

2009 Course Summary Sheet

■ Graduate Certificate in Mathematical Science (MA65)

This document will assist you with the selection of your study program and completion of your enrolment. Other useful information can be found on the Student Services website studentservices.qut.com/, which can also be accessed via the Online Enrolment portlet.

Location: Gardens Point

Course duration: 1 semester (0.5 year) full-time or 2 semesters (1 year) part-time

Course Commencement: Domestic Students: Course commences in February, July and Summer Program

International Students: Course commences in February and July

Total credit points: 48

Standard credit points per semester (full-time): 48

Course Coordinator: Dr Troy Farrell, Phone 07 3138 2364, Fax 07 3138 2310, Room O621 Gardens Point,
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Entry Requirements

To be eligible to enrol an applicant will normally have completed an undergraduate degree in any discipline.

Persons who do not meet the normal entry requirement may be permitted to enrol subject to the approval of the Head of the School of Mathematical Sciences. Applicants should provide details of their relevant industry experience and prior learning.

Important Note: please ensure you select the correct teaching period, class and location code for all units you are enrolled in. All units in your course have a location of Gardens Point and a class of Internal.

Limits on grades of 3: A new policy concerning grades of 3 comes into effect from 1 January 2009 (QUT MOPP C/9.2). With effect from this date grades of 3 will no longer be considered a conceded or low pass but will be classified as a fail grade. Any grades of 3 awarded prior to 1 January 2009 will retain the conceded pass status and will be counted for graduation purposes up to the maximum number of grades of 3 permitted for your course. Grades of 3 incurred in units that commence after 1 January 2009 will not count towards your degree. The maximum number of pre-2009 grades of 3 permitted for this course can be found [here](#).

Course Structure

- At least 36 credit points must be taken from mathematics units.
- Up to 12 credit points can be taken from units other than mathematics units.

The units recommended will depend upon the student's mathematics background from secondary school or tertiary studies, length of time since they have studied mathematics, and their area of interest.

Articulation: Domestic students who have successfully completed the Graduate Certificate in Mathematical Science with a GPA of 4.0 or better may be invited to articulate to the Graduate Diploma in Mathematical Science (MA75).

International students wishing to change courses should consult International Student Business Services.

Units Available

Unit Code	Unit Name	Credit Points	Semester Offered	Prerequisite(s)/Co-requisite(s)/ Incompatible Units
MAB100	Mathematical Sciences 1A	12	1, 2, SUM	A grade of at least Sound Achievement in Senior Mathematics B (or equivalent) <i>Incompatible with HA in Senior Mathematics C, prior pass in MAB131, MAB180</i>
MAB101	Statistical Data Analysis 1	12	1, 2, SUM-2	A grade of at least Sound Achievement in Senior Mathematics B (or equivalent) <i>Incompatible with EFB101, MAB135, MAB136, MAB137,</i>

				MAB138, MAB233
MAB105	Preparatory Mathematics	12	1, 2, SUM	Year 10 <i>Incompatible with HA in Senior Mathematics B, prior pass in MAB100, MAB111 MAB131, MAB180</i>
Unit Code	Unit Name	Credit Points	Semester Offered	Prerequisite(s)/Co-requisite(s)/ Incompatible Units
MAB111	Mathematical Sciences 1B	12	1, 2, SUM-2	MAB100 Mathematical Sciences 1A or Sound Achievement in Senior Mathematics C (or equivalent) <i>Incompatible with MAB131 Engineering Mathematics 1A</i>
MAB112	Mathematical Sciences 1C	12	1, 2, SUM-2	MAB100 Mathematical Sciences 1A or Sound Achievement in Senior Mathematics C (or equivalent) Co-requisite: MAB111 Mathematical Sciences 1B <i>Incompatible with MAB132</i>
MAB210	Statistical Modelling 1	12	1, 2	MAB100 Mathematical Sciences 1A or Sound Achievement in Senior Mathematics C (or equivalent) Co-requisite: MAB112 Mathematical Sciences 1C
MAB220	Computational Mathematics 1	12	1,2	Sound Achievement in Senior Mathematics B or MAB105 Co-requisite: MAB100 Mathematical Sciences 1A if you don't have Sound Achievement or better in Senior Mathematics C
MAB281	Mathematics for Computer Graphics	12	2	MAB105 Preparatory Mathematics or Sound Achievement in Senior Mathematics B (or equivalent)
MAB311	Advanced Calculus	12	1	MAB111 Mathematical Sciences 1B + MAB112 Mathematical Sciences 1C
MAB312	Linear Algebra	12	1	MAB111 Mathematical Sciences 1B + MAB112 Mathematical Sciences 1C
MAB313	Mathematics of Finance	12	2	MAB100 Mathematical Sciences 1A or Sound Achievement in Senior Mathematics C (or equivalent) Co-requisite: MAB111 Mathematical Sciences 1B
MAB314	Statistical Modelling 2	12	1	MAB112 Mathematical Sciences 1C + MAB210 Statistical Modelling 1
MAB315	Operations Research 2	12	1	MAB112 Mathematical Sciences 1C + MAB210 Statistical Modelling 1
MAB413	Differential Equations	12	2	MAB311 Advanced Calculus or MAB312 Linear Algebra
MAB414	Applied Statistics 2	12	2	MAB101 Statistical Data Analysis 1 + MAB111 Mathematical Sciences 1B
MAB420	Computational Mathematics 2	12	2	MAB220 Computational Mathematics 1 + MAB312 Linear Algebra <i>Recommended: Programming experience in MATLAB</i>
MAB422	Mathematical Modelling	12	2	MAB111 Mathematical Sciences 1B + MAB112 Mathematical Sciences 1C
MAB461	Discrete Mathematics	12	2	MAB112 Mathematical Sciences 1C
MAB480	Introduction to Scientific Computation	12	2	MAB112 Mathematical Sciences 1C <i>Recommended: MAB210 Statistical Modelling 1 or MAB220 Computational Mathematics 1</i> <i>Incompatible with ITB849 Introduction to Technical Computing</i>
MAB481	Visualisation and Data Analysis	12	1 Not offered after 2009	MAB101 Statistical Data Analysis 1 + MAB111 Mathematical Sciences 1B + MAB480 Introduction to Scientific Computation or ITB003 Object Oriented Programming (or ITB111 Software Development 1) <i>Recommended: MAB112 Mathematical Sciences 1C</i>
MAB521	Applied Mathematics 3	12	1	MAB311 Advanced Calculus
MAB522	Computational Mathematics 3	12	1	MAB311 Advanced Calculus + MAB420 Computational Mathematics 2

