships that exist between straight lines, quadrilaterals and triangles.

Right Angle Triangle (Introduction to Trigonometry)

Exploring trigonometric functions sine, cosine and tangent, and how they can be used to define the side lengths and the angle magnitudes of a right angle triangle.

Charts, Graphs and Coordinates

Exploring the Cartesian Plane and plotting of points and lines on a graph grid.

Linear Equations

Exploring the equation and plotting of a straight line by calculating the gradient and the intercepts, and how linear equations relate to rates.

2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES		GRADUATE QUALITIES
On successful completion of this course, you should be able to...		Completing these tasks successfully will contribute to you becoming...
1	Demonstrate basic techniques and strategies used in the field of mathematics as developed in the course.	Empowered
2	Identify and employ relevant mathematical approaches to demonstrate proficiency of the key threshold concepts of the course, such as correctly manipulating and solving simple algebraic equations.	Knowledgeable
3	Employ authentic skillsets such as proficiency with a scientific calculator and graphing to solve mathematical problems.	Empowered
4	Communicate effectively using mathematical conventions and symbols to justify mathematical reasoning.	Engaged

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Student must be enrolled in TP000

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Nil

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Weekly quizzes that constitute the formative assessment as well as Task 1 will provide feedback on early course progress. Weekly problem sets will allow you to track your own progression of the concepts covered in the course.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Examination - not Centrally Scheduled	Individual	10%	40 mins	Week 3	Online Test (Quiz)
All	2	Examination - not Centrally Scheduled	Individual	20%	60 mins	Week 7	Online Test (Quiz)
All	3	Artefact - Technical and Scientific	Individual	25%	This is a mathematical take-home assignment that will require full working to be shown.	Week 10	Online Submission
All	4	Examination - not Centrally Scheduled	Individual	45%	90 mins	Exam Period	Online Test (Quiz)

All - Assessment Task 1: Calculator Problem Solving and Basic Algebra

GOAL:	The goal is for you to demonstrate reliable calculator and problem-solving skills for mathematics and their application as they are needed for whole number arithmetic and formulae including algebra, and to communicate clearly using reasoning and appropriate mathematical conventions and symbols.
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Task 1 is a summative test that will contain a selection of multiple-choice, fill-in-the-blank, and short answer questions.
CRITERIA:	**No.** / **Learning Outcome assessed** 1 Demonstration of basic techniques and strategies to find the answer to questions — 1 2 Identification of relevant mathematical approach to working with formulae — 2 3 Solution of mathematical problems through use of a scientific calculator — 3 4 Communication using mathematical conventions (including sentences) and symbols to justify reasoning — 4
GENERIC SKILLS:	Communication, Problem solving, Applying technologies

All - Assessment Task 2: Ratios, Proportons, and Dimensional Analysis

GOAL:	The goal is for you to demonstrate reliable calculator and problem-solving skills to work with fractions and decimal arithmetic, percentages, algebra, ratios, proportions, exponents and logarithms, and to communicate clearly using reasoning and appropriate mathematical conventions and symbols including correct significant figures and rounding.
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Task 2 is a summative test that will contain a selection of multiple-choice, fill-in-the blank, and short answer questions.

CRITERIA:

No.		Learning Outcome assessed
1	Demonstration of basic techniques and strategies to find the answer to questions	1
2	Identification of relevant mathematical approach to working with formulae	2
3	Solution of mathematical problems through use of a scientific calculator	3
4	Communication using mathematical conventions (including sentences) and symbols to justify reasoning	4

GENERIC SKILLS:	Communication, Problem solving, Applying technologies

All - Assessment Task 3: Geometry, Trigonometry, Graphs, and Logarithms

GOAL:	The goal for you is to demonstrate conceptual understanding and skills development in solving routine problems in geometry and co-ordinate geometry as well as application of logs. The assignment is designed for you to communicate your understanding through written and/or worked responses to questions.
PRODUCT:	Artefact - Technical and Scientific
AUTHORSHIP STATEMENT:	
FORMAT:	Task 3 is a summative written assignment that will require students to demonstrate mathematical problem solving and communication skills. The assignment will be submitted online.

CRITERIA:

No.		Learning Outcome assessed
1	Demonstration of basic techniques and strategies to find the answer to questions	1
2	Identification of relevant mathematical approach to solve trigonometric and geometric problems with knowledge of dimensional analysis	2 3
3	Communication using mathematical conventions (including sentences) and symbols to justify reasoning	4

GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies

All - Assessment Task 4: Final Examination Covering All Content

GOAL:	The goal for you is to review and provide evidence of understanding of the entire course and to communicate your responses clearly using justifiable reasoning and appropriate mathematical conventions and symbols
PRODUCT:	Examination - not Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	Task 4 is a summative test covering all the topics. The test will contain a selection of multiple-choice, fill-in-the-blank, and short answer questions.
CRITERIA:	

No.		Learning Outcome assessed
1	Demonstration of basic techniques and strategies to find the answer to questions	1
2	Identification of relevant mathematical approach to working with formulae	2
3	Solution of mathematical problems through use of a scientific calculator and graphing	3
4	Communication using mathematical conventions (including sentences) and symbols to justify reasoning	4

GENERIC SKILLS:	Communication, Problem solving, Applying technologies

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

> There are no required/recommended resources for this course.

8.2. Specific requirements

A good quality calculator is needed for this course. The Casio fx-82AU+II or the Casio fx-82AU+II 2nd Edition are recommended. You will not require a graphics, programmable or CAS calculator for this. It is your responsibility to learn to use your calculator properly.
A portable smart device such as a laptop or tablet will be required for assessment.
For the online offering, the expectation is to have a working camera and that the camera is on so that the student can be seen when attending the tutorial and completing assessments.

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central