

## **Bachelor of Mathematics (BMath)**

If you are unable to access the information in this study plan, please email <a href="mailto:enquire@science.uq.edu.au">enquire@science.uq.edu.au</a> for assistance.

#### Bachelor of Mathematics (BMath)

Program Code: 2460

Duration: 3 years full time (or part-time equivalent)

Total Units: 48
Commencement:
Semester 1
Semester 2

Entry Requirements: Please refer to **BMath** future students page

#### **Key Program Information**

- This is an AQF Level 7 program.
- Students in this program must complete a major.
- Students can choose to complete a minor in this program. Minors are optional.

#### **Important Notes**

The information contained in this document is intended as general advice only.

Students must follow the program rules & requirements listed on the <u>Programs and Courses Website</u>. This planner must be used in conjunction with your program duration course list and program rules.

Students need to check the prerequisites, incompatibilities and restrictions for all courses they select in their study plan. Future course offerings are subject to change.

This document is not intended as a progression or graduation check. For further information on progression or graduation checks, please contact the Faculty of Science.

#### **Further Assistance**

Check out the Frequently Asked Questions (FAQ) page on this study planner document.

If you need further advice or have other questions, please contact:

#### Faculty of Science

Email: enquire@science.uq.edu.au

Phone: +61 7 3365 1888



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## **Bachelor of Mathematics (BMath) Applied Mathematics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the base study pla

Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
(Feb – Jun) Semester 1	MATH1051 OR MATH1071 *	MATH1081 Advanced Discrete Mathematics	Option	Option  Course coded neither MATH nor STAT
1st S (Fel	2 units – Core Course	2 units – Core Course	2 units – Program Elective Course	2 units – General Elective Course
2nd Semester (July – Nov) Semester 2	MATH1052 <u>OR</u> MATH1072 *	STAT1301 Advanced Analysis of Scientific Data	Option	Option Course coded neither MATH nor STAT
2 0	2 units – Core Course	2 units – Core Course	2 units – Program Elective Course	2 units – General Elective Course
Year 2				
ster un) er 1	MATH2400 *	<b>MATH2001</b> <i>OR</i>	STAT2003  Mathematical Probability	Option Course coded neither
3 <sup>rd</sup> Semester (Feb – Jun) Semester 1	MATH2401 (Taken in 4 <sup>th</sup> Semester)	MATH2901 *	2 units – Major Course	MATH nor STAT  2 units – General Elective Course
	2 units – Core Course	2 units – Major Course	2 units – Major Course	Liective Course
4 <sup>th</sup> Semester (July – Nov) Semester 2	MATH2504 Programming of Simulation, Analysis, & Learning Systems	MATH2100 Applied Mathematical Analysis	Option	Option  Course coded neither  MATH nor STAT
4 <sup>4</sup>	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
Year 3				
L _ L	MATH3401	Option	Option	Option
Semester eb – Jun) emester 1	<u>OR</u> MATH3901 *	Applied Mathematics Level 3 Elective Course	Applied Mathematics Level 3 Elective Course	MUST be a Level 2 or Level 3 course
Sth S (Fel	2 units – Major Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course
	MATH3102	Option	Option	Option
6 <sup>th</sup> Semester (July – Nov) Semester 2	Methods & Models of Applied Mathematics	Applied Mathematics Level 3 Elective Course		MUST be a Level 2 or Level 3 course
Gth Se	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course

Students who have not achieved/completed A grade of C or higher in Queensland Year 12 Specialist Mathematics will need to complete MATH1050 in their 1st semester as a program elective course and move MATH1051 to their 2nd semester.

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Step 2 Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

Step 3 Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor</u>: Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

Step 4 Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath) Applied Mathematics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 Start with the base s

Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
1st Semester (July – Nov) Semester 2	MATH1051 * Calculus & Linear Algebra I  2 units – Core Course	STAT1301 Advanced Analysis of Scientific Data  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
2 <sup>nd</sup> Semester (Feb – Jun) Semester 1	MATH1052 *  Multivariate Calculus & Ordinary Differential Equations  2 units – Core Course	MATH1081 Advanced Discrete Mathematics  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 2				
3 <sup>rd</sup> Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems  2 units – Core Course	MATH2100 Applied Mathematical Analysis 2 units – Major Course	Option  2 units – General Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
4 <sup>th</sup> Semester (Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401 (Taken in 3 <sup>rd</sup> Semester)  2 units – Core Course	MATH2001 <u>OR</u> MATH2901 *  2 units – Major Course	STAT2003  Mathematical Probability  2 units – Major Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 3				
5th Semester (July – Nov) Semester 2	MATH3102  Methods & Models of Applied Mathematics  2 units – Major Course	Option  Applied Mathematics Level 3 Elective Course  2 units – Major Course	Option  Applied Mathematics Level 3 Elective Course  2 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course
6 <sup>th</sup> Semester (Feb – Jun) Semester 1	MATH3401 <u>OR</u> MATH3901 *  2 units – Major Course	Option Applied Mathematics Level 3 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1st semester as a program elective course and move MATH1051 to their 2nd semester.



#### Continued next page

Step 2 Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the late addition of course process, and may not be approved (additional fees may apply).

Note: Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1st semester or 3rd semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

Step 3 Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses - which are not listed on the BMath course list.

Program elective courses SCIE3050 and SCIE3250 are recommended courses for students interested in placement and/or research.

Minor: Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

No Minor: Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

Step 4 Decide on your general elective courses and/or further program elective courses.

> General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ Programs and Courses page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ Programs and Courses page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.

Step 5



Please refer to the **BMath** course list for full course options.

## **Bachelor of Mathematics (BMath) Mathematical Artificial Intelligence Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
(Feb – Jun) Semester 1	MATH1051  OR  MATH1071 *	MATH1081 Advanced Discrete Mathematics	Option	Option  Course coded neither MATH nor STAT
1st S (Fe	2 units – Core Course	2 units – Core Course	2 units – Program Elective Course	2 units – General Elective Course
2nd Semester (July – Nov) Semester 2	MATH1052 <u>OR</u> MATH1072 *  2 units – Core Course	STAT1301 Advanced Analysis of Scientific Data  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 2	z units – core course	Z di inte	Liouito Ganac	Ziodaro Godroc
	MATH2400 *	MATH2001	STAT2003	Option
3 <sup>rd</sup> Semester (Feb – Jun) Semester 1	<u>OR</u> MATH2401	<u>OR</u> MATH2901 *	Mathematical Probability	Course coded neither MATH nor STAT
3rd (Fe	(Taken in 4 <sup>th</sup> Semester)  2 units – Core Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course
4th Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems	STAT2004 <u>OR</u> STAT2904 *	Option	Option  Course coded neither  MATH nor STAT
4 3 0	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
Year 3				
L . L	STAT3007	Option	Option	Option
5th Semester (Feb – Jun) Semester 1	Deep Learning	Mathematical Artificial Intelligence Level 3 Elective Course	MUST be a Level 2 or Level 3 course	MUST be a Level 2 or Level 3 course
Sth (Fe	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
ر ک م	MATH3204	STAT3006	STAT3008	Option
6 <sup>th</sup> Semester (July – Nov) Semester 2	Numerical Linear Algebra Research & Optimisation	Statistical Learning	Selected Topics in Statistical Learning	MUST be a Level 2 or Level 3 course
0 0	2 units – Major Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and move MATH1051 to their 2<sup>nd</sup> semester.

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Step 2 Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

Step 3 Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor</u>: Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

Step 4 Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath) Mathematical Artificial Intelligence Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 Sta

Start with the base study plan outlining Core Courses and Major Courses.

