

# CHEMISTRY, TESTAMUR MAJOR (T026)

Western Sydney University Major Code: T026

Previous Code: MT3027.1

Available to students in other Western Sydney University

Programs: Yes, however the following restrictions apply.

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.

Chemistry knowledge underpins all aspects of our modern society. Chemists can use an understanding of chemical structures and processes to adapt, control and manipulate systems involved in energy production, food safety, forensics, biomedical technology, and ecosystem. Indeed, there is not an area of our society that has not been impacted by chemical knowledge. At WSU we teach the theoretical and practical aspects of chemical sciences covering the sub-disciplines of physical, analytical, inorganic and organic chemistries. We have a particular focus on contemporary spectroscopy and separation methods that are required to solve big-picture problems in all areas of scientific discovery. Our graduates have opportunities to be closely mentored by experienced academics. We aim to produce scientists who are confident and self-directed, having gained independence in scientific discovery through an integrated theoretical and practical teaching programme that seeks to solve problems relating to societal needs.

## Location

Campus	Mode	Advice	Credit Points
Campbelltown Campus	Internal	science@westernsydney.edu.au	10
Parramatta Campus - Victoria Road	Internal	science@westernsydney.edu.au	10
			20

## Recommended Sequence Current

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 Chemistry requires the successful completion of 240 credit points as per the recommended sequence below.

Course	Title	Credit Points
<b>Year 1</b>		
<b>Autumn session</b>		
NATS 1019	Scientific Literacy	10
BIOS 1001	Biodiversity	10
CHEM 1008	Introductory Chemistry	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
CHEM 1012	Essential Chemistry	10
Choose one of the following:		10
MATH 1014	Mathematics 1A	

MATH 1026	Quantitative Thinking	10
MATH 1003	Biometry	10
Choose two electives		20
	<b>Credit Points</b>	<b>40</b>
<b>Year 2</b>		
<b>Autumn session</b>		
CHEM 2001	Analytical Chemistry	10
CHEM 2008	Organic Chemistry	10
CHEM 2006	Inorganic Chemistry	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
CHEM 2010	Physical Chemistry	10
CHEM 3004	Advanced Organic Chemistry	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Year 3</b>		
<b>1H session</b>		
NATS 3055	Practicum 1	10
	<b>Credit Points</b>	<b>10</b>
<b>Autumn session</b>		
CHEM 3005	Advanced Physical Chemistry	10
CHEM 3003	Advanced Inorganic Chemistry	10
Choose one elective		10
	<b>Credit Points</b>	<b>30</b>
<b>2H session</b>		
NATS 3056	Practicum 2	10
	<b>Credit Points</b>	<b>10</b>
<b>Spring session</b>		
CHEM 3001	Advanced Analytical Chemistry	10
Choose two electives		20
	<b>Credit Points</b>	<b>30</b>
	<b>Total Credit Points</b>	<b>240</b>

## Bachelor of Science (Pathway to Teaching Primary/Secondary)

Qualification for the Bachelor of Science (Pathway to Teaching Primary/Secondary) with a major in Chemistry requires the successful completion of 240 credit points as per the recommended sequence for the Bachelor of Science with a major in Chemistry, 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/archives/2024-2025/majors-minors/education-studies-primary-teaching-minor/>)

Or

Education Studies - Secondary Teaching, Minor (0267) (<https://hbook.westernsydney.edu.au/archives/2024-2025/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.

