

# 2009 Course Summary Sheet

## ■ Bachelor of Mathematics/Bachelor of Information Technology (IF58)

**This course is discontinued and is only available to continuing students.**

**Please consult the relevant course coordinator for advice.**

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.edu.au](http://studentservices.qut.edu.au), which can also be accessed via the Online Enrolment portlet.

**Location:** Gardens Point campus

**Course Duration:** 4 years full-time

**Total Credit Points:** 420

**Course Coordinator:** Dr Gary Carter, Phone: 07 3138 5090, Fax 07 3138 2310, Room O514 Gardens Point, Email [g.carter@qut.edu.au](mailto:g.carter@qut.edu.au)

**Associate Course Coordinators:** *Information Technology:* Richard Thomas, Phone 07 3138 2782, Fax 07 3138 2703, Room S509 Gardens Point, Email [fit.enquiry@qut.edu.au](mailto:fit.enquiry@qut.edu.au)

***Important Note: Please ensure you select the correct teaching period, class and location code for all units you are enrolled in. All units in this 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](#).

## Faculty of Information Technology Component

### Unit Incompatibility/Translation Information

There are new unit codes within the IT component. The link below will provide information on translation and incompatibility of old and new units and prerequisites for these units

[http://www.studentservices.qut.edu.au/pdfs/IT\\_ug\\_translation\\_table.pdf](http://www.studentservices.qut.edu.au/pdfs/IT_ug_translation_table.pdf)

### IT Elective Units

For a complete list of IT elective units, please refer to the below link

[http://www.studentservices.qut.edu.au/pdfs/IT\\_elective\\_list.pdf](http://www.studentservices.qut.edu.au/pdfs/IT_elective_list.pdf)

**If you require advice on unit selection for course completion or have any concerns regarding the course please make an appointment with Richard Thomas, 3138 2782 or email [fit.enquiry@qut.edu.au](mailto:fit.enquiry@qut.edu.au).**

### Cooperative Education Program

An optional one-year period of paid work experience is available to eligible full-time students. Students participating in this program enrol in INB300 Professional Practice in IT in the first semester of the program and in INB302 IT Capstone Project in the second semester of the program. The cooperative education program and its mentoring and assessment requirements make up the required contact and assessment components of both units. Eligibility criteria apply. International students are not eligible due to visa restrictions.

Part-time students who are working in a professional IT position may be able to use their current employment to meet the criteria for completing INB300 Professional Practice in IT, after completion of 168 credit points in the Bachelor of Information Technology, subject to meeting eligibility criteria. Further information about this option is available from Student Services, Level 5, S Block, Gardens Point campus or see the unit outline for INB300.

## Mathematics Component

The Bachelor of Mathematics component is 204 credit points (17 units). Students who entered with Senior Mathematics B and C can include 12 credit points as an elective from any Faculty in the university.

Students must complete at least 192 credit points from Mathematics units (16 units) including the following units and at least 48 credit points from Level 3 Mathematics units (4 units)

MAB101 Statistical Data Analysis 1

MAB111 Mathematical Sciences 1B

MAB112 Mathematical Sciences 1C

MAB210 Statistical Modelling 1

MAB220 Computational Mathematics 1

MAB311 Advanced Calculus\*

MAB312 Linear Algebra\*

Students who entered with Senior Mathematics B only:

MAB100 Mathematical Sciences 1A

## Mathematics Units

Students must complete at least 48 credit points from Level 3 mathematics units.

Unit Code	Unit Title	Credit Points	Prerequisite	Availability
<b>Level 2 Units</b>				
MAB281	Mathematics for Computer Graphics**	12	SA in Senior Maths B or MAB105	2
MAB311	Advanced Calculus*	12	MAB111, MAB112	1
MAB312	Linear Algebra*	12	MAB111, MAB112,	1
MAB313	Mathematics of Finance	12	Corequisite MAB111	2
MAB314	Statistical Modelling 2	12	MAB112, MAB210	1
MAB315	Operations Research 2	12	MAB112, MAB210	1
MAB413	Differential Equations	12	MAB311 or MAB312	2
MAB414	Applied Statistics 2	12	MAB101, MAB111	2
MAB420	Computational Mathematics 2	12	MAB220, MAB312	2
MAB422	Mathematical Modelling	12	MAB111, MAB112	2
MAB461	Discrete Mathematics	12	MAB112	2
MAB480	Introduction to Scientific Computation	12	MAB112 recommended MAB210 or MAB220	2
MAB481	Visualisation and Data Analysis	12	MAB101, MAB111, MAB480 or INB270 recommended MAB112	1 (Not offered after 2009)
<b>Level 3 Units</b>				
MAB521	Applied Mathematics	12	MAB311	1
MAB522	Computational Mathematics 3	12	MAB311, MAB420	1
MAB524	Statistical Inference	12	MAB314	2
MAB525	Operations Research 3A	12	MAB315	1
MAB533	Statistical Techniques	12	MAB210, MAB414	1
MAB536	Time Series Analysis	12	MAB101, MAB314	1
MAB613	Partial Differential Equations	12	MAB311, MAB413	2
MAB623	Financial Mathematics	12	MAB313, MAB311	2
MAB624	Applied Statistics 3	12	MAB314, MAB414	2
MAB625	Operations Research 3B	12	MAB315	2
MAB640	Industry Project	24	Permission of unit coordinator, coreq: at least 36 cps of Level 3 maths units	2
MAB672	Advanced Mathematical Modelling	12	MAB312, MAB422, recommended MAB413	1
MAB681	Advanced Visualisation and Data Analysis	12	MAB481, recommended MAB480	2 (Not offered after 2009)

\*For students commencing in 2004 onwards, the units MAB311 Advanced Calculus and MAB312 Linear Algebra are mandatory.

