



THE UNIVERSITY OF NOTRE DAME AUSTRALIA

## **PROGRAM REGULATIONS:**

Program Code: 4153

### **GRADUATE CERTIFICATE IN MATHEMATICS**

GradCertMath

Program Code: 4159

### **GRADUATE DIPLOMA OF MATHEMATICS EDUCATION**

GradDipMathEd

Program Code: 5134

### **MASTER OF MATHEMATICS EDUCATION**

MMath

Responsible Owner: National Head of the School of Arts & Sciences  
Responsible Office: Faculty of Arts, Sciences, Law and Business  
Contact Officer: PCAC Executive Officer  
Effective Date: 1 January 2021



THE UNIVERSITY OF  
**NOTRE DAME**  
A U S T R A L I A

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## 2 AMENDMENTS

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Amendments to these regulations will be made in accordance with the General Regulations.

### Graduate Certificate in Mathematics:

Version	Date Amended	Amendment Details	Approved by
1	October 2017	New Program	Dean
2	January 2019	Regulations transferred to new template	PVCA

### Graduate Diploma of Mathematics Education

Version	Date Amended	Amendment Details	Approved by
1	January 2019	New Program	Dean

### Master of Mathematics Education

Version	Date Amended	Amendment Details	Approved by
1	January 2019	New Program	Dean

## 3 PURPOSE

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These Program Regulations set out the approved requirements for the Graduate Certificate in Mathematics, Graduate Diploma of Mathematics Education and Master of Mathematics Education.

## 4 OVERVIEW

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### 4.1 Campus Availability

The Graduate Certificate in Mathematics, Graduate Diploma of Mathematics Education and Master of Mathematics Education has been approved for delivery on the Sydney Campus.

### 4.2 Student Availability

The Graduate Certificate in Mathematics, Graduate Diploma of Mathematics Education and Master of Mathematics Education are available for enrolment to domestic Students.

### 4.3 Australian Qualifications Framework

The Graduate Certificate in Mathematics and Graduate Diploma of Mathematics Education are accredited by the University as a Level 8 AQF qualification.

The Master of Mathematics Education is accredited by the University as a Level 9 AQF qualification.

### 4.4 Duration

The Volume of Learning for the Graduate Certificate in Mathematics is 0.5 years of equivalent full-time study.

The Volume of Learning for the Graduate Diploma of Mathematics Education is 1 year of equivalent full-time study.

The Volume of Learning for the Masters of Mathematics Education is 1.5 years of equivalent full-time study.

A student is only able to enrol in these Awards on a part-time basis.

### 4.5 Maximum Duration

4.5.1 The maximum period of time within which a student is permitted to complete the Graduate Certificate in Mathematics Award is 3 years (including any periods of approved leave of absence) from the date on which they were first enrolled into the program by the University.

4.5.2 The maximum period of time within which a student is permitted to complete the Graduate Diploma of Mathematics Education is 4 years (including any periods of approved leave of absence) from the date on which they were first enrolled into the program by the University.

4.5.3 The maximum period of time within which a student is permitted to complete the Master of Mathematics Education is 6 years (including any periods of approved leave of absence) from the date on which they were first enrolled into the program by the University.

### 4.6 Study Mode

These Awards are offered in Internal Study mode.

### 4.7 Professional Accreditation

There are no professional accreditation requirements applicable to these Awards.

## 5 ENTRY REQUIREMENTS

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### 5.1 University Admission Requirements

To be eligible for admission to The University of Notre Dame Australia, all applicants must meet the [University's minimum requirements for admission](#). The requirements for admission are detailed in the University's Policy: *Admissions*.

### 5.2 Academic Requirements

To be eligible for admission to the **Graduate Certificate in Mathematics** applicants must meet the following specific requirements:

- As a minimum qualification, a recognised Bachelor degree or equivalent in any discipline area.

To be eligible for admission to the **Graduate Diploma of Mathematics Education** applicants must meet the following specific requirements:

- Possession of a Bachelor's award (AQF level 7 qualification) or equivalent in Initial Teacher Education.  
OR
- Possession of a Bachelor's award (AQF level 7 qualification) and concurrent study in a Master of Teaching (AQF level 9 qualification).

To be eligible for admission to the **Master of Mathematics Education** applicants must meet the following specific requirements:

- Possession of a Bachelor's award (AQF level 7 qualification) or equivalent in Initial Teacher Education.  
OR
- Possession of a Bachelor's award (AQF level 7 qualification) and concurrent study in a Master of Teaching (AQF level 9 qualification).

## 6 PROGRAM REQUIREMENTS

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### 6.1 Program Description: Graduate Certificate in Mathematics

Science, technology, engineering, and Mathematics (STEM) are heralded as key drivers of future innovation and growth. The Graduate Certificate in Mathematics is designed as the first in a nested set of programs to enable existing teachers to retrain to teach Mathematics. It can also be studied as a pathway for students who want to deepen their knowledge of Mathematics but have not studied Mathematics at an undergraduate level. The program covers areas such as Number, Algebra, Geometry Statistics, and Calculus. It develops the capacity of students to apply advanced mathematical knowledge in order to design and solve authentic problems.