Course	Title	Credit Points	BIOS 1001	Biodiversity	10
<b>Year 1</b>			CHEM 1008	Introductory Chemistry	10
<b>Autumn session</b>			Choose one elective		10
NATS 1019	Scientific Literacy	10			
BIOS 1001	Biodiversity	10			
CHEM 1008	Introductory Chemistry	10			
Choose one elective		10			
	<b>Credit Points</b>	<b>40</b>			
<b>Spring session</b>					
CHEM 1012	Essential Chemistry	10			
Choose one of					10
MATH 1014	Mathematics 1A				
MATH 1026	Quantitative Thinking				
MATH 1003	Biometry				
Choose two electives		20			
	<b>Credit Points</b>	<b>40</b>			
<b>Year 2</b>					
<b>Autumn session</b>					
CHEM 2001	Analytical Chemistry	10			
CHEM 2008	Organic Chemistry	10			
CHEM 2006	Inorganic Chemistry	10			
Choose one elective		10			
	<b>Credit Points</b>	<b>40</b>			
<b>Spring session</b>					
CHEM 2010	Physical Chemistry	10			
CHEM 3004	Advanced Organic Chemistry	10			
Choose one of					10
NATS 3044	Complex Case Studies in Science				
NATS 3045	Work Internship for Science Professionals				
Choose one elective		10			
	<b>Credit Points</b>	<b>40</b>			
<b>Year 3</b>					
<b>1H session</b>					
NATS 3055	Practicum 1	10			
	<b>Credit Points</b>	<b>10</b>			
<b>Autumn session</b>					
CHEM 3005	Advanced Physical Chemistry	10			
CHEM 3003	Advanced Inorganic Chemistry	10			
NATS 3043	Advanced Science Research Project C	10			
Choose one elective		10			
	<b>Credit Points</b>	<b>30</b>			
<b>2H session</b>					
NATS 3056	Practicum 2	10			
	<b>Credit Points</b>	<b>10</b>			
<b>Spring session</b>					
CHEM 3001	Advanced Analytical Chemistry	10			
NATS 3043	Advanced Science Research Project C	10			
Choose one elective		10			
	<b>Credit Points</b>	<b>30</b>			
	<b>Total Credit Points</b>	<b>240</b>			
<b>Bachelor of Advanced Science</b>					
<b>Course</b>	<b>Title</b>	<b>Credit Points</b>			
<b>Year 1</b>					
<b>Autumn session</b>					
NATS 1019	Scientific Literacy	10			

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

### Diploma in Science/Bachelor of Science

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

Course	Title	Credit Points	<b>Bachelor of Science</b>
<b>Year 1</b>			
<b>Year 1: College Subjects</b>			
Standard 3-term year			Qualification for the award of Bachelor of Science with a major in Chemistry requires the successful completion of 240 credit points as per the recommended sequence below.
<b>Preparatory subject</b>			
CHEM 0001	Chemistry (WSTC Prep)	10	
<b>Eight university-level subjects</b>			
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	
ENVL 1007	Environmental Health Issues and Solutions (WSTC)	10	
	<b>Credit Points</b>	<b>90</b>	
<b>Year 2</b>			
<b>Autumn session</b>			
CHEM 2001	Analytical Chemistry	10	
CHEM 2008	Organic Chemistry	10	
CHEM 2006	Inorganic Chemistry	10	
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
<b>Spring session</b>			
CHEM 2010	Physical Chemistry	10	
CHEM 3004	Advanced Organic Chemistry	10	
Choose one of		10	
NATS 3044	Complex Case Studies in Science		
NATS 3045	Work Internship for Science Professionals		
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
<b>Year 3</b>			
<b>1H session</b>			
NATS 3055	Practicum 1	10	
	<b>Credit Points</b>	<b>10</b>	
<b>Autumn session</b>			
CHEM 3005	Advanced Physical Chemistry	10	
CHEM 3003	Advanced Inorganic Chemistry	10	
Choose one elective		10	
	<b>Credit Points</b>	<b>30</b>	
<b>2H session</b>			
NATS 3056	Practicum 2	10	
	<b>Credit Points</b>	<b>10</b>	
<b>Spring session</b>			
CHEM 3001	Advanced Analytical Chemistry	10	
Choose two electives		20	
	<b>Credit Points</b>	<b>30</b>	
	<b>Total Credit Points</b>	<b>250</b>	
<b>Bachelor of Science (Pathway to Teaching Primary/Secondary)</b>			
Qualification for the Bachelor of Science (Pathway to Teaching Primary/Secondary) with a major in Chemistry requires the successful completion of 240 credit points as per the recommended sequence for the Bachelor of Science with a major in Chemistry, given above.			