Year 1	Year 1			
1st Semester (July – Nov) Semester 2	MATH1051 * Calculus & Linear Algebra I	STAT1301 Advanced Analysis of Scientific Data	Option Course coded neither MATH nor STAT	Option
1st (J. (S. (S. (S. (S. (S. (S. (S. (S. (S. (S	2 units – Core Course	2 units – Core Course	2 units – General Elective Course	2 units – Program Elective Course
2nd Semester (Feb – Jun) Semester 1	MATH1052 *  Multivariate Calculus & Ordinary Differential Equations	MATH1081 Advanced Discrete Mathematics	STAT2003  Mathematical Probability	Option  2 units – Program
[2]	2 units – Core Course	2 units – Core Course	2 units – Major Course	Elective Course
Year 2				
.er	MATH2504	STAT2004	Option	Option
3 <sup>rd</sup> Semester (July – Nov) Semester 2	Programming of Simulation, Analysis, & Learning Systems	<u>OR</u> STAT2904 *	Course coded neither MATH nor STAT	Course coded neither MATH nor STAT
3rd (J.)	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
(Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401	MATH2001 OR MATH2901 *	Option	Option Course coded neither MATH nor STAT
4 <sup>th</sup> (Fe	(Taken in 3 <sup>rd</sup> Semester)  2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
Year 3				
± € 0.	MATH3204	STAT3006	STAT3008	Option
5 <sup>th</sup> Semester (July – Nov) Semester 2	Numerical Linear Algebra Research & Optimisation	Statistical Learning	Selected Topics in Statistical Learning	MUST be a Level 2 or Level 3 course
5 <sup>th</sup> (Ju	2 units – Major Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course
e -	STAT3007	Option	Option	Option
6 <sup>th</sup> Semester (Feb – Jun) Semester 1	Deep Learning	Mathematical Artificial Intelligence Level 3 Elective Course		MUST be a Level 2 or Level 3 course
6th (Fe	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and complete MATH1051 over Summer Semester. MATH1051 is a required prerequisite for STAT2003 so needs to be completed in Summer Semester for the progression of courses.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

**Note:** Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1<sup>st</sup> semester or 3<sup>rd</sup> semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

**No Minor:** Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements.



## **Bachelor of Mathematics (BMath) Mathematical Physics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the ba

Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
(Feb – Jun) Semester 1	MATH1051 OR MATH1071 *	MATH1081 Advanced Discrete Mathematics	Option	Option Course coded neither MATH nor STAT
1st g (Fe	2 units – Core Course	2 units – Core Course	2 units – Program Elective Course	2 units – General Elective Course
2nd Semester (July – Nov) Semester 2	MATH1052  OR  MATH1072 *  2 units – Core Course	STAT1301 Advanced Analysis of Scientific Data  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 2				
	MATH2400 *	MATH2001	MATH2301	Option
3 <sup>rd</sup> Semester (Feb – Jun) Semester 1	OR MATH2401 (Taken in 4 <sup>th</sup> Semester)	OR MATH2901 *	Linear & Abstract Algebra & Number Theory	Course coded neither MATH nor STAT
3.E	2 units – Core Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course
(July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems	MATH2100 Applied Mathematical Analysis	Option	Option Course coded neither MATH nor STAT
4 ~ 3	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course
Year 3				
er 7	MATH3401	Option	Option	Option
5 <sup>th</sup> Semester (Feb – Jun) Semester 1	<u>OR</u> MATH3901 *	Mathematical Physics Level 3 Elective Course	Mathematical Physics Level 3 Elective Course	MUST be a Level 2 or Level 3 course
Set	2 units – Major Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course
6 <sup>th</sup> Semester (July – Nov) Semester 2	MATH3103 Algebraic Methods of Mathematical Physics	Option  Mathematical Physics Level 3 Elective Course	Option	Option  MUST be a Level 2 or Level 3 course
9	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and move MATH1051 to their 2<sup>nd</sup> semester.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

#### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath) Mathematical Physics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 Start with

Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
1st Semester (July – Nov) Semester 2	MATH1051 * Calculus & Linear Algebra I	STAT1301 Advanced Analysis of Scientific Data	Option  2 units – Program	Option Course coded neither MATH nor STAT 2 units – General
	2 units – Core Course	2 units – Core Course	Elective Course	Elective Course
2nd Semester (Feb – Jun) Semester 1	MATH1052 *  Multivariate Calculus & Ordinary Differential Equations  2 units – Core Course	MATH1081 Advanced Discrete Mathematics  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 2				
3 <sup>rd</sup> Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems  2 units – Core Course	MATH2100 Applied Mathematical Analysis 2 units – Major Course	Option  2 units – General Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
4th Semester (Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401 (Taken in 3 <sup>rd</sup> Semester) 2 units – Core Course	MATH2001  OR  MATH2901 *  2 units – Major Course	MATH2301 Linear & Abstract Algebra & Number Theory 2 units – Major Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 3				
5 <sup>th</sup> Semester (July – Nov) Semester 2	MATH3103 Algebraic Methods of Mathematical Physics  2 units – Major Course	Option  Mathematical Physics Level 3 Elective Course  2 units – Major Course	Option  Mathematical Physics Level 3 Elective Course  2 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course
6th Semester (Feb – Jun) Semester 1	MATH3401  OR  MATH3901 *  2 units – Major Course	Option  Mathematical Physics Level 3 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course

Students who have not achieved/completed A grade of C or higher in Queensland Year 12 Specialist Mathematics will need to complete MATH1050 in their 1st semester as a program elective course and move MATH1051 to their 2nd semester.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

*Note:* Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1<sup>st</sup> semester or 3<sup>rd</sup> semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath)**Optimisation and Operations Research Major

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the base study plan outlining Core Courses and Major Courses.

