BIOLOGY, TESTAMUR MAJOR (T053)

Western Sydney University Major Code: T053

Previous Code: MT3042

Available to students in other Western Sydney University programs?
No

This major is available as an elective in Bachelor of Science 3754 , and an elective major option in Bachelor of Medical Science 3755. See the related programs tab for more information.

Please note, the BSc Major Environmental Health T076, BSc Adv 3757, Bachelor of Science (Pathway to Teaching Primary/Secondary) 3756 & BMedSc Adv 3758, do not have sufficient Flexible space to accommodate a second/elective Major.

This major applies to students who commenced in Spring 2022 or later.

For Commencement Year 2021 to Autumn 2022 - Please refer to MT3042 Biology

For Commencement Year 2020 - Please refer to MT3016 Biology (https://handbook.westernsydney.edu.au/hbook/specialisation.aspx?unitset=MT3016.1)

Students should follow the major structure for the session start date relevant to the year they commenced.

Biology is underpinned by cells, the fundamental units necessary for organisms to grow, reproduce and interact with each other and the environment. Cells are also the basis of emerging computer models and bio-technology innovations. Biologists integrate principles from many disciplines, including chemistry, bio-physics, genetics, biochemistry, physiology and bioinformatics, for a more complete understanding of animal, plant and microbial cell function. Understanding these processes and the principles that govern the organization and function of cells are a necessary framework for creating the next advances in developmental biology and disease mitigation. At WSU, the strong emphasis on hands-on experience gives biology graduates an excellent foundation for careers in: teaching, academia, research, biotechnology, industry, law and administration. The flexibility of the major also enables students to combine their interest with other disciplines including ecology, environment, zoology and agriculture and environmental health..

Location

Campus	Mode	Advice
Campbelltown Campus	Internal	science@westernsydney.edu.au
Hawkesbury Campus	Internal	science@westernsydney.edu.au
Parramatta Campus - Victoria Road	Internal	science@westernsydney.edu.au

Recommended Sequence 2023

Select the link for your program below to see details of the major

Bachelor of Science

Qualification for the award of Bachelor of Science with a major in Biology requires the successful completion of 240 credit points as per the recommended sequence below.

Full-Time

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
BIOS 1001	Biodiversity	10
CHEM 1008	Introductory Chemistry	10
Choose one elective		10
	Credit Points	**40**
Spring session		
CHEM 1005	Essential Chemistry 2	10
BIOS 1012	Cell Biology	10
Choose one of		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Choose one elective		10
	Credit Points	**40**
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2022	Microbiology 1	10
BIOS 2018	Genetics	10
Choose one elective		10
	Credit Points	**40**
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2006	Comparative Physiology	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Choose one elective		10
	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
BIOS 3033	Applied Bioinformatics	10
Choose two electives		20
	Credit Points	**40**
Spring session		
BIOS 3034	Molecular Biotechnology	10
BIOS 3012	Conservation Biology	10
Choose two electives		20
	Credit Points	**40**
	Total Credit Points	**240**

Bachelor of Science (Pathway to Teaching Primary/Secondary)

Qualification for the Bachelor of Science (Pathway to Teaching Primary/Secondary) with a major in Biology requires the successful completion of 240 credit points as per the recommended sequence for the Bachelor of Science with a major in Biology, given above

In addition, all students must complete a mandatory 40 credit point minor in Education Studies. Students must choose one of:

Education Studies – Primary Teaching, Minor (0296) (https://hbook.westernsydney.edu.au/majors-minors/education-studies--primary-teaching-minor/)

Or

Education Studies - Secondary Teaching, Minor (0267) (https://hbook.westernsydney.edu.au/majors-minors/education-studies-secondary-teaching-minor/)

Students must meet this requirement by choosing subjects from the selected Education Studies minor as electives within their Bachelor of Science program.

Bachelor of Advanced Science

Qualification for the award of Bachelor of Advanced Science with a major in Biology requires the successful completion of 240 credit points as per the recommended sequence below.

Full-Time

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
BIOS 1001	Biodiversity	10
CHEM 1008	Introductory Chemistry	10
Choose one elective		10
	Credit Points	**40**
Spring session		
CHEM 1005	Essential Chemistry 2	10
BIOS 1012	Cell Biology	10
Choose one of		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Choose one elective		10
	Credit Points	**40**
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2022	Microbiology 1	10
BIOS 2018	Genetics	10
NATS 2001	Advanced Science Project A	10
	Credit Points	**40**
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
NATS 2002	Advanced Science Project B	10
BIOS 2006	Comparative Physiology	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
NATS 3043	Advanced Science Research Project C	10
BIOS 3033	Applied Bioinformatics	10
Choose one elective		10
	Credit Points	**40**
Spring session		
BIOS 3034	Molecular Biotechnology	10
BIOS 3012	Conservation Biology	10
NATS 3043	Advanced Science Research Project C	10
Choose one elective		10
	Credit Points	**40**
	Total Credit Points	**240**

Diploma in Science/Bachelor of Science

Qualification for this award requires the successful completion of 250 credit points which include the subjects listed in the recommended sequence below.