For students commencing in 2004 onwards, the units MAB523 Introduction to Quality Management and MAB621 Discrete Mathematics do not contribute to the mandatory 48 credit points minimum from Level 3 Mathematics units.

\*\* In IF58, MAB281 may be considered as an IT unit or as a Maths unit.

Note: All Mathematics units have 4 contact hours per week

## COURSE STRUCTURE

For students with four semesters of Senior Mathematics B and Senior Mathematics C (or equivalent) with an exit assessment of at least Sound Achievement in both.

### Full-time Course Structure

#### Year 1, Semester 1

	Credit Points	Contact Hrs/Wk	Semester Offered
INB103 Industry Insights	12	4	1,2
INB104 Problem-Solving and Programming	12	3	1,2
MAB111 Mathematical Sciences 1B	12	4	1,2
MAB112 Mathematical Sciences 1C	12	4	1,2

#### Year 1, Semester 2

INB210 Databases	12	3	2
INB250 Computer Architecture and Systems	12	3	1,2
INB270 Programming	12	3	1,2
MAB210 Statistical Modelling 1 ( <i>coreqs: MAB111, MAB112</i> )	12	4	2
MAB220 Computational Mathematics 1	12	4	1,2

#### Year 2, Semester 1

INB251 Networks	12	3	1,2
INB370 Software Development	12	3	1
INB371 Data Structures and Algorithms	12	3	1
MAB101 Statistical Data Analysis 1	12	4	1,2,SUM-2
MAB312 Linear Algebra ( <i>MAB111, MAB112, rec coreq MAB220</i> )	12	4	1

#### Year 2, Semester 2

INB372 Agile Software Development	12	3	2
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	

#### Year 3, Semester 1

INB350 Internet Protocols and Services	12	3	1
IT Elective Unit			
MAB311 Advanced Calculus ( <i>MAB111, MAB112</i> )	12	4	1
Level 2 or 3 Maths unit	12	4	

#### Year 3, Semester 2

IT Elective Unit			
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	
Elective <sup>1</sup>	12		

#### Year 4, Semester 1

INB301 The Business of IT	12	3	1,2
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	

**Year 4, Semester 2**

INB302 IT Capstone Project	12	3	1,2
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	

<sup>1</sup>This elective unit may be taken from any faculty in QUT, subject to the approval of the Course Coordinator.

**IT Elective Units**

For a complete list of IT elective units, please refer to the below link

[http://www.studentservices.qut.edu.au/pdfs/IT\\_elective\\_list.pdf](http://www.studentservices.qut.edu.au/pdfs/IT_elective_list.pdf)

**For students with four semesters of Senior Mathematics B (or equivalent) only, with an exit assessment of at least Sound Achievement.**

**Full-time Course Structure**

	<b>Credit Points</b>	<b>Contact Hrs/Wk</b>	<b>Semester Offered</b>
<b>Year 1, Semester 1</b>			
INB103 Industry Insights	12	4	1,2
INB104 Building IT Systems	12	3	1,2
MAB100 Mathematical Sciences 1A	12	4	1,2,SUM-2
MAB101 Statistical Data Analysis 1	12	4	1,2,SUM-2
<b>Year 1, Semester 2</b>			
INB210 Databases	12	3	2
INB250 Computer Architectures and Systems	12	3	2
INB270 Programming	12	3	1,2
MAB111 Mathematical Sciences 1B	12	4	1,2
MAB112 Mathematical Sciences 1C	12	4	1,2
<b>Year 2, Semester 1</b>			
INB251 Networks	12	3	1,2
INB370 Software Development	12	3	1
INB371 Data Structures and Algorithms	12	3	1
MAB220 Computational Mathematics 1	12	4	1,2
MAB312 Linear Algebra ( <i>MAB111, MAB112, rec coreq MAB220</i> )	12	4	1
<b>Year 2, Semester 2</b>			
INB372 Agile Software Development	12	3	2
IT Elective Unit	12	3	2
MAB210 Statistical Modelling 1 ( <i>coreqs: MAB111, MAB112</i> )	12	4	2
Level 2 or 3 Maths unit	12	4	
<b>Year 3, Semester 1</b>			
IT Elective Unit			
IT Elective Unit			
MAB311 Advanced Calculus ( <i>MAB111, MAB112</i> )	12	4	1
Level 2 or 3 Maths unit	12	4	
<b>Year 3, Semester 2</b>			
INB350 Internet Protocols and Services	12	3	1
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	
<b>Year 4, Semester 1</b>			
INB301 The Business of IT	12	3	1,2
IT Elective Unit			
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	

**Year 4, Semester 2**

INB302 IT Capstone Project	12	3	1,2
IT Elective Unit	12	3	1,2
Level 2 or 3 Maths unit	12	4	
Level 2 or 3 Maths unit	12	4	

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