

Master of Professional Studies (MProfStuds)

# Mathematics Education

Postgraduate Handbook 2018

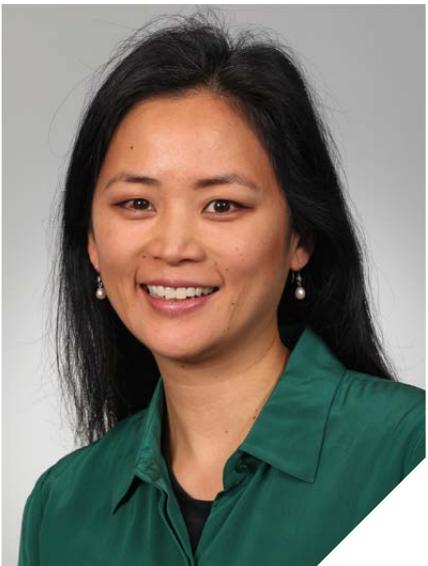


THE UNIVERSITY OF  
**AUCKLAND**  
Te Whare Wānanga o Tāmaki Makaurau  
NEW ZEALAND

**SCIENCE**  
DEPARTMENT OF MATHEMATICS

# Welcome to the Department of Mathematics

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We extend a warm invitation to all mathematics teachers wishing to obtain a masters qualification by enrolling in our Master of Professional Studies degree in Mathematics Education.

The Department of Mathematics is a vibrant place of research, teaching and further education, with active and internationally recognised research groups in Pure Mathematics, Applied Mathematics and Mathematics Education.

Our programme of postgraduate study in Mathematics Education is specifically targeted at mathematics teachers like you. It integrates research, subject knowledge and teaching experience to allow you to explore and research different aspects of teaching practice. We look forward to welcoming you as a postgraduate student in our department.

PROFESSOR BERND KRAUSKOPF  
Head of Department

Welcome to the Mathematics Education Unit. Our group is internationally recognised for research and teaching in secondary and tertiary mathematics and statistics education.

By joining our community you will meet high-profile visiting researchers from around the world and be part of our social and professional activities. We value our position amongst mathematicians, so you will also develop links and friendships within the wider mathematics community.

We are delighted that this programme recognises your teaching experience and gives you the opportunity to complete a masters degree in one year.

ASSOCIATE PROFESSOR CAROLINE YOON  
Head, Mathematics Education Unit

# Master of Professional Studies (MProfStuds)

A Master of Professional Studies (MProfStuds) in Mathematics Education is designed for mathematics teachers who wish to reflect on and enhance their classroom practice through professional development, study and research.

The degree brings together research, subject knowledge and professional experience to develop critical approaches to mathematics and statistics teaching and learning. The programme will allow students to explore research relevant to their mathematics teaching practice.

Graduates of this programme will be better equipped to be senior practitioners in mathematics and statistics education at primary, secondary or tertiary level, to lead the research-based professional development of mathematics teachers in their institution, and to take on positions of responsibility that involve mentoring other teaching staff.

Students may be eligible for the partial or full fees subsidies from their schools, the Ministry of Education, and scholarships, including the Judy Paterson Scholarship and the Auckland Mathematical Association (AMA) scholarship.

The Judy Paterson Mathematics Education Scholarship is an annual award for partial fees payment available to teachers from decile 1 and 2 schools.

## Prerequisites

- Bachelors degree, or bachelors (honours) degree
- A teaching qualification recognised as equivalent to one year's advanced study
- At least three years of post-qualification teaching involving mathematics or statistics
- A current teaching position (full or part-time)
- Any prerequisites for the courses in the subject area in which you wish to enrol

Entry is with the approval of the Director of the programme.

## Programme structure

This is a one-year, full-time, research-informed masters programme that can be taken as either a research-oriented, or a teaching-oriented version. Both versions contain independent research, but the teaching-oriented masters is more tailored for teachers working part or full-time.

### Research-oriented programme

The research-oriented version may also be taken part-time over two years.

- 90 points (research portfolio): MATHS 790
- 15 Points: EDPROSFT 787
- 15 points from ENGSCI 701-772, MATHS 701-789, STATS 701-703, 705, 708-787

### Teaching-oriented programme

The teaching-oriented version may also be taken part-time over three-and-a-half years.

