2017 Approved MATHEMATICS Courses for Tertiary Fees Funding Support for Primary and Intermediate Teachers

The University of Auckland

Title	EDCURRIC 349 A/B **Understanding and Extending Mathematical Thinking (15 Points)**
Description	This course simultaneously deals with teachers' personal mathematical subject knowledge and the implications for teaching from year one to year eight. Teachers will develop a thorough knowledge of the different strategies children use to solve number problems, as they build personal mathematical content knowledge and recognise and understand the links between effective pedagogy and student outcomes. Assessing children on aspects of mathematical content knowledge is a feature of this course.
Delivery Contact	Semester 1 and 2. (Flexi delivery is available nationwide.) Gail Ledger; g.ledger@auckland.ac.nz *Notes: This Faculty of Education course is at year 3 undergraduate level and can be credited to a Bachelor of Education (Tchg) upgrade or a Graduate Diploma of Education.*

Title	EDCURRIC 350 **Teaching Mathematics Investigations (15 Points)**
Description	This course provides an opportunity to improve your teaching, deliver key competencies in Mathematics, get purposeful group work started, all while learning more about mathematics yourself. Sessions will be hands-on and practical, with much content knowledge and basic fact coverage. This course will allow an examination of investigative approaches to the teaching and learning of mathematics within the context of problem solving.
Delivery Contact	Summer School (Epsom Campus) Semester 1 and 2 (School based Delivery -Auckland School) (To be finalised) Gillian Frankcom Burgess; g.frankcom@auckland.ac.nz *Notes: This Faculty of Education course is at year 3 undergraduate level and can be credited to a Bachelor of Education (Tchg) upgrade or a Graduate Diploma of Education.*

Post Graduate level courses

Title	EDCURRIC 714(previously taught as EDPROFST 784A/B) **Exploring Mathematical Thinking (30 points)**
Description	
Delivery Contact	Semester 1 (Epsom Campus) Gail Ledger; g.ledger@auckland.ac.nz

Title	EDPROFST 787 – Special Topic: Issues in mathematics Education (15 points)
Description	Mathematics and statistics teaching and learning can be controversial and often appear in media headlines. At the same time teachers want to teach mathematics in research-informed ways that will work for their students. This course looks at the research in mathematics and statistics education to see what it can tell us about the best ways to teach and learn mathematics. You will learn how to critique mathematics and statistics education research and how to find and read research that can help with problems of practice and wider educational issues. You will also gain an understanding of key dilemmas and arguments in mathematics and statistics education and how these influence what is researched and what research finds.
Delivery	Semester 2 (Epsom Campus)
Contact	Fiona Ell; f.ell@auckland.ac.nz

Note that the Tertiary Fees Funding Support scheme is only available to primary and intermediate teachers who enrol in these courses.

Title	MATHS 707 – Special Topic in Mathematics Education
Description	In 2015, this course will be in Problem Solving. Students will investigate the way they solve problems themselves, and compare their techniques with those of mathematicians and theoretical approaches in the literature.
Delivery	Semester 1
Contact	Caroline Yoon c.yoon@auckland.ac.nz

Title	STATS 708 Topics in Statistical Education
Description	Covers a wide range of research in statistics education at the school and tertiary level. There will be a consideration of, and an examination of, the issues involved in statistics education in the curriculum, teaching, learning, technology and assessment areas.
Delivery	Semester 1
Contact	Maxine Pfannkuch m.pfannkuch@auckland.ac.nz

In addition, for the MProfStuds (Mathematics Education) programme, the following courses are available as part of the Research Portfolio:

Title	MATHS 792 – Research in Mathematics Education
Description	A portfolio of research work that will include a Research Case Study of a mathematics learner or teacher, a literature investigation and a research proposal for a larger study.
Delivery	Semester 1 and 2
Contact	Jean-François Maheux j.maheux@auckland.ac.nz

