BACHELOR OF MATHEMATICS (3778)

Western Sydney University Program Code: 3778
AQF Level: 7

CRICOS Code: 103731H

The Bachelor of Mathematics will commence in 2022.

The essence of mathematics is the use of abstraction and logic to discover, describe and completely and unambiguously understand systems. Mathematics is essential for modelling phenomena in many fields, including science, engineering, economics, finance, medicine, and politics. The fact that mathematicians are able to model, analyse and solve practical problems makes them highly sought after by employers. The Bachelor of Mathematics will give you a solid basis in key areas of mathematics. You also have the option of completing majors in Financial Mathematics, Data Science, or Computational Mathematics, or you can use the degree as a pathway to secondary teaching.

Study Mode

Three years full-time or six years part-time.

Program Advice

Mr Neil Hopkins (https://directory.westernsydney.edu.au/search/name/Neil%20Hopkins%20/)

Location

Campus	Attendance	Mode	Advice
Campbeltown Campus	Full Time	Internal	See above
Campbelltown Campus	Part Time	Internal	See above
Parramatta Campus - Victoria Road	Full Time	Internal	See above
Parramatta Campus - Victoria Road	Part Time	Internal	See above
Penrith Campus	Full Time	Internal	See above
Penrith Campus	Part Time	Internal	See above

Inherent Requirements

There are inherent requirements for this program that you must meet in order to complete your program and graduate. Make sure you read and understand the requirements for this program online.

https://www.westernsydney.edu.au/ir/inherent_requirements/mathematics (https://www.westernsydney.edu.au/ir/inherent_requirements/mathematics/)

Admission

Assumed Knowledge: Students should have either HSC Mathematics Advanced, or HSC Mathematics Extension 1, or Mathematics Extension 2, and at least two units of HSC English.

Applications from Australian and New Zealand citizens and holders of permanent resident visas may be made via the Universities Admissions Centre (UAC) or directly through the Western Portal. Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

http://www.uac.edu.au/
https://westernsydney.uac.edu.au/ws/

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

http://www.uac.edu.au/

All other International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

International Office (http://www.westernsydney.edu.au/international/)

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Program Structure Current

Qualification for the Bachelor of Mathematics requires the successful completion of 240 credit points which include the subjects listed in the recommended sequences below.

Recommended Sequence

Full-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1006	Discrete Mathematics	10
MATH 1014	Mathematics 1A	10
COMP 1005	Programming Fundamentals	10
MATH 1028	Statistical Decision Making	10
	Credit Points	**40**
Spring session		
MATH 1015	Mathematics 1B	10
MATH 2011	Making Sense of Data	10
Select two major subjects from your chosen major or two electives		20
	Credit Points	**40**
Year 2		
Autumn session		
MATH 2010	Linear Algebra	10
MATH 2001	Advanced Calculus	10
MATH 3012	Combinatorics	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**40**
Spring session		
MATH 2003	Differential Equations	10
COMP 2023	Mathematical Programming	10

MATH 3015	Groups and Symmetry	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**40**
Year 3		
Autumn session		
MATH 3003	Analysis	10
MATH 3013	Fields and Equations	10
Select two major subjects from your chosen major or two electives		20
	Credit Points	**40**
Spring session		
MATH 3006	Mathematical Modelling	10
Students enrolled in T079 Data Science must complete:		10
COMP 3035	Discovery Project	
All students NOT enrolled in T079 must complete		
MATH 3016	Mathematics Project	
And all students must complete two major subjects from your chosen major or two electives		20
	Credit Points	**40**
	Total Credit Points	**240**

Part-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1014	Mathematics 1A	10
COMP 1005	Programming Fundamentals	10
	Credit Points	**20**
Spring session		
MATH 1015	Mathematics 1B	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 2		
Autumn session		
MATH 1006	Discrete Mathematics	10
MATH 1028	Statistical Decision Making	10
	Credit Points	**20**
Spring session		
MATH 2011	Making Sense of Data	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 3		
Autumn session		
MATH 2010	Linear Algebra	10
MATH 2001	Advanced Calculus	10
	Credit Points	**20**
Spring session		
MATH 2003	Differential Equations	10
COMP 2023	Mathematical Programming	10
	Credit Points	**20**
Year 4		
Autumn session		
MATH 3012	Combinatorics	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
MATH 3015	Groups and Symmetry	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 5		
Autumn session		
MATH 3003	Analysis	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
MATH 3006	Mathematical Modelling	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 6		
Autumn session		
MATH 3013	Fields and Equations	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
Students enrolled in T079 Data Science must complete:		10
COMP 3035	Discovery Project	
All students NOT enrolled in T079 must complete		
MATH 3016	Mathematics Project	
And all students must complete one major subject from your chosen major or one elective		10
	Credit Points	**20**
	Total Credit Points	**240**