- 45 points (Dissertation): MATHS 785 or STATS 792 or EDPROSFT 789
- At least 45 points from ENGSCI 701-772, MATHS 701-789, STATS 701-703, 705, 708-787
- Up to 30 points from EDPROSFT 787, or other 700-level courses approved by Head of School of Curriculum and Pedagogy or the Programme Director

#### Start date:

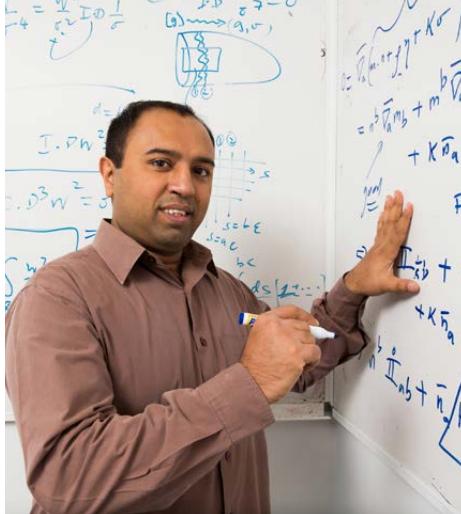
Semester One or Semester Two by arrangement.

For more information and advice contact:

Associate Professor Caroline Yoon

Programme Coordinator

Email: [c.yoon@auckland.ac.nz](mailto:c.yoon@auckland.ac.nz)



We understand that it is difficult to study while working full-time, so we offer courses in the evenings after school hours. You can take these courses while teaching full-time as classes are held once a week after school, for two-and-a-half hours. All courses are assessed by 100% coursework – there are no examinations.

Parking vouchers for the Owen Glenn Building carpark are provided for teachers enrolled in City Campus courses. Parking on the Epsom Campus is free.

## The following courses can be taken as part of the MProfStuds in 2018

### MATHS 710 Meaningful mathematical learning (15 points)

#### *Summer Semester*

A critical review of cutting-edge research on meaningful learning in mathematics.

Meets for four sessions,  
10am-3pm on 9, 12, 16 and 19 January.

### MATHS 708 Mathematical Task design (15 points)

#### *Semester One*

A hands-on course that examines the theory and practice of designing mathematical tasks.

Meets for eight sessions on  
Wednesday evenings, 4.15-6.55pm.

### MATHS 709 Mathematical Knowledge for Teaching (15 points)

#### *Semester Two*

A practical course covering selected topics in mathematics for enhancing teaching practice.

Meets for eight sessions on  
Tuesday evenings, 4.15-6.55pm.

### EDPROFST 787 Special Topic: Issues in Mathematics Education (15 points)

#### *Semester Two*

A critical examination of current issues in statistics and mathematics learning in New Zealand.

Meets on Wednesday evenings, 4.30-6.30pm.

### Research topics

Below are some topics past students have researched in their MProfStuds.

- Mathematical communication in the classroom
- Effective memorisation of basic facts
- Raising Pacific achievement in mathematics using a positive teacher-student interaction style
- Informally testing the fit of a probability distribution model
- Issues in transition from Year 8 to Year 9
- Interactions between language fluency and mathematics learning and achievement for senior secondary Samoan students
- Inducing mathematical flow

*For more ideas for research topics, and to find out about potential supervisors from the Department of Mathematics, the Department of Statistics, and the Faculty of Education and Social Work, please contact Caroline Yoon c.yoon@auckland.ac.nz.*

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Property 1, but not Property 2.) Device 1 detects

another "example".

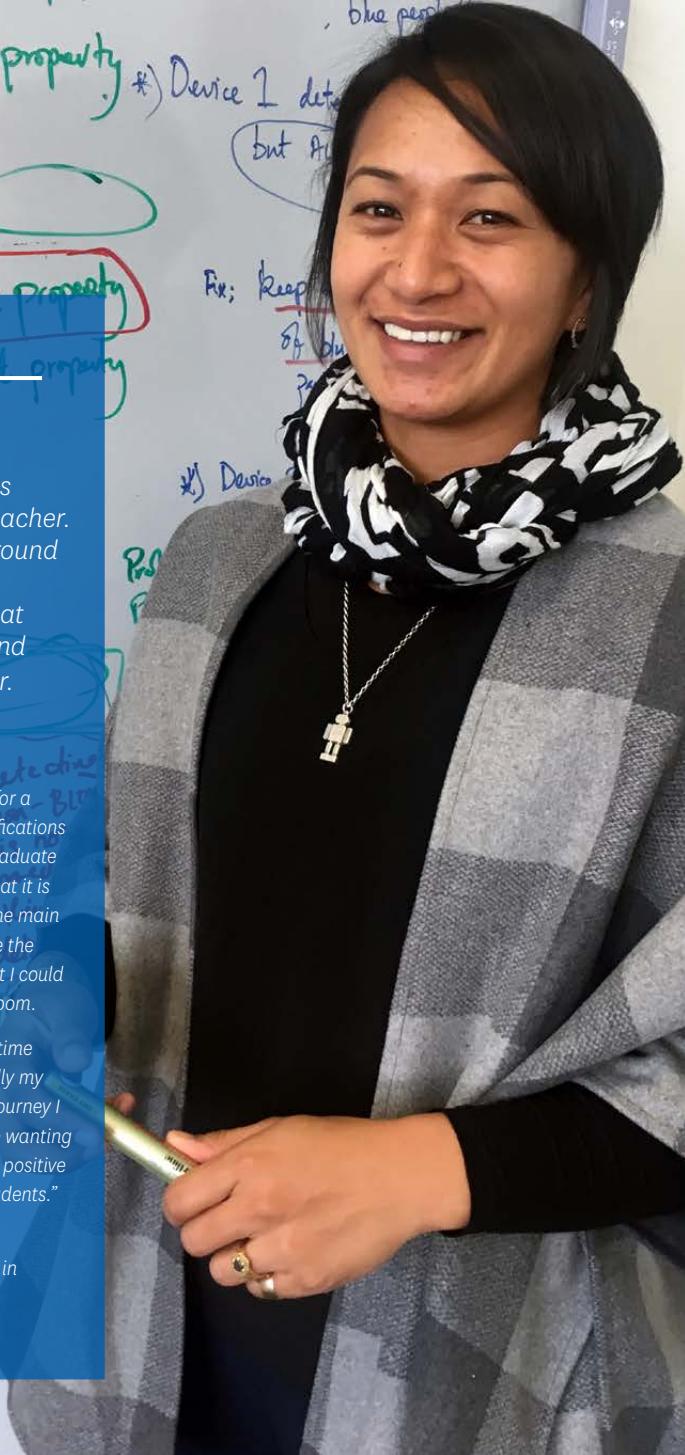
Keep the part that satisfies property  
add something that property

