

MATH1001: Preparatory Studies in Mathematics

Callaghan and Ourimbah
Semester 1 - 2024



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description Quantitative methods are used in many areas of science and business. Using an exploratory and investigative approach, the course MATH1001 introduces and develops those areas of arithmetic, basic algebra and elementary coordinate geometry necessary for an understanding and use of basic quantitative methods. This course is suitable for those students who have not studied, or who have not succeeded in, mathematics courses at the HSC level. Students cannot count MATH1001 for credit if they have previously passed MATH1002, MATH1100, MATH1110 or MATH1210.

Academic Progress Requirements Nil

Contact Hours

Callaghan
Lecture
Face to Face On Campus
4 hour(s) per week(s) for 13 week(s) starting Week 1
These contact hours are for delivery of the course in a semester term. For a summer/winter term the lectures may be delivered as face to face compressed in to the shorter term or blended with online lectures combined with face to face to face workshops.
Workshop
Face to Face On Campus
2 hour(s) per week(s) for 11 week(s)

Ourimbah
Lecture
Face to Face On Campus
4 hour(s) per week(s) for 13 week(s) starting Week 1
These contact hours are for delivery of the course in a semester term. For a summer/winter term the lectures may be delivered as face to face compressed in to the shorter term or blended with online lectures combined with face to face to face workshops.
Workshop
Face to Face On Campus
2 hour(s) per week(s) for 11 week(s)

Unit Weighting Workload 10
Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator **Ourimbah**
Dr Andrew Kepert
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Consultation:

Callaghan
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Consultation:

Teaching Staff Other teaching staff will be advised on the course Canvas site.

School Office **School of Information and Physical Sciences**
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9am-5pm (Mon-Fri)

SYLLABUS

Course Content

1. Basic Algebra
2. Elementary Coordinate Geometry
3. An Introduction to Applying Mathematics

Course Learning Outcomes **On successful completion of this course, students will be able to:**

1. Explain and work with the concepts from basic algebra and coordinate geometry,
2. Use mathematical software to support mathematical work,
3. Use mathematical processes to investigate phenomena in the world.

Course Materials **Recommended Reading:**

- There is no set textbook for Math1001. Reference material will be provided via the course Canvas site.
- A standard scientific calculator is required for this course. Any calculator on the NSW Board of Studies' List of Approved Scientific Calculators is acceptable.

ASSESSMENTS

This course has 4 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Algebra	End of week 7: 11:59pm Friday 12th of April	Individual	30%	1, 2, 3
2	Coordinate Geometry	End of week 11: 11:59pm Friday 24th of May	Individual	30%	1, 2, 3
3	Applying Mathematics	End of Exam week 1: Friday 14th of June	Individual	20%	1, 2, 3
4	Weekly quizzes in workshop	Each of weeks 2 to 12 in workshop	Individual	20%	1, 3

Late Submissions The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Algebra

Assessment Type Written Assignment
Purpose This assignment provides the opportunity to investigate the principles, rules and techniques from basic Algebra. This task will require you to use examples and cases to document and reflect on your growth in understanding of basic Algebra. Unlike traditional assignments, you have some flexibility in the work you include in your assignment. This requires you to evaluate your own knowledge and select techniques to make visible your learning and thinking related to Algebra (and hence to Course Learning Outcomes 1 and 2).
Description Students are required to provide evidence of their knowledge of, and skills in applying, concepts from the Algebra module. Evidence may include worked examples using paper and pen, process diaries documenting use of mathematical software, trial and error investigations and so on. The primary activities that support the provision of this evidence are provided in the week 5 workshop worksheet.
Weighting 30%
Due Date End of week 7: 11:59pm Friday 12th of April
Submission Method Online
Assessment Criteria A rubric for the assignment will be available with the assignment on Canvas
Return Method Online
Feedback Provided Online - .
Opportunity to Reattempt Students WILL NOT be given the opportunity to reattempt this assessment.

Assessment 2 - Coordinate Geometry

Assessment Type Written Assignment
Purpose This Assignment has the same purpose as Assignment 1 but with the focus on Coordinate Geometry (and hence to Course Learning Outcomes 1 and 2).
Description The format of this Assignment follows that of Assignment 1 but with Coordinate Geometry as the focus. The primary activities that support the provision of this evidence are provided in the week 9 workshop worksheet.
Weighting 30%
Due Date End of week 11: 11:59pm Friday 24th of May
Submission Method Online
Assessment Criteria A rubric for the assignment will be available with the assignment on Canvas
Return Method Online
Feedback Provided Online - .
Opportunity to Reattempt Students WILL NOT be given the opportunity to reattempt this assessment.

Assessment 3 - Applying Mathematics

Assessment Type	Written Assignment
Purpose	This Assignment has the same purpose as Assignment 1 but with the focus on Applying Mathematics (and hence to Course Learning Outcome 3).
Description	The format of this Assignment follows that of Assignment 1 but with Applying Mathematics as the focus. The activities that support the provision of this evidence are provided in the week 10-12 workshop worksheets.
Weighting	20%
Due Date	End of Exam week 1: 11:59pm Friday 14th of June
Submission Method	Online
Assessment Criteria	A rubric for the assignment will be available with the assignment on Canvas
Return Method	Online
Feedback Provided	Online - .
Opportunity to Reattempt	Students WILL NOT be given the opportunity to reattempt this assessment.

Assessment 4 - Weekly quizzes in workshop

Assessment Type	Quiz
Purpose	To provide regular feedback on development of mathematical skills and knowledge
Description	A weekly quiz administered in the workshops
Weighting	20%
Due Date	Each of weeks 2 to 12 in workshop
Submission Method	In Class
Assessment Criteria	Marks will reflect students' ability to complete and explain mathematical work. The best 10 of 11 quiz marks will count.
Return Method	In Class
Feedback Provided	In Class - .
Opportunity to Reattempt	Students WILL NOT be given the opportunity to reattempt this assessment.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

Attendance	<p>*Skills are those identified for the purposes of assessment task(s). Attendance/participation will be recorded in the following components:</p> <ul style="list-style-type: none">- Workshop (Method of recording: MyUON app, class list.) <p>All students must attend at least 80% of the workshops, under the UON 1000-level attendance policy. You can check in using the app or advise the academic staff member at the commencement of the session if you need them to check in on your behalf. All students' attendance will be recorded using the myUni Attendance check-in app.</p>
Communication Methods	<p>Communication methods used in this course include:</p> <ul style="list-style-type: none">- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site. <p>There will be many means of communication used in the course, with individuals and with the class as a whole. However, where a vital piece of information is announced to all students, this will be through Canvas.</p>
Course Evaluation	<p>Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.</p>
Oral Interviews (Vivas)	<p>As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure. In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule.</p>
Academic Misconduct	<p>All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35.</p>
Adverse Circumstances	<p>The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:</p> <ol style="list-style-type: none">1. the assessment item is a major assessment item; or2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;3. you are requesting a change of placement; or4. the course has a compulsory attendance requirement. <p>Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at: https://policies.newcastle.edu.au/document/view-current.php?id=236</p>
Important Policy Information	<p>The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures that support a safe and respectful environment at the University.</p>

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

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