Year 1	Year 1			
	MATH1051	MATH1081	Option	Option
1st Semester (Feb – Jun) Semester 1	<u>OR</u>	Advanced Discrete Mathematics		Course coded neither MATH nor STAT
st Ser Feb - Seme	MATH1071 *		2 units – Program	2 units – General
70	2 units – Core Course	2 units – Core Course	Elective Course	Elective Course
ser 2	MATH1052	STAT1301	Option	Option
2nd Semester (July – Nov) Semester 2	<u>OR</u>	Advanced Analysis of Scientific Data		Course coded neither MATH nor STAT
2nd Se (July Sem	MATH1072 *	Colonial Data	2 units – Program	2 units – General
	2 units – Core Course	2 units – Core Course	Elective Course	Elective Course
Year 2				
) 1	MATH2400 *	MATH2001	STAT2003	Option
d Semeste Feb – Jun Semester	<u>OR</u>	<u>OR</u>	Mathematical Probability	Course coded neither MATH nor STAT
3rd Semester (Feb – Jun) Semester 1	MATH2401 (Taken in 4 <sup>th</sup> Semester)	MATH2901 *		2 units – General
° ()	2 units – Core Course	2 units – Major Course	2 units – Major Course	Elective Course
/ 2 <	MATH2504	MATH2302	Option	Option
4 <sup>th</sup> Semester (July – Nov) Semester 2	Programming of Simulation, Analysis, & Learning Systems	Discrete Mathematics II		Course coded neither MATH nor STAT
4 <sup>th</sup> (Jι	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and move MATH1051 to their 2<sup>nd</sup> semester.

Continued next page



Year 3			
	MATH3202	Option	Option
5 <sup>th</sup> Semester (Feb – Jun) Semester 1	Operations Research & Mathematical Planning	Optimisation and Operations Research Level 3 Elective Course (Section 2) Choose from: MATH3090, STAT3004 or semester 2 offered courses	MUST be a Level 2 or Level 3 course  2 units – General Elective Course
	2 units – Major Course	2 – 4 units – Major Course	
	MATH3204	Option	Option
6 <sup>th</sup> Semester (July – Nov) Semester 2	Numerical Linear Algebra & Optimisation	Optimisation and Operations Research Level 3 Elective Course (Section 1) Choose from: MATH3205 and/or MATH3404	Optimisation and Operations Research Level 3 Elective Course (Section 2)  Choose from: COSC3500, MATH3070, MATH3301 and/or
			semester 1 offered courses

Step 2 Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

Step 3 Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

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Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath)**Optimisation and Operations Research Major

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 Start with the base stu

Start with the base study plan outlining Core Courses and Major Courses.

Year 1	Year 1				
ester Nov) ter 2	MATH1051 * Calculus & Linear	STAT1301 Advanced Analysis of	Option Course coded neither	Option	
1st Semester (July – Nov) Semester 2	Algebra I	Scientific Data	MATH nor STAT  2 units – General	2 units – Program	
	2 units – Core Course	2 units – Core Course	Elective Course	Elective Course	
	MATH1052 *	MATH1081	STAT2003	Option	
2 <sup>nd</sup> Semester (Feb – Jun) Semester 1	Multivariate Calculus & Ordinary Differential Equations	Advanced Discrete Mathematics	Mathematical Probability		
2 <sup>nd</sup> (Fe	2 units – Core Course	2 units – Core Course	2 units – Major Course	2 units – Program Elective Course	
Year 2					
o €	MATH2504	MATH2302	Option	Option	
3 <sup>rd</sup> Semester (July – Nov) Semester 2	Programming of Simulation, Analysis, & Learning Systems	Discrete Mathematics II	Course coded neither MATH nor STAT	Course coded neither MATH nor STAT	
3r (J.)	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course	
) ( T	MATH2400 *	MATH2001	Option	Option	
4 <sup>th</sup> Semester (Feb – Jun) Semester 1	<u>OR</u>	<u>OR</u>		Course coded neither MATH nor STAT	
Ser -eb -	MATH2401 (Taken in 3 <sup>rd</sup> Semester)	MATH2901 *			
# <del>4</del> <del>(</del> )	2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course	

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and complete MATH1051 over Summer Semester. MATH1051 is a required prerequisite for STAT2003 so needs to be completed in Summer Semester for the progression of courses.

