



# EDUC258

## Mathematics in Schools

S1 Day 2014

*Education*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor

Michael Cavanagh

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Credit points

3

Prerequisites

EDUC105 or (admission to GDipEd or BEd(Prim) or BEd(Sec))

Corequisites

EDUC106 or (admission to GDipEd or BEd(Prim) or BEd(Sec))

Co-badged status

Unit description

This unit is designed for intending primary teachers and intending secondary mathematics teachers. It focuses on the factors affecting school students' learning of mathematics. Three major themes are addressed: the meaning of selected basic concepts; how students learn these basic concepts; and how teaching can influence student learning. There is a common lecture strand which examines current research perspectives on learning and teaching mathematics in schools, and separate tutorial classes for intending primary and secondary teachers. The external offering is only available to intending primary teachers.

## 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:

Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.

Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities

Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics

Know and understand numeracy teaching strategies and their application in teaching areas

Demonstrate understanding of the content covered in lectures and tutorials

## Assessment Tasks

Name	Weighting	Due
<a href="#">Quiz</a>	20%	Week 4
<a href="#">Numeracy interview</a>	35%	Week 10
<a href="#">Exam</a>	45%	Exam period

### Quiz

Due: **Week 4**

Weighting: **20%**

Students complete an online quiz covering the content of the first module of the unit.

You access the quiz and submit your answers via the EDUC258 iLearn page.

On successful completion you will be able to:

- Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Demonstrate understanding of the content covered in lectures and tutorials

### Numeracy interview

Due: **Week 10**

Weighting: **35%**

Students interview a child about the child's understanding of certain aspects of numeracy.

Specific details about the numeracy interview task can be found in the EDUC258 Unit Guide.

You submit a hard copy of your assignment to the Faculty of Human Sciences Student Centre (Level 3 of building C3A). You must also submit a soft copy of your assignment through the EDUC258 iLearn page so that it can be checked through Turnitin.

Information regarding penalties for late submission of the assignment can be found in the EDUC258 Unit Guide.

On successful completion you will be able to:

- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Know and understand numeracy teaching strategies and their application in teaching areas

## Exam

Due: **Exam period**

Weighting: **45%**

A 2 hour closed-book examination covering the content of the unit.

Details of the date and time of the examination will be available via the University Examination Timetable shortly after the mid-session break.

On successful completion you will be able to:

- Demonstrate understanding of the content covered in lectures and tutorials

## Delivery and Resources

There are separate strands for intending primary and secondary teachers.

Primary strand: 2 x 1hr lectures and a 1hr tute per week

Secondary strand: a 1hr lecture and a 1hr tute and various online learning activities per week

Note that tutorials commence in Week 1.

All students are required to access EDUC258 activity sheets and other learning resources from iLearn.

We will discuss the role of technology in mathematics education at various times during the unit. The only requirement for technology use by students is that you prepare your assignment using a computer.

Since the last offering of the unit, the main change has been the reorganisation of the unit content to take account of the compressed teaching period and the introduction of online learning activities.

## Unit Schedule

The schedule of activities can be found in the EDUC258 Unit Guide

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to

Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## 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 improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## 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)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/hel>

p/.

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

## Graduate Capabilities

### Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

#### Learning outcomes

- Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Know and understand numeracy teaching strategies and their application in teaching areas
- Demonstrate understanding of the content covered in lectures and tutorials

### Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

#### Learning outcome

- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities

## Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

### Learning outcome

- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities

## Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

### Learning outcome

- Demonstrate understanding of the content covered in lectures and tutorials