Title	MATHS 797A/B – Advanced Research in Mathematics Education
Description	A significant research project on some aspect of learning or teaching mathematics, including a substantive research report, including, or alongside other relevant documents such as Ethics applications, literature reviews, methodological surveys, papers for conference presentation or publication and presentation slides.
Delivery	Semester 1 and 2
Contact	Jean-François Maheux j.maheux@auckland.ac.nz

Title	MATHS 712 Teaching and Learning Algebra
Description	Recent theoretical perspectives on the teaching and learning of school and university mathematics are linked to the learning of calculus and algebra. The focus is on the mathematics content, applications and effective learning at school and university. Participants will design tasks that promote calculus and/or algebra learning as part of the course.
Delivery	Semester 2
Contact	Jean-François Maheux j.maheux@auckland.ac.nz

Title	EDPROFST 789 A/B – Dissertation in Mathematics Education
Description	A dissertation of research work in mathematics education
Delivery	Semester 1 and 2
Contact	Fiona Ell; f.ell@auckland.ac.nz
Title	MATHS 785 A/B – Dissertation in Mathematics Education
Description	A dissertation of research work in mathematics education
Delivery	Semester 1 and 2
Contact	Jean-François Maheux j.maheux@auckland.ac.nz
Title	STATS 792 A/B – Dissertation in Statistics Education
Description	A dissertation of research work in statistics education
Delivery	Semester 1 and 2
Contact	Maxine Pfannkuch m.pfannkuch@auckland.ac.nz

University of Canterbury

Title	EDEM609 - Contemporary Issues in Mathematics Education
Description	This course identifies current issues and debates related to the learning and teaching of mathematics and statistics in New Zealand educational contexts, and of interest to practitioners in centres or schools. Based on these issues, research literature and other resources are critically examined and related to local, national and international contexts relevant to mathematics education. Students are encouraged to develop critical perspectives about current teaching practices such as pedagogical frameworks, mathematical models and representations and other practices related to the teaching and learning of mathematics and statistics.
Delivery for 2016	Flexible delivery

Massey University

UNDERGRADUATE PAPERS (15 credits)
Undergraduate papers may be credited towards a Bachelor's degree in Education, Arts, or Science, or the Graduate Diploma of Teaching.

Title	254.162 Introduction to Literacy and Numeracy Semester 2 Distance and Internal (Albany Campus)
Description	An introduction to the development of specialised subject content and pedagogical content knowledge for teachers of literacy and numeracy in Aotearoa/new Zealand.
Delivery for 2017	Online. No contact course
Contact	Dr Jodie Hunter j.hunter1@massey.ac.nz

Title	160.320 Mathematics in Education

	Semester 2 Distance
Description	This paper provides a structure to explore key areas in mathematics education. The core module of the paper is designed to challenge thinking about mathematics and numerical literacy and to enhance understanding about how students learn mathematics. The paper modules provide an opportunity to examine a content area of your choice and to gain greater insight into current issues within mathematics education. You will have an opportunity to formulate and investigate an area relevant to your own teaching. As this paper is part of the BSc schedule there is a 200–level mathematics paper as a prerequisite
Delivery for 2017	By Distance. No contact course.
Contact	Professor Margaret Walshaw M.A.Walshaw@massey.ac.nz

POSTGRADUATE PAPERS (30 credits)

Postgraduate papers may be credited towards a PGCertificate Education, PGDiploma Education (Mathematics Education) or (Undendorsed), or Master of Education (Mathematics Education) or (Unendorsed).