Continued next page



Year 3			
5th Semester (July – Nov) Semester 2	MATH3204  Numerical Linear Algebra & Optimisation  2 units – Major Course	Option Optimisation and Operations Research Level 3 Elective Course (Section 1) Choose from: MATH3205 and/or MATH3404  2 – 4 units – Major Course	Option Option Optimisation and Operations Research Level 3 Elective Course (Section 2) Choose from: COSC3500, MATH3070, MATH3301 and/or semester 1 offered courses 2 – 4 units – Major Course
6 <sup>th</sup> Semester (Feb – Jun) Semester 1	MATH3202 Operations Research & Mathematical Planning  2 units – Major Course	Option Optimisation and Operations Research Level 3 Elective Course (Section 2) Choose from: MATH3090, STAT3004 or semester 2 offered courses  2 – 4 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course

Step 2 Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1<sup>st</sup> semester or 3<sup>rd</sup> semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

Step 3 Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses  $\underline{\text{SCIE3050}}$  and  $\underline{\text{SCIE3250}}$  are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

**No Minor:** Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

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Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements.



## **Bachelor of Mathematics (BMath) Pure Mathematics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the base stud

Start with the base study plan outlining Core Courses and Major Courses.

Year 1				
1st Semester (Feb – Jun) Semester 1	MATH1051 OR MATH1071 * 2 units – Core Course	MATH1081 Advanced Discrete Mathematics  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
2 <sup>nd</sup> Semester (July – Nov) Semester 2	MATH1052  OR  MATH1072 *  2 units – Core Course	STAT1301 Advanced Analysis of Scientific Data  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 2				
3 <sup>rd</sup> Semester (Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401 (Taken in 4 <sup>th</sup> Semester) 2 units – Core Course	MATH2001 <u>OR</u> MATH2901 *  2 units – Major Course	MATH2301 Linear & Abstract Algebra & Number Theory 2 units – Major Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
4th Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems  2 units – Core Course	Option  Pure Mathematics Level 2 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course
Year 3				
5th Semester (Feb – Jun) Semester 1	MATH3401  OR  MATH3901 *  2 units – Major Course	MATH3303 Abstract Algebra & Number Theory  2 units – Major Course	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course
6 <sup>th</sup> Semester (July – Nov) Semester 2	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and move MATH1051 to their 2<sup>nd</sup> semester.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor</u>: Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath) Pure Mathematics Major**

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 Start with the base stud

Start with the base study plan outlining Core Courses and Major Courses.

Year 1						
1st Semester (July – Nov) Semester 2	MATH1051 * Calculus & Linear Algebra I	STAT1301 Advanced Analysis of Scientific Data	Option	Option Course coded neither MATH nor STAT		
	2 units – Core Course	2 units – Core Course	2 units – Program Elective Course	2 units – General Elective Course		
2nd Semester (Feb – Jun) Semester 1	MATH1052 *  Multivariate Calculus & Ordinary Differential Equations  2 units – Core Course	MATH1081 Advanced Discrete Mathematics  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
Year 2						
3 <sup>rd</sup> Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems  2 units – Core Course	Option  Pure Mathematics Level 2 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
4th Semester (Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401 (Taken in 3 <sup>rd</sup> Semester)  2 units – Core Course	MATH2001  OR  MATH2901 *  2 units – Major Course	MATH2301 Linear & Abstract Algebra & Number Theory 2 units – Major Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
Year 3						
5 <sup>th</sup> Semester (July – Nov) Semester 2	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  2 units – General Elective Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course		
6 <sup>th</sup> Semester (Feb – Jun) Semester 1	MATH3401 OR MATH3901 * 2 units – Major Course	MATH3303 Abstract Algebra & Number Theory  2 units – Major Course	Option  Pure Mathematics Level 3 Elective Course  2 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course		

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and move MATH1051 to their 2<sup>nd</sup> semester.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1<sup>st</sup> semester or 3<sup>rd</sup> semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath)**Statistics and Mathematical Data Science Major

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 1 commencement

Step 1 Start with the base study plan outlining Core Courses and Major Courses.