"I chose to pursue a Master of Professional Studies (MProfStuds) in Mathematics Education as I was interested in becoming a better teacher. I was intrigued by the literature around maths education and I wanted to refine my teaching practices so that I could become a more cultured and enlightening mathematics teacher.

"I chose to study at the University of Auckland for a number of reasons. I completed my other qualifications here, so it seemed fitting to continue my postgraduate journey here too. Another important factor is that it is the highest ranked New Zealand university in the main world university rankings. And lastly, it gave me the flexibility to become a part-time student so that I could incorporate what I was learning into the classroom.

"Juggling a full-time teaching career and part-time study is not easy, but my lecturers and especially my supervisor were supportive and inspiring. The journey I have taken to complete my masters has left me wanting to gain more knowledge so that I can provide a positive and successful learning environment for my students."

**Josephina Ah Sam** completed a Master of Professional Studies in Mathematics Education in 2016.



# Helpful information

## Academic dates

[www.auckland.ac.nz/dates](http://www.auckland.ac.nz/dates)

## Accommodation

[www.accommodation.auckland.ac.nz](http://www.accommodation.auckland.ac.nz)

## Apply for postgraduate study

[www.auckland.ac.nz/applynow](http://www.auckland.ac.nz/applynow)

## Career Development and Employment Services

[www.cdes.auckland.ac.nz](http://www.cdes.auckland.ac.nz)

## Childcare

[www.auckland.ac.nz/childcare](http://www.auckland.ac.nz/childcare)

## Course advice and degree planning in Science

[www.science.auckland.ac.nz/student-centre](http://www.science.auckland.ac.nz/student-centre)

## Disability Services

[www.disability.auckland.ac.nz](http://www.disability.auckland.ac.nz)

## How to enrol

[www.auckland.ac.nz/enrolment](http://www.auckland.ac.nz/enrolment)

## Information for postgraduate students

[www.postgraduate.ac.nz](http://www.postgraduate.ac.nz)

## International students

[www.international.auckland.ac.nz](http://www.international.auckland.ac.nz)

## Libraries and Learning Services

[www.library.auckland.ac.nz](http://www.library.auckland.ac.nz)

## Māori and Pacific students

[www.science.auckland.ac.nz/tuakana](http://www.science.auckland.ac.nz/tuakana)

## Need help?

[www.askauckland.ac.nz](http://www.askauckland.ac.nz)

## Postgraduate Students' Association

[www.pgsa.org.nz](http://www.pgsa.org.nz)

## Rainbow Science Network for LGBTI students

[www.science.auckland.ac.nz/rainbowscience](http://www.science.auckland.ac.nz/rainbowscience)

## Scholarships and awards

[www.scholarships.auckland.ac.nz](http://www.scholarships.auckland.ac.nz)

[www.auckland.ac.nz/fees](http://www.auckland.ac.nz/fees)

## Support for students

[www.science.auckland.ac.nz/support](http://www.science.auckland.ac.nz/support)

**Questions about Mathematics?**  
**[pgadvice@math.auckland.ac.nz](mailto:pgadvice@math.auckland.ac.nz)**

## Disclaimer

Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only for students and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the University of Auckland Calendar, to ensure that they are aware of and comply with all regulations, requirements and policies.



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NEW ZEALAND

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[www.facebook.com/science.uoa](https://www.facebook.com/science.uoa)