Title	**276.782 Mathematics Education** **Double Semester (February-November) Distance**
Description	This paper examines the role of mathematics—including numeracy and statistical literacy—in our education system and society. The paper includes a critical examination of how learning theories inform pedagogical practices in the mathematics classroom. Research literature on learning mathematical content—number, fractions and decimals, algebra, geometry and measurement, and statistics—and mathematical practices and processes are analysed in relation to pedagogical practices and student learning.
Delivery for 2017	Online. Contact course Waipuna Hotel Auckland, 3-4 May is recommended.
Contact	Professor Glenda Anthony G.J.Anthony@massey.ac.nz

Title	**276.784 Current Issues in Teaching Mathematics** **Semester 2 Distance**
Description	This course is designed for teaching professionals wanting to build on and enhance their professional knowledge of mathematics teaching. It offers a blend of theory, research and practice suitable for students from a range of backgrounds from early childhood through to secondary school teaching. Under interrogation are the major educational reforms, debates, questions or tensions that engage the energies of practitioners and researchers. The exploration provides a context through which students begin to make choices about their own future mathematics teaching.
Delivery for 2017	Online. No contact course
Contact	Professor Margaret Walshaw M.A.Walshaw@massey.ac.nz

Title	**276.785 Making Mathematics Accessible** **Double Semester (February-November) Block and Distance**
Description	An in-depth study of the research, theory and evidence-based practices associated with equitable classroom practices that make mathematics accessible for all learners. Focus is on development of communities of inquiry and rich and challenging tasks.
Delivery for 2017	The Block mode is for MoE approved Year 1 MST teachers who must attend block courses in March, May and August. Other teachers must enrol in the Distance offering, with a recommended contact course (Albany campus) 23-24 June.
Contact	Professor Glenda Anthony G.J.Anthony@massey.ac.nz

University of Waikato

Title	TEMS324-17C (BLK)
	Numeracy in the Classroom (20 points)
Description	This paper focuses on international mathematics education reform approaches to the teaching of mathematics/numeracy. It provides a critical analysis of theoretical issues underpinning the teaching and learning of mathematics, and makes connections between the current curriculum document, the mathematics standards, and the New Zealand Number Framework. Themes include assessment, quality teaching in mathematics, progressions in children's mathematics learning, and theoretical frameworks underpinning this learning.
Delivery for 2017	On campus block periods in Hamilton, Saturdays 9am – 3pm: dates: 18 March, 29 April, 17 June, 29 July, 26 August, and supported online.
Contact	Judith Mills, (07) 838 4466 x 8754, TL1.01, judith.mills@waikato.ac.nz

Title	TEMS324-17C (HAM)
	Numeracy in the Classroom (20 points)
Description	This paper focuses on international mathematics education reform approaches to the teaching of mathematics/numeracy. It provides a critical analysis of theoretical issues underpinning the teaching and learning of mathematics, and makes connections between the current curriculum document, the mathematics standards, and the New Zealand Number Framework. Themes include assessment, quality teaching in mathematics, progressions in children's mathematics learning, and theoretical frameworks underpinning this learning.
Delivery for 2017	Wednesdays 2-6pm: dates TBC
Contact	Judith Mills, (07) 838 4466 x 8754, judith.mills@waikato.ac.nz

Title	TEMS324-17C (TGA)
	Numeracy in the Classroom (20 points)
Description	This paper focuses on international mathematics education reform approaches to the teaching of mathematics/numeracy. It provides a critical analysis of theoretical issues underpinning the teaching and learning of mathematics, and makes connections between the current curriculum document, the mathematics standards, and the New Zealand Number Framework. Themes include assessment, quality teaching in mathematics, progressions in children's mathematics learning, and theoretical frameworks underpinning this learning.
Delivery for 2017	Fridays 9am-1pm: dates TBC
Contact	Judith Mills, (07) 838 4466 x 8754, judith.mills@waikato.ac.nz

Title	MSTE340-17C (BLK)
	Numeracy Difficulties: Diagnosis and Remediation (20 points)
Description	This paper is for numeracy educators and those working with learners of all ages experiencing difficulties in numeracy/mathematics. The paper critically examines research and theory on the causes of these difficulties, as well as focusing on the assessment, diagnosis and remediation.
Delivery for 2017	On-campus block periods in Hamilton, 9am – 4pm: dates: 10-11 July, 21-22 August, 12-13 October, and partially online.
Contact	Judith Mills, (07) 838 4466 x 8754, TL1.01, judith.mills@waikato.ac.nz