Year 1						
1st Semester (Feb – Jun) Semester 1	MATH1051 OR MATH1071 * 2 units – Core Course	MATH1081 Advanced Discrete Mathematics  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
2nd Semester (July – Nov) Semester 2	MATH1052  OR  MATH1072 *  2 units – Core Course	STAT1301 Advanced Analysis of Scientific Data  2 units – Core Course	Option  2 units – Program Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
Year 2						
3rd Semester (Feb – Jun) Semester 1	MATH2400 *  OR  MATH2401 (Taken in 4 <sup>th</sup> Semester)  2 units – Core Course	MATH2001  OR  MATH2901 *  2 units – Major Course	STAT2003  Mathematical Probability  2 units – Major Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
4th Semester (July – Nov) Semester 2	MATH2504  Programming of Simulation, Analysis, & Learning Systems  2 units – Core Course	STAT2004  OR  STAT2904 *  2 units – Major Course	Option  2 units – General Elective Course	Option  Course coded neither MATH nor STAT  2 units – General Elective Course		
Year 3						
5th Semester (Feb – Jun) Semester 1	STAT3001  Mathematical Statistics  2 units – Major Course	STAT3004  Probability Models & Stochastic Processes  2 units – Major Course	Option Statistics Level 3 Elective Course  2 units – Major Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course		
6th Semester (July – Nov) Semester 2	STAT3006 Statistical Learning  2 units – Major Course	STAT3500 Problems & Applications in Modern Statistics  2 units – Major Course	Option  2 units – General Elective Course	Option  MUST be a Level 2 or Level 3 course  2 units – General Elective Course		

Students who have not achieved/completed A grade of C or higher in Queensland Year 12 Specialist Mathematics will need to complete MATH1050 in their 1st semester as a program elective course and move MATH1051 to their 2nd semester.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

<u>Note:</u> Students wishing to complete <u>MATH2401</u> (the advanced version of MATH2400), will need to move this course to 4<sup>th</sup> semester in their study plan.

#### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## **Bachelor of Mathematics (BMath)**Statistics and Mathematical Data Science Major

Students must follow the program rules & requirements listed on the Programs and Courses Website.

#### Semester 2 commencement

Step 1 St

Start with the base study plan outlining Core Courses and Major Courses.

Year 1						
1st Semester (July – Nov) Semester 2	MATH1051 * Calculus & Linear Algebra I	STAT1301 Advanced Analysis of Scientific Data	Option	Option		
	2 units – Core Course	2 units – Core Course	2 units – General Elective Course	2 units – Program Elective Course		
2 <sup>nd</sup> Semester (Feb – Jun) Semester 1	MATH1052 *  Multivariate Calculus &  Ordinary Differential  Equations	MATH1081 Advanced Discrete Mathematics	STAT2003  Mathematical Probability	Option		
	2 units – Core Course	2 units – Core Course	2 units – Major Course	2 units – Program Elective Course		
Year 2						
3 <sup>rd</sup> Semester (July – Nov) Semester 2	MATH2504	STAT2004	MATH2001	Option		
	Programming of Simulation, Analysis, & Learning Systems	<u>OR</u> STAT2904 *	Calculus & Linear Algebra II	Course coded neither MATH nor STAT		
	2 units – Core Course	2 units – Major Course	2 units – Major Course	2 units – General Elective Course		
4th Semester (Feb – Jun) Semester 1	MATH2400 *	STAT3001  Mathematical Statistics	Option	Option  Course coded neither		
	<u>OR</u> MATH2401	Mathematical Statistics	Course coded neither MATH nor STAT	MATH nor STAT		
	(Taken in 3 <sup>rd</sup> Semester)  2 units – Core Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course		
Year 3						
5 <sup>th</sup> Semester (July – Nov) Semester 2	STAT3006	STAT3500	Option	Option		
	Statistical Learning	Problems & Applications in Modern Statistics	Course coded neither MATH nor STAT	MUST be a Level 2 or Level 3 course		
	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course		
6 <sup>th</sup> Semester (Feb – Jun) Semester 1	Option	STAT3004	Option	Option		
	Statistics Level 3 Elective Course	Probability Models & Stochastic Processes		MUST be a Level 2 or Level 3 course		
	2 units – Major Course	2 units – Major Course	2 units – General Elective Course	2 units – General Elective Course		

Students who have not achieved/completed *A grade of C or higher in Queensland Year 12 Specialist Mathematics* will need to complete MATH1050 in their 1<sup>st</sup> semester as a program elective course and complete MATH1051 over Summer Semester. MATH1051 is a required prerequisite for STAT2003 so needs to be completed in Summer Semester for the progression of courses.



