

MTH301 Reading in Advanced Mathematics

School: School of Science, Technology and Engineering

2024 Semester 2

UniSC Sunshine Coast
UniSC Moreton Bay

**BLENDED
LEARNING**

Most of your course is on campus but you may be able to do some components of this course online.

Please go to usc.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 enables you to pursue studies in an advanced mathematical or statistical topic. In consultation with the Course Coordinator and your supervisor, you will prepare (and submit for approval) a completed study plan with detailed descriptions of the assessment activities as negotiated. The course material will support your learning of discipline based knowledge and skills, and give you in-depth knowledge and skills in a particular area of interest. Pre-requisite coursework will be determined from advanced courses as appropriate.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Tutorial/Workshop 1 – It is expected that the student's undertaking a particular reading project as part of the course will meet regularly with the project supervisor. Weekly meetings of two hours each are suggested.	2hrs	Week 1	13 times
Learning materials – The nature of this activity is dependent on the scope of the reading project. For some this will be text-based while for others it could be based around the needs of software development as appropriate. This is determined at the time of the project proposal.	2hrs	Week 1	13 times

1.3. Course Topics

You will develop a specific study plan (for example, to read, discuss and problem-solve from a set of readings in mathematics or statistics) in consultation with your Supervisor and the Course Coordinator. The task will require you to demonstrate: information literacy to seek and draw upon specific discipline knowledge; application of discipline knowledge in the scholarly activity; learning, interpretation and, where appropriate, application, of relevant mathematical or statistical concepts and methods; written and verbal reporting of relevant mathematical or statistical concepts and methods using discipline-specific conventions and notation.

2. What level is this course?

300 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth 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 Understand and explore the key concepts and knowledge for the mathematical or statistical topic(s) which make up the content for course.	Knowledgeable Empowered
2 Read, interpret and communicate ideas and concepts using appropriate mathematical language and notation.	Creative and critical thinker Empowered
3 Undertake independent study of unfamiliar mathematical discipline areas.	Empowered

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

(MTH202 or MTH104) and MTH212 and Course Coordinator permission.

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

Prior knowledge will be determined by the Course Coordinator in consultation with the student's supervisor and will take into account the nature of the proposed task. Normally, students will have completed at least the equivalent of two years of full-time study and have achieved a grade point average of at least 5.5 over key prerequisite mathematics and statistics courses, as determined by the supervisor and Course Coordinator.

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

The nature of this course is that the student will have frequent meetings with their MTH301 supervisor to discuss the direction of their reading, to clarify content they have covered, and to show the development of their folio. These meetings will provide opportunity for early (and continuing) feedback on their academic progress 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	Portfolio	Individual	30%	As required for mathematical completeness	Throughout teaching period (refer to Format)	To Supervisor
All	2	Artefact - Technical and Scientific, and Written Piece	Individual	30%	As required for mathematical completeness	Week 12	To Supervisor
All	3	Examination - not Centrally Scheduled	Individual	40%	As required for mathematical completeness	Refer to Format	To Supervisor

All - Assessment Task 1: Folio

GOAL:	To produce a folio that contains succinct summaries of each week's reading and a collection of worked problems.	
PRODUCT:	Portfolio	
FORMAT:	An A4 folder organised around the content and problem-solving completed on a weekly basis. Submit as negotiated.	
CRITERIA:	No.	Learning Outcome assessed
	1 The content selected for inclusion.	1
	2 The variety and depth of problems chosen.	1 2 3
	3 The self-organisation displayed in their presentation.	2

All - Assessment Task 2: Written Report which may include the development of mathematical software.

GOAL:	To generate documentation in an appropriate mathematical format around a topic of deeper interest from the Course topics.	
PRODUCT:	Artefact - Technical and Scientific, and Written Piece	
FORMAT:	To be negotiated between the student and the task supervisor	
CRITERIA:	No.	Learning Outcome assessed
	1 The mathematical treatment of the topic selected.	1 3
	2 The effectiveness of the communication elements	2
	3 The choice of illustrative examples as appropriate.	1 2 3
	4 (If mathematical software has been created, then the efficiency and effectiveness of the algorithm used also need to be considered).	1 2 3

All - Assessment Task 3: Final Assessment Task

GOAL:	The end of semester task gives you an opportunity to demonstrate your knowledge, understanding and skills associated with all the Course topics and the learning outcomes of this course.		
PRODUCT:	Examination - not Centrally Scheduled		
FORMAT:	Submit: Sometime before the end of Week 15. Individual. Mixed practical and theoretical questions.		
CRITERIA:	No.	Learning Outcome assessed	
	1	recall the theoretical and practical components of the course materials covered in the learning materials	1 2
	2	apply the theory to particular examples.	1 2 3
	3	decide which is the most appropriate method to solve a particular problem.	1 3
	4	derive solutions to particular problems	1 3
	5	communicate the methods, reasoning and working by which solutions may be calculated.	2

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

You will be expected to meet with your supervisor at agreed times through the semester. It is your responsibility to ensure that you have adequate access to resources such as the internet, and any other resources as specified and agreed to in your study plan.

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:

The final mark is in the percentage range 47% to 49.4%

The course is graded using the Standard Grading scale

You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.

- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.

- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. 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>

10.9. 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.

10.10.General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au