Postgraduate Papers in Mathematics Education

Title	MSTE501-17B (NET) **Mathematics Education (30 points)**
Description	This paper is designed to enable educators to develop their mathematics teaching with learners of all ages. Teachers will be encouraged to engage critically with theory and research in mathematics education, focusing on issues such as communication, assessment, and catering for diverse learners.
Delivery for 2017	Fully online
Contact	Dr Sashi Sharma (07) 838 4466 x6298 TL4.10 sashi.sharma@waikato.ac.nz

Title	MSTE502- 17A (HAM) **Acquiring Numeracy: How Thinking Develops (30 points)**
Description	This paper looks at how students' thinking becomes increasingly sophisticated as their mathematical understanding grows. A particular focus of the paper is in the Numeracy Development Projects and the use of diagnostic interviews to explore various aspects of students' mathematical thinking and understanding.
Delivery for 2017	On-campus in Hamilton (three Tuesdays 4-6pm and three Saturday block sessions TBC) and partially online.
Contact	Dr Carol Murphy (07) 838 4466 ext 37 7519 TL4.04 WIND V115 carol.murphy@waikato.ac.nz

Title	MSTE502-17A (TGA) **Acquiring Numeracy: How Thinking Develops (30 points)**
Description	This paper looks at how students' thinking becomes increasingly sophisticated as their mathematical understanding grows. A particular focus of the paper is in the Numeracy Development Projects and the use of diagnostic interviews to explore various aspects of students' mathematical thinking and understanding.
Delivery for 2017	On-campus in Tauranga (three Tuesdays 4-6pm and three Saturday block sessions TBC) and partially online.
Contact	Dr Nigel Calder, 838 4466 37 7512 WIND nigel.calder@waikato.ac.nz

Title	MSTE503-17C (BLK) **Numeracy in the Classroom: Issues & Practice (30 points)**
Description	This paper focuses on international mathematics education reform approaches to the teaching of mathematics/numeracy. It provides a critical analysis of theoretical issues underpinning the teaching and learning of mathematics, and makes connections between the current curriculum document, the mathematics standards, and the New Zealand Number Framework. Themes include assessment, quality teaching in mathematics, progressions in children's mathematics learning, and theoretical frameworks underpinning this learning.
Delivery for 2017	On campus block periods in Hamilton, Saturdays 9am – 3pm: dates: 18 March, 29 April, 17 June, 29 July, 26 August, and supported online.
Contact	Judith Mills, (07) 838 4466 x 8754, TL1.01, judith.mills@waikato.ac.nz

Title	MSTE504-17C (BLK) **Numeracy Difficulties: Issues and Practice (30 points)**
Description	This paper is for numeracy educators and those working with learners of all ages experiencing difficulties in numeracy/mathematics. The paper critically examines research and theory on the causes of these difficulties, as well as focusing on assessment, diagnosis and remediation.
Delivery for 2017	On-campus block periods in Hamilton, 9am – 4pm: dates: 10-11 July, 21-22 August, 12-13 October, and partially online.
Contact	Judith Mills, (07) 838 4466 x 8754, TL1.01, judith.mills@waikato.ac.nz

Title	**276.700 Developing Mathematical Inquiry Communities**
	Double Semester (February-November) Distance
Description	An in-depth study of the research, theory and evidence-based practices associated with mathematical inquiry aimed at raising student achievement. Participants will analytically investigate how mathematical inquiry learning communities are constructed and how they support all learners to engage in mathematics at a high level of achievement.
Delivery for 2017	Distance offering. Partially taught online. Non-compulsory after-school contact sessions will be held in schools in New Zealand where there are sufficient numbers of teachers enrolled and located in these areas (subject to numbers and dates and times TBC).
Contact	Dr Jodie Hunter j.hunter1@massey.ac.nz

ENROLMENT: Enrol online at: http://enrol.massey.ac.nz or call 0800 Massey (0800 627 739)