#### Program Description: Graduate Diploma of Mathematics Education

The Graduate Diploma of Mathematics Education provides a pathway for secondary teachers to retrain in the area of Mathematics. The program includes the four courses contained in the Graduate Certificate (including linear algebra and calculus) in Mathematics along with two advanced mathematics content courses, a mathematics teaching methods course and a Core curriculum course. As part of a nested sequence of programs, these additional courses are also the foundation for the Master of Mathematics Education.

The overall aim of the program is to equip teachers to be mathematicians. At the completion of this program, graduates will have gained the ability to think mathematically and are equipped with the skills for life-long learning necessary to self-train in any area of mathematics that might be potentially added following future curriculum reviews.

#### Program Description: Master of Mathematics Education

The Master of Mathematics Education is designed to further the careers of existing high school teachers by providing them with retraining in the discipline of Mathematics as well as advanced knowledge and skills in Mathematics Education Research and leadership for professional practice. This program is part

of a nested sequence and includes the eight courses contained in the Graduate Diploma in Mathematics Education along with three advanced research courses and a leadership course.

## 6.2 Program Learning Outcomes: Graduate Certificate in Mathematics

Upon successful completion of the Graduate Certificate in Mathematics graduates will be able to:

1. Solve complex problems in the mathematical areas of Algebra, Geometry, Statistics and Calculus.
2. Demonstrate critical thinking skills, including formulating and modelling practical and abstract problems in mathematical terms.
3. Apply mathematical principles, concepts, techniques and technology to solve practical and abstract problems.
4. Demonstrate communication skills to transfer an understanding of theoretical concepts.
5. Articulate the importance of life-long learning, professional development and self-directed learning

## Program Learning Outcomes: Graduate Diploma of Mathematics Education

1. Solve complex problems in Algebra, Geometry, Statistics, Calculus and Discrete Mathematics.
2. Demonstrate critical thinking skills, including formulating and modelling practical and abstract problems in mathematical terms.
3. Apply mathematical principles, concepts, techniques and technology to solve practical and abstract problems.
4. Communicate theoretical concepts in Mathematics to a range of audiences.
5. Demonstrate the application of knowledge and skills with ethical responsibility and accountability for further learning.
6. Combine theoretical mathematical knowledge with practical educational approaches to teaching mathematics.

## Program Learning Outcomes: Master of Mathematics Education

1. Solve complex problems in Algebra, Geometry, Statistics, Calculus and Discrete Mathematics.
2. Demonstrate critical thinking skills, including formulating and modelling practical and abstract problems in mathematical terms.
3. Apply mathematical principles, concepts, techniques and technology to solve practical and abstract problems.
4. Communicate theoretical concepts in Mathematics to a range of audiences.
5. Demonstrate the application of knowledge and skills with ethical responsibility and accountability for further learning.
6. Combine theoretical mathematical knowledge with pedagogical approaches to teaching mathematics.
7. Demonstrate knowledge and skills required to undertake leadership roles.
8. Design and execute an action research project to improve teaching practice.

## 6.3 Required Courses

To be eligible for the award of **Graduate Certificate in Mathematics** students must complete a minimum of 100 Units of Credit, listed in Appendix A, comprising:

- 100 Units of Credit from four (4) required MATH Courses

To be eligible for the award of **Graduate Diploma of Mathematics Education** students must complete a minimum of 200 Units of Credit, listed in Appendix B, comprising:

- 25 Units of Credit from one (1) Core Curriculum Course
- 175 Units of Credit from seven (7) compulsory MATH Courses

To be eligible for the award of **Master of Mathematics Education** (in or after 2019) students must complete a minimum of 300 Units of Credit, listed in Appendix C, comprising:

- 25 Units of Credit from one (1) Core Curriculum Course
- 175 Units of Credit from seven (7) required MATH Courses
- 75 Units of Credit from three (3) required ARTS Research Courses.
- 25 Units of credit from one (1) required EDUC course.

Students who commenced the Master of Mathematics Education Program prior to 2019, see Appendix D.

#### **6.4 Course substitutions**

Course substitutions, where permitted, must be approved by the Dean.

## **7 DEFINITIONS**

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For the purpose of these Regulations, the following definitions are available in the General Regulations.