Unit Code	Unit Name	Credit Points	Semester Offered	Prerequisite(s)/Co-requisite(s)/ Incompatible Units
MAB524	Statistical Inference	12	2*	MAB314 Statistical Modelling 2
MAB525	Operations Research 3A	12	1	MAB315 Operations Research 2
MAB533	Statistical Techniques	12	1	MAB210 Statistical Modelling 1 + MAB414 Applied Statistics 2
MAB613	Partial Differential Equations	12	2	MAB311 Advanced Calculus + MAB413 Differential Equations
MAB623	Financial Mathematics	12	2	MAB313 Mathematics of Finance + MAB311 Advanced Calculus <i>Highly Recommended: EFB210 Finance 1</i>
MAB625	Operations Research 3B	12	2	MAB315 Operations Research 2
MAB672	Advanced Mathematical Modelling	12	1	MAB312 Linear Algebra + MAB422 Mathematical Modelling <i>Recommended: MAB413 Differential Equations</i>
MAN200	Mathematical Foundations	12	1, 2	<i>Permission from Course Coordinator</i>
MAN201	Mathematics	12	1, 2	<i>Permission from Course Coordinator</i>
MAN536	Time Series Analysis	12	1*	MAB101 Statistical Data Analysis 1 + MAB314 Statistical Modelling 2 <i>Incompatible with: MAB526, MAB536, MAN526</i>
MAN624	Applied Statistics	12	2	MAB 314 Statistical Modelling 2 + MAB414 Applied Statistics 2 <i>Incompatible with: MAB624 Applied Statistics 3</i>
MAN681	Advanced Visualisation and Data Analysis	12	2 Not offered after 2009	MAB481 Visualisation and Data Analysis <i>Recommended: MAB480 Introduction to Scientific Computation</i> <i>Incompatible with: MAB681 Advanced Visualisation and Data Analysis</i>
MAN700	Project	24	1, 2, SUM	<i>Permission from Course Coordinator</i>
MAN717	Minor Project	12	1, 2, SUM	<i>Permission from Course Coordinator</i>
MAN761	Analysis	12	2	MAB311 Advanced Calculus
MAN764	Applied Mathematical Modelling	12	2	MAB613 Partial Differential Equations + MAB672 Advanced Mathematical Modelling
MAN765	Bayesian Data Analysis	12	1	MAB524 Statistical Inference <i>Recommended: MAN624 Applied Statistics 3</i>
MAN766	Applied Time Series Analysis	12	2*	MAN536 or MAN526 Time Series Analysis
MAN768	Advanced Techniques in Operations Research	12	1*	MAB525 Operations Research 3A
MAN769	Mathematics of Finance	12	2*	MAB413 Differential Equations <i>Recommended: MAB623 Financial Mathematics</i>
MAN771	Computational Mathematics 4	12	2	MAB522 Computational Mathematics 3 + MAB613 Partial Differential Equations
MAN774	Perturbation Methods	12	1	MAB413 Differential Equations + MAB521 Applied Mathematics
MAN775	Statistical Modelling of Financial Processes	12	1*	MAB524 Statistical Inference + MAN536 Time Series Analysis
MAN777	Mathematics of Fluid Flow	12	1	MAB613 Partial Differential Equations + MAB672 Advanced Mathematical Modelling
MAN778	Applications of Discrete Mathematics	12	1	MAB461 Discrete Mathematics
MAN787-1	Project		1, 2, SUM	<i>Permission from Course Coordinator</i>
MAN787-2	Project		1, 2, SUM	
MAN878-3	Project	36	1, 2, SUM	<i>Students must enrol in all three components. The components are usually taken over more than one semester.</i>

* It is anticipated that these units will change semester from 2010.