Decide on the courses that have an advanced course option, marked with a \* on the study planner.

Students may wish to commence their semester in an advanced course, and if needed, change to the non-advanced version before the end of Week 2. Students will be able to change their course enrolment themselves on SI-Net before the end of Week 2. After this, a late change to enrolment would need to be considered by the Associate Dean (Academic) via the <u>late addition of course process</u>, and may not be approved (additional fees may apply).

*Note:* Students wishing to complete the following advanced courses will need to adjust their study plan as follows:

- MATH1071 (the advanced version of MATH1051), move to 2<sup>nd</sup> semester in study plan
- MATH1072 (the advanced version of MATH1052), move to 1<sup>st</sup> semester or 3<sup>rd</sup> semester in study plan
- MATH2401 (the advanced version of MATH2400), move to 3<sup>rd</sup> semester in study plan

#### Step 3

Decide on your program elective courses or minor courses, noting semester offerings and prerequisites.

Program Electives are any courses listed on the BMath course list. It does not include general elective courses – which are not listed on the BMath course list.

Program elective courses <u>SCIE3050</u> and <u>SCIE3250</u> are recommended courses for students interested in placement and/or research.

<u>Minor:</u> Students choosing to complete a minor should plan their minor courses in their study plan at this step. Minor courses will replace 4 units of program elective courses and 4 units of general elective courses in the study planner above.

<u>No Minor:</u> Students who do not complete a minor must choose at least 4 units of program elective courses to put in their study plan. Students can choose further program elective courses in step 4.

Students can choose to, or may need to, swap the semester they complete their Major Level 3 Elective Courses, Minor courses and program/general electives depending on the semester offerings and prerequisites of their chosen courses. It is the student's responsibility to ensure they comply with the program rules and adhere to the number of units permitted for each section of the program.

#### Step 4

Decide on your general elective courses and/or further program elective courses.

General electives can be chosen from any undergraduate program offered at UQ, across any Faculty. Students may wish to search for courses of interest in the UQ <u>Programs and Courses</u> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

Students can choose to complete further program electives from the BMath course list if they choose.

Students need to follow the additional program rules when selecting program and general elective courses:

- Students must complete a minimum of 8 units of courses coded neither MATH nor STAT.
- Students can complete a maximum of 24 units of Level 1 courses across the total program, including core courses, major courses, minor courses, program and general electives.

#### Step 5

Check prerequisites, incompatibilities, and restrictions for all courses you have selected in your study plan. You can click on the course codes above or find the course on the UQ <u>Programs and Courses</u> page. You may need to adjust courses in your study plan at this step.

Students will need to specifically check their general elective courses for semester offerings, course restrictions, prerequisites and incompatibilities. Students will be limited to courses available to them based on these requirements and the program rules.



## Frequently Asked Questions (FAQ)

### **Program Information**

#### Can I study this program part-time?

International students on a student visa must study this program full-time, as per their visa conditions.

Domestic students may choose to complete the program part-time. Part-time students are required to develop their own study plan, however, if you would like assistance with this, please contact the <u>Faculty of Science</u>.

#### Can I study the Bachelor of Mathematics online?

No, this program requires mandatory in person attendance at the University of Queensland St Lucia campus.

## I have completed study at another university, can I be awarded credit towards this program?

Students who have completed study at another institute, at the equivalent level (AQF Level 7) may be eligible for credit towards this program. Students can utilise the <u>UQ Credit Precedent Database</u> (CPD) to see if their prior completed study has been previously assessed for credit. Please note that the UQ CPD is a guide ONLY and does not guarantee credit will be awarded.

Students can apply for credit via an online application form which will be processed by the Faculty of Science.

For further information on the credit Policy and Procedures, please refer to <u>UQ PPL Recognition of Prior Learning</u>.