- Leave of Absence
- Units of Credit
- Pre-requisite Course

## APPENDIX A:

### Program Plan Graduate Certificate in Mathematics

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#### General Stream:

##### Four (4) required MATH Courses

	Units of Credit
MATH5000 Principles of Mathematics	25
MATH5001 Linear Algebra	25
MATH5002 Statistics	25
MATH5030 Calculus	25
<b>TOTAL Units of Credit</b>	<b>100</b>

#### Primary specialisation:

##### Four (4) required Courses

	Units of Credit
MATH5005 The Theory and Method of Number and Algebra	25
MATH5006 Statistics and Probability in an Integrated STEM Classroom	25
MATH5007 Geometry and Measurement in an Integrated STEM Classroom	25
EDUC5010 Assessment and Differentiated Instruction for Mathematics Teaching	25
<b>TOTAL Units of Credit</b>	<b>100</b>

## APPENDIX B:

### Program Plan Graduate Diploma of Mathematics Education

YEAR ONE						
Semester One			Semester Two			
Course Code	Course Title	Units of credit	Course Code	Course Title	Units of credit	
MATH5000	Principles of Mathematics	25	MATH5001	Linear Algebra	25	
MATH5002	Statistics	25	MATH5030	Calculus	25	
<b>Total Units of Credit for Y1 S1</b>		50	<b>Total Units of Credit for Y1 S2</b>		50	
					<b>Total Units of credit Year One</b>	100

YEAR TWO						
Semester One			Semester Two			
Course Code	Course Title	Units of credit	Course Code	Course Title	Units of credit	
MATH5003	Advanced Calculus	25	MATH5080	Teaching Methods in Mathematics	25	
MATH5004	Discrete Mathematics	25	PHTH6002	Reason and Revelation	25	
<b>Total Units of Credit for Y2 S1</b>		50	<b>Total Units of Credit for Y2 S2</b>		50	
					<b>Total Units of credit Year Two</b>	100
					<b>TOTAL PROGRAM UNITS OF CREDIT</b>	200



## APPENDIX C:

### Program Plan Master of Mathematics Education (from 2019)

(For students commencing their study in or after 2019)

Year One						
Semester 1			Semester 2			
Course Code	Course Title	Units of Credit	Course Code	Course Title	Units of Credit	
MATH5000	Principles of Mathematics	25	MATH5002	Statistics	25	
MATH5001	Linear Algebra	25	MATH5030	Calculus	25	
<b>Year 1 Semester 1 Total</b>		50	<b>Year 1 Semester 2 Total</b>		50	
					<b>Year 1 Total</b>	100
Year Two						
Semester 1			Semester 2			
Course Code	Course Title	Units of Credit	Course Code	Course Title	Units of Credit	
MATH5003	Advanced Calculus	25	MATH5080	Teaching Methods in Mathematics	25	
MATH5004	Discrete Mathematics	25	PHTH6002	Reason and Revelation	25	
<b>Year 2 Semester 1 Total</b>		50	<b>Year 2 Semester 2 Total</b>		50	
					<b>Year 2 Total</b>	100
Year Three						
Semester 1			Semester 2			
Course Code	Course Title	Units of Credit	Course Code	Course Title	Units of Credit	
ARTS5010	Research Methods	25	ARTS6031	Research Project	25	
ARTS6031	Research Project	25	EDUC6058	Educational Leadership	25	
<b>Year 3 Semester 1 Total</b>		50	<b>Year 3 Semester 2 Total</b>		50	
					<b>Year 3 Total</b>	100
					<b>Program Total</b>	300

## APPENDIX D: Program Plan Master of Mathematics Education (prior to 2019)

(For students who commenced their enrolment prior to 2019)

YEAR ONE					
SEMESTER ONE			SEMESTER TWO		
Course Code	Course Title	Units of Credit	Course Code	Course Title	Units of Credit
MATH5000	Principles of Mathematics	25	MATH5030	Calculus	25
MATH5070	History & Philosophy of Mathematics	25	MATH5060	Mathematics & Technology	25
<b>Total Units of Credit</b>		<b>50</b>	<b>Total Units of Credit</b>		<b>50</b>
<b>Total Unit of Credit Year One</b>					<b>100</b>
YEAR TWO					
SEMESTER ONE			SEMESTER TWO		
Course Code	Course Title	Units of Credit	Course Code	Course Title	Units of Credit
MATH5020	Advanced Algebra and Geometry	25	MATH5050	Advanced Calculus	25
MATH5090	Research Methods in Mathematics	50	MATH5080	Teaching Methods in Mathematics	25
MATH5100	Research Projects in Mathematics A	25	MATH5101	Research Projects in Mathematics B	25
PHTH6002	Reason and Revelation	25			
<b>Total Units of Credit</b>		<b>125</b>	<b>Total Units of Credit</b>		<b>75</b>
<b>Total Units of Credit Year Two</b>					<b>200</b>
<b>Total Units of Credit Degree</b>					<b>300</b>

Individual Program counselling will determine how students who commenced the Program before 2019 will complete the Program. Course substitution between the two versions of the Program may be possible. See table below.

Pre 2019 Courses		Modified Program courses (from 2019)	
Course Code	Course Title	Course Code	Course Title
MATH5020	Advanced Algebra & Geometry	MATH5001	Linear Algebra
MATH5050	Advanced Calculus	MATH5003	Advanced Calculus
MATH5100	Research Projects in Mathematics A	ARTS6031	Research Project
MATH5101	Research Projects in Mathematics B	ARTS6031	Research Project
MATH5090	Research Methods in Mathematics	ARTS5010	Research Methods

Students may be required to complete these courses:

MATH5002 Statistics

MATH5004 Discrete Mathematics

EDUC6058 Educational Leadership