



# MATH1916

## A View of Mathematics

Session 2, Special circumstance 2020

*Department of Mathematics and Statistics*

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#### Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

#### Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

Unit convenor and teaching staff

Unit Convenor

Christopher Gordon

[chris.gordon@mq.edu.au](mailto:chris.gordon@mq.edu.au)

See iLearn

Credit points

10

Prerequisites

Corequisites

Co-badged status

Unit description

This unit is principally designed for students intending to teach in primary schools. It emphasises the use of imagination and logical thinking in developing mathematical approaches to solve a wide variety of interesting problems. In addition, the material is selected in a way that encourages students to appreciate the importance of mathematics as part of our cultural heritage. The material in this unit is accessible to students who have studied little mathematics at secondary level.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** understand the breadth of the discipline, its role in other fields, its value in education in general and its importance as part of our cultural heritage.

**ULO2:** develop an appreciation for the underlying mathematics found in everyday scenes and occurrences.

**ULO3:** apply mathematical principles and mathematical thinking in developing mathematical approaches to solve practical and abstract problems

**ULO4:** formulate and model practical and abstract problems in mathematical terms using the methods taught in MATH1916

**ULO5:** construct logical, clearly presented and justified mathematical arguments incorporating deductive reasoning at the level appropriate for MATH1916

**ULO6:** interpret information communicated in mathematical form

**ULO7:** present information, reasoning and conclusions in both written and spoken form to their peers and their teachers.

**ULO8:** work effectively, responsibly and safely in an individual or team context.

## General Assessment Information

**HURDLES:** Participation and reasonable engagement in the class activities in at least 8 of the SGTA classes are requirements to pass the unit. This is a hurdle requirement.

**ASSIGNMENT SUBMISSION:** Assignment submission will be online through the iLearn page.

Submit assignments online via the appropriate assignment link on the iLearn page. A personalised cover sheet is not required with online submissions. Read the submission statement carefully before accepting it as there are substantial penalties for making a false declaration.

- Assignment submission is via iLearn. You should upload this as a single scanned PDF file.
- Please note the quick guide on how to upload your assignments provided on the iLearn page.
- Please make sure that each page in your uploaded assignment corresponds to only one A4 page (do not upload an A3 page worth of content as an A4 page in landscape). If you are using an app like Clear Scanner, please make sure that the photos you are using are clear and shadow-free.
- It is your responsibility to make sure your assignment submission is legible.
- If there are technical obstructions to your submitting online, please email us to let us know.

You may submit as often as required prior to the due date/time. Please note that each submission will completely replace any previous submissions. It is in your interests to make frequent submissions of your partially completed work as insurance against technical or other problems near the submission deadline.

**LATE SUBMISSION OF WORK:** All assignments or assessments must be submitted by the official due date and time. No marks will be given to late work unless an extension has been granted following a successful application for [Special Consideration](#). Please contact the unit convenor for advice as soon as you become aware that you may have difficulty meeting any of the assignment deadlines. It is in your interests to make frequent submissions of your partially completed work. Note that later submissions completely replace any earlier submission, and so only the final submission made before the due date will be marked.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">SGTA weekly quizzes</a>	20%	Yes	Weekly
<a href="#">Assignment 1</a>	20%	No	Week 6
<a href="#">Assignment 2</a>	20%	No	Week 10
<a href="#">Mastery Test (online)</a>	20%	No	Week 13
<a href="#">Assignment 3</a>	20%	No	Week 14

### SGTA weekly quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 10 hours

Due: **Weekly**

Weighting: **20%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

A weekly quiz covering the material from SGTA content

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### Assignment 1

Assessment Type <sup>1</sup>: Problem set

Indicative Time on Task <sup>2</sup>: 6 hours

Due: **Week 6**

Weighting: **20%**

Problems are chosen to explore concepts and techniques learned in the unit. Students will solve the problems using logical mathematical arguments and submit clearly written solutions.

On successful completion you will be able to:

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## Assignment 2

Assessment Type <sup>1</sup>: Problem set

Indicative Time on Task <sup>2</sup>: 6 hours

Due: **Week 10**

Weighting: **20%**

Problems are chosen to explore concepts and techniques learned in the unit. Students will solve the problems using logical mathematical arguments and submit clearly written solutions.

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## Mastery Test (online)

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 6 hours

Due: **Week 13**

Weighting: **20%**

Students participate in an online quiz to demonstrate mastery of basic numeracy skills necessary for teaching.

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## Assignment 3

Assessment Type <sup>1</sup>: Problem set

Indicative Time on Task <sup>2</sup>: 6 hours

Due: **Week 14**

Weighting: **20%**

Problems are chosen to explore concepts and techniques learned in the unit. Students will solve the problems using logical mathematical arguments and submit clearly written solutions.

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- apply mathematical principles and mathematical thinking in developing mathematical approaches to solve practical and abstract problems
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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### Classes

**Lectures:** there is one one-hour lecture each week.

**Small Group Teaching Activity (SGTA):** there is one two-hour SGTA class each week.

### Required and Recommended Texts and/or Materials

The required text for this unit is the smart book option of Mathematics for Elementary Teachers: A Conceptual Approach Bennett, Burton, Nelson and Ediger, 10th edition.

The text is also available as an ebook or as a hardback, but we will be utilizing the smart book resources. Past students have found this textbook very useful and have also said they believe they will continue to use it as they begin their teaching careers.

In addition the following are some good modern websites with material for “Mathematical Outreach”. Some of the material is suitable for primary level, other secondary; but all is good for general interest in mathematics and its varied uses:

- [Math Amaze](#).
- Maths in and out of the zoo, a talk for all ages. ([Powerpoint slides](#))
- [NRICH](#), online magazine.
- [+plus](#), online magazine.
- [Motivate](#), enrichment resources.

Other material of interest:

- [Maths Practice](#)
- [PrimaryGames](#)

### Numeracy Centre

The Numeracy Centre offers free help to students enrolled in first year courses with a math component. This help is available for students who are studying MATH1916. See the Centre's [website](#) for further information. Students are advised to enrol in the Numeracy Centre's iLearn page for additional resources.

### Technology Used and Required

Students are expected to have access to an internet enabled computer with a web browser and Adobe Reader software. Several areas of the university provide wireless access for portable computers.



## Unit Schedule

Week	Topic (NSW Syllabus Content Strand)	Task Due
1	Problem Solving (Working Mathematically)	Quiz 1
2	Number Systems (Number and Algebra)	Quiz 2
3	Working with Numbers (Number and Algebra)	Quiz 3
4	Properties of Whole Numbers (Number and Algebra)	Quiz 4
5	Properties of Whole Numbers (Number and Algebra)	Quiz 5
6	Working with numbers between the whole numbers (Number and Algebra)	Quiz 6 Assignment 1
7	Creating and Interpreting Graphs (Statistics and Probability)	Quiz 7
Mid Semester		
8	Probability and Counting (Statistics and Probability)	Quiz 8
9	Probability and Counting (Statistics and Probability)	Quiz 9
10	Geometric Figures (Measurement and Geometry)	Quiz 10 Assignment 2
11	Geometric Figures (Measurement and Geometry)	Quiz 11
12	Geometric Figures (Measurement and Geometry)	Quiz 12

Week	Topic (NSW Syllabus Content Strand)	Task Due
13	Measurement  (Measurement and Geometry)	Quiz 13  Assignment 3  due Week 14

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway \(https://students.mq.edu.au/support/study/student-policy-gateway\)](https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](https://ask.mq.edu.au) or if you are a Global MBA

student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.