### What are the key semester dates for study in this program?

Please refer to the Academic Calendar for key dates throughout the year.

#### Do I have to complete a major?

Yes. Completing a major is a compulsory part of this program and all students are required to complete a major.

#### Do I have to complete a minor?

No. Minors are optional in the BMath program. Students can add or remove minors at any stage provided they have enough room in their program to complete the remaining courses required without exceeding the 48 unit program allowance.

#### Can I change my major after I have commenced the program?

Student who are in their first year or second of study can usually change their major without impact to their graduation time. However, some majors with a more structured progression may require students to extend their studies by a semester or two. If you have concerns about changing your major, please contact the Faculty of Science.

### Can I complete two majors or two minors in the program?

It may be possible for students to complete two majors, or one major and two minors. Please contact the Faculty of Science for further advice on these and other plan combinations.

# THE UNIVERSITY OF QUEENSLAND AUSTRALIA

#### Course Information

#### What is a course profile?

Please refer to: What is a course profile?

### Where can I find the electronic course profile?

Please refer to: Where do I find the course profile for my course?

#### Where can I find the course coordinator?

The course coordinator can be found on the course profile. Please refer to question "Where can I find the course profile?".

#### How do I enrol in courses?

Please refer to Enrolment and class allocation for detailed instructions on enrolling in courses for the upcoming semester.

#### What is a prerequisite?

Please refer to: What does 'prerequisite' mean in a course profile?

#### Do I need to complete the prerequisites for a course before I take it?

Some courses will have a block which will not allow students to enrol in the course before they have completed the prerequisite course. Other courses may list a prerequisite but will not block students from enrolling without it. It is the student's responsibility to check the prerequisites listed and complete the prerequisites before enrolling in the course.

Students who choose to take a course without completing the listed prerequisites first, take responsibility for their success in the course. There will be no special dispensation given to students who enrol in a course before completing the prerequisites listed, including (but not limited to) – extension to assessments, deferred exams, extension to CoE, program variation, removal of course.

#### What is a recommended prerequisite, and do I need to complete it first?

Recommended prerequisites are courses that are suggested you complete before enrolling in a course, however, are not required to be able to complete the course. It is at the student's discretion as to whether they would like to complete the recommended prerequisites before the course they are interested in enrolling.

#### Study Planner

## Can I enrol in a Level 2 or 3 course sooner than is in the study plan if it doesn't have any prerequisites?

Yes, you can enrol in a Level 2 or 3 prerequisite course that has no prerequisites listed. You may wish to view the course profile to see if any prior knowledge/assumed background is required for the course.

Students should be mindful that UQ courses are coded according to their year level. For example, BIOL1020 is a first-year course because the first number in the course code is a 1. BIOL2006 is a second-year course as the first number in the code is a 2. Level 2 and 3 courses (including those without any prerequisites) will involve a greater level of knowledge and work and therefore, it is <u>not</u> recommended students complete these courses in their first year of study.

Students who choose to take a higher-level course earlier in their program take responsibility for their success in the course. There will be no special dispensation given to students who enrol in a course earlier than the coded course year, including (but not limited to) – extension to assessments, deferred exams, extension to CoE, program variation, removal of course.



Last Updated: Friday, 21 February 2025

#### **General Electives**

### A course I want to study as a general elective has a restriction, can I still enrol?

You will need to request permission from the school running the course. See which school is listed for the course on the UQ <u>Programs and Courses</u> page and contact them for permission.

## A general elective course I want to study is not offered in the semester I need it, what can I do?

Unfortunately, courses are only available in the semesters on offer as per the UQ website. If a course is not offered in the semester that you have space for it, you will need to select a different course.

#### Is there a list of general electives I can view?

No. As UQ has so many courses available for students to choose for general electives, there is not a single list of all general elective courses. Students may wish to search for courses in areas of interest in the UQ <a href="Programs and Courses">Programs and Courses</a> page or select "Browse by Faculty" on this page to see courses listed in other undergraduate programs.

#### **Timetable**

#### How can I find out when my classes will be on?

Students can view the <u>2025 Public Timetable</u> online to see what the available classes will be on offer for the upcoming semester. Please see the question below for student's personal timetable.

### How do I select my class times?

When the timetabling system is open for students to preference their classes, they can use the Timetable system via their my.UQ dashboard. Please refer to Enrolment and class allocation.