



THE UNIVERSITY OF NOTRE DAME AUSTRALIA

PROGRAM REQUIREMENTS:

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:	National Manager, Enrolment, Fees & Student Administration
Effective Date:	1 January 2023



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

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2 AMENDMENTS

Amendments to these requirements 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
3	January 2023	Amended from regulations to requirements	

Graduate Diploma of Mathematics Education

Version	Date Amended	Amendment Details	Approved by
1	January 2019	New Program	Dean
2	January 2023	Amended from regulations to requirements	

Master of Mathematics Education

Version	Date Amended	Amendment Details	Approved by
1	January 2019	New Program	Dean
2	January 2023	Amended from regulations to requirements	

3 PURPOSE

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

4 OVERVIEW

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

The Graduate Certificate in Mathematics and the Graduate Diploma of Mathematics Education are offered in internal and online study modes.

The Master of Mathematics Education is offered in internal study mode.

4.7 Professional Accreditation

There are no professional accreditation requirements applicable to these Awards.

5 ENTRY REQUIREMENTS

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

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

For the purpose of these Requirements, 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

General Stream:

Four (4) required MATH Courses

MATH5000 Principles of Mathematics

MATH5001 Linear Algebra

MATH5002 Statistics

MATH5030 Calculus

Units of Credit

25

25

25

25

TOTAL Units of Credit

100

Primary Specialisation:

Four (4) required Courses

MATH5005 The Theory and Method of Number and Algebra

MATH5006 Statistics and Probability in an Integrated STEM Classroom

MATH5007 Geometry and Measurement in an Integrated STEM Classroom

EDUC5010 Assessment and Differentiated Instruction for Mathematics Teaching

Units of Credit

25

25

25

25

TOTAL Units of Credit

100

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
Total Units of Credit for Y1 S1		50		Total Units of Credit for Y1 S2		50
Total Units of credit Year One					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
Total Units of Credit for Y2 S1		50		Total Units of Credit for Y2 S2		50
Total Units of credit Year Two					100	
TOTAL PROGRAM UNITS OF CREDIT					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
Year 1 Semester 1 Total		50	Year 1 Semester 2 Total		50
Year 1 Total					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
Year 2 Semester 1 Total		50	Year 2 Semester 2 Total		50
Year 2 Total					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
Year 3 Semester 1 Total		50	Year 3 Semester 2 Total		50
Year 3 Total					100
Program Total					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
Total Units of Credit		50	Total Units of Credit		50
Total Unit of Credit Year One					100
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			
Total Units of Credit		125	Total Units of Credit		75
Total Units of Credit Year Two					200
Total Units of Credit Degree					300

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