Full-time

Course	Title	Credit Points
Year 1		
Year 1: College Subjects		
Standard 3 term year		
Preparatory Subject:		
CHEM 0001	Chemistry (WSTC Prep)	10
And		
Eight University Level Subjects:		
BIOS 1014	Cell Biology (WSTC)	10
CHEM 1013	Essential Chemistry (WSTC)	10
NATS 1020	Scientific Literacy (WSTC)	10
CHEM 1009	Introductory Chemistry (WSTC)	10
BIOS 1003	Biodiversity (WSTC)	10
MATH 1027	Quantitative Thinking (WSTC)	10
BIOS 1034	Management of Aquatic Environments (WSTC)	10
NATS 1030	Human Anatomy and Physiology 2 (WSTC)	10
	Credit Points	**90**
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2022	Microbiology 1	10
BIOS 2018	Genetics	10
Choose one elective		10
	Credit Points	**40**
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2006	Comparative Physiology	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Choose one elective		10
	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
BIOS 3033	Applied Bioinformatics	10
Choose two electives		20
	Credit Points	**40**
Spring session		
BIOS 3034	Molecular Biotechnology	10

BIOS 3012	Conservation Biology	10
Choose two electives		20
	Credit Points	**40**
	Total Credit Points	**250**

Recommended Sequence 2024

Select the link for your program below to see details of the major

Bachelor of Science

Qualification for the award of Bachelor of Science with a major in Biology requires the successful completion of 240 credit points as per the recommended sequence below.

Full-Time

Course	Title	Credit Points
Year 1		
Autumn session		
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BIOS 1001	Biodiversity	10
CHEM 1008	Introductory Chemistry	10
Choose one elective		10
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BIOS 1012	Cell Biology	10
Choose one of		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Choose one elective		10
	Credit Points	**40**
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2022	Microbiology 1	10
BIOS 2018	Genetics	10
Choose one elective		10
	Credit Points	**40**
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2006	Comparative Physiology	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Choose one elective		10
	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
Choose two electives		20
	Credit Points	**30**
Spring session		
BIOS 3033	Applied Bioinformatics	10
BIOS 3034	Molecular Biotechnology	10
Choose two electives		20
	Credit Points	**40**
1H session		
NATS 3055	Practicum 1	10
	Credit Points	**10**
	Total Credit Points	**240**

Bachelor of Science (Pathway to Teaching Primary/Secondary)

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In addition, all students must complete a mandatory 40 credit point minor in Education Studies. Students must choose one of:

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Or

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BIOS 1012	Cell Biology	10
Choose one of		10
MATH 1026	Quantitative Thinking	
MATH 1014	Mathematics 1A	
MATH 1003	Biometry	
Choose one elective		10
	Credit Points	**40**
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2022	Microbiology 1	10
BIOS 2018	Genetics	10
NATS 2001	Advanced Science Project A	10
	Credit Points	**40**
Spring session		
BIOS 3027	Molecular Biology of the Cell	10

NATS 2002	Advanced Science Project B	10
BIOS 2006	Comparative Physiology	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
NATS 3043	Advanced Science Research Project C	10
Choose one elective		10
	Credit Points	**30**
Spring session		
BIOS 3033	Applied Bioinformatics	10
BIOS 3034	Molecular Biotechnology	10
NATS 3043	Advanced Science Research Project C	10
Choose one elective		10
	Credit Points	**40**
1H session		
NATS 3055	Practicum 1	10
	Credit Points	**10**
	Total Credit Points	**240**

Diploma in Science/Bachelor of Science

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Course	Title	Credit Points
Year 1		
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CHEM 1013	Essential Chemistry (WSTC)	10
NATS 1020	Scientific Literacy (WSTC)	10
CHEM 1009	Introductory Chemistry (WSTC)	10
BIOS 1003	Biodiversity (WSTC)	10
MATH 1027	Quantitative Thinking (WSTC)	10
BIOS 1034	Management of Aquatic Environments (WSTC)	10
NATS 1030	Human Anatomy and Physiology 2 (WSTC)	10
	Credit Points	**90**
Year 2		
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Spring session		
BIOS 3027	Molecular Biology of the Cell	10
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Choose one of		10
NATS 3044	Complex Case Studies in Science	
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	Credit Points	**40**
Year 3		
Autumn session		
BIOS 3032	Plant Science	10
Choose two electives		20
	Credit Points	**30**
Spring session		
BIOS 3033	Applied Bioinformatics	10
BIOS 3034	Molecular Biotechnology	10
Choose two electives		20
	Credit Points	**40**
1H session		
NATS 3055	Practicum 1	10
	Credit Points	**10**
	Total Credit Points	**250**

Related Programs

Bachelor of Advanced Science (3757) (https://hbook.westernsydney.edu.au/programs/bachelor-advanced-science/)

Bachelor of Medical Science (3755) (https://hbook.westernsydney.edu.au/programs/bachelor-medical-science/)

Bachelor of Science (3754) (https://hbook.westernsydney.edu.au/programs/bachelor-science/)

Bachelor of Science (Pathway to Teaching Primary/Secondary) (3756) (https://hbook.westernsydney.edu.au/programs/bachelor-science-pathway-teaching-primary-secondary/)

Bachelor of Science/Bachelor of Arts (3763) (https://hbook.westernsydney.edu.au/programs/bachelor-science-bachelor-arts/)

Bachelor of Science/Bachelor of Business (4748) (https://hbook.westernsydney.edu.au/programs/bachelor-science-bachelor-business/)

Bachelor of Science/Bachelor of International Studies (3764) (https://hbook.westernsydney.edu.au/programs/bachelor-science-bachelor-international-studies/)

Bachelor of Science/Bachelor of Laws (2743) (https://hbook.westernsydney.edu.au/programs/bachelor-science-bachelor-laws/)

Diploma in Science/Bachelor of Medical Science (6042) (https://hbook.westernsydney.edu.au/programs/diploma-science-bachelor-medical-science/)

Diploma in Science/Bachelor of Science (6043) (https://hbook.westernsydney.edu.au/programs/diploma-science-bachelor-science/)