Recommended Majors

Computational Mathematics, Testamur Major (T118) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/computational-mathematics-ug-testamur-major/)

Data Science, Testamur Major (T079) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/data-science-ug-testamur-major/)

Financial Mathematics, Testamur Major (T096) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/financial-mathematics-ug-testamur-major/)

Secondary Teaching, Testamur Major (T119) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/secondary-teaching-ug-testamur-major/)

Program Structure 2022 - 2024

Qualification for the Bachelor of Mathematics requires the successful completion of 240 credit points which include the subjects listed in the recommended sequences below.

Recommended Sequence

Full-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1006	Discrete Mathematics	10
MATH 1014	Mathematics 1A	10
COMP 1005	Programming Fundamentals	10
MATH 1028	Statistical Decision Making	10
	Credit Points	**40**
Spring session		
MATH 1015	Mathematics 1B	10
COMP 2023	Mathematical Programming	10
Select two major subjects from your chosen major or two electives		20
	Credit Points	**40**
Year 2		
Autumn session		
MATH 2010	Linear Algebra	10
MATH 2001	Advanced Calculus	10
MATH 3012	Combinatorics	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**40**
Spring session		
MATH 2003	Differential Equations	10
MATH 3007	Predictive Modelling	10
From Spring 2022 MATH 3007 Predictive Modelling is replaced by COMP 3032 Machine Learning		
COMP 3032	Machine Learning	10
MATH 3015	Groups and Symmetry	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**50**
Year 3		
Autumn session		
MATH 3003	Analysis	10
MATH 3013	Fields and Equations	10
Select two major subjects from your chosen major or two electives		20
	Credit Points	**40**
Spring session		
MATH 3006	Mathematical Modelling	10
Students enrolled in T079 Data Science must complete:		10
COMP 3035	Discovery Project	
All students NOT enrolled in T079 must complete		
MATH 3016	Mathematics Project	
And all students must complete two major subjects from your chosen major or two electives		20
	Credit Points	**40**
	Total Credit Points	**250**

Part-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1006	Discrete Mathematics	10
COMP 1005	Programming Fundamentals	10
	Credit Points	**20**
Spring session		
COMP 2023	Mathematical Programming	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 2		
Autumn session		
MATH 1014	Mathematics 1A	10
MATH 1028	Statistical Decision Making	10
	Credit Points	**20**
Spring session		
MATH 1015	Mathematics 1B	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 3		
Autumn session		
MATH 2010	Linear Algebra	10
MATH 2001	Advanced Calculus	10
	Credit Points	**20**
Spring session		
MATH 2003	Differential Equations	10
MATH 3007	Predictive Modelling	10
From Spring 2022 MATH 3007 Predictive Modelling is replaced by COMP 3032 Machine Learning		
COMP 3032	Machine Learning	10
	Credit Points	**30**
Year 4		
Autumn session		
MATH 3012	Combinatorics	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
MATH 3015	Groups and Symmetry	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Year 5		
Autumn session		
MATH 3003	Analysis	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
MATH 3006	Mathematical Modelling	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**

Year 6		
Autumn session		
MATH 3013	Fields and Equations	10
Select one major subject from your chosen major or one elective		10
	Credit Points	**20**
Spring session		
Students enrolled in T079 Data Science must complete:		10
COMP 3035	Discovery Project	
All students NOT enrolled in T079 must complete		
MATH 3016	Mathematics Project	
And all students must complete one major subject from your chosen major or one elective		10
	Credit Points	**20**
	Total Credit Points	**250**

Recommended Majors

Computational Mathematics, Testamur Major (T118) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/computational-mathematics-ug-testamur-major/)

Data Science, Testamur Major (T079) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/data-science-ug-testamur-major/)

Financial Mathematics, Testamur Major (T096) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/financial-mathematics-ug-testamur-major/)

Secondary Teaching, Testamur Major (T119) (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/secondary-teaching-ug-testamur-major/)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2021 or earlier.

MATH 3004 Discovery Project, replaced by COMP 3035 Discovery Project