## Recommended Sequence 2023

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

## Bachelor of Science (Pathway to Teaching Primary/Secondary)

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

Course	Title	Credit Points	Students must meet this requirement by choosing subjects from the selected Education Studies minor as electives within their Bachelor of Science program.
<b>Year 1</b>			
<b>Autumn session</b>			
NATS 1019	Scientific Literacy	10	
BIOS 1001	Biodiversity	10	
CHEM 1008	Introductory Chemistry	10	
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
<b>Spring session</b>			
CHEM 1012	Essential Chemistry	10	
Choose one of the following:		10	
MATH 1014	Mathematics 1A		
MATH 1026	Quantitative Thinking		
MATH 1003	Biometry		
Choose two electives		20	
	<b>Credit Points</b>	<b>40</b>	
<b>Year 2</b>			
<b>Autumn session</b>			
CHEM 2001	Analytical Chemistry	10	
CHEM 2008	Organic Chemistry	10	
CHEM 2006	Inorganic Chemistry	10	
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
<b>Spring session</b>			
CHEM 2010	Physical Chemistry	10	
CHEM 3003	Advanced Inorganic Chemistry	10	
Choose one of		10	
NATS 3044	Complex Case Studies in Science		
NATS 3045	Work Internship for Science Professionals		
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
<b>Year 3</b>			
<b>Autumn session</b>			
CHEM 3005	Advanced Physical Chemistry	10	
CHEM 3003	Advanced Inorganic Chemistry	10	
Choose two electives		20	
	<b>Credit Points</b>	<b>40</b>	
<b>Spring session</b>			
NATS 3027	Laboratory Quality Management	10	
CHEM 3001	Advanced Analytical Chemistry	10	
NATS 3039	Science Research Project	10	
Choose one elective		10	
	<b>Credit Points</b>	<b>40</b>	
	<b>Total Credit Points</b>	<b>240</b>	

**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/archives/2024-2025/majors-minors/education-studies-primary-teaching-minor/>)

Or

Education Studies - Secondary Teaching, Minor (0267) (<https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/education-studies-secondary-teaching-minor/>)

## Bachelor of Advanced Science

Course	Title	Credit Points
<b>Year 1</b>		
<b>Autumn session</b>		
NATS 1019	Scientific Literacy	10
BIOS 1001	Biodiversity	10
CHEM 1008	Introductory Chemistry	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
CHEM 1012	Essential Chemistry	10
Choose one of		10
MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	
MATH 1003	Biometry	
Choose two electives		20
	<b>Credit Points</b>	<b>40</b>
<b>Year 2</b>		
<b>Autumn session</b>		
CHEM 2001	Analytical Chemistry	10
CHEM 2008	Organic Chemistry	10
CHEM 2006	Inorganic Chemistry	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
CHEM 2010	Physical Chemistry	10
CHEM 3003	Advanced Inorganic Chemistry	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Year 3</b>		
<b>Autumn session</b>		
CHEM 3005	Advanced Physical Chemistry	10
CHEM 3003	Advanced Inorganic Chemistry	10
Choose two electives		20
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
NATS 3027	Laboratory Quality Management	10
CHEM 3001	Advanced Analytical Chemistry	10
NATS 3039	Science Research Project	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Year 3</b>		
<b>Autumn session</b>		
CHEM 3005	Advanced Physical Chemistry	10
CHEM 3003	Advanced Inorganic Chemistry	10
NATS 3043	Advanced Science Research Project C	10
Choose one elective		10
	<b>Credit Points</b>	<b>40</b>
<b>Spring session</b>		
NATS 3027	Laboratory Quality Management	10
CHEM 3001	Advanced Analytical Chemistry	10
NATS 3039	Science Research Project	10
NATS 3043	Advanced Science Research Project C	10
	<b>Credit Points</b>	<b>40</b>
	<b>Total Credit Points</b>	<b>240</b>

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## Diploma in Science/Bachelor of Science

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

Course	Title	Credit Points	
<b>Year 1</b>			
<b>Year 1: College Subjects</b>			
Standard 3-term year			
<b>Preparatory subject</b>			
CHEM 0001	Chemistry (WSTC Prep)	10	Bachelor of Medical Science (3755) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-medical-science/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-medical-science/</a> )
<b>Eight university-level subjects</b>			
BIOS 1014	Cell Biology (WSTC)	10	Bachelor of Science/Bachelor of Science (3754) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science/</a> )
CHEM 1013	Essential Chemistry (WSTC)	10	Bachelor of Science (Pathway to Teaching Primary/Secondary) (3756) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-pathway-teaching-primary-secondary/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-pathway-teaching-primary-secondary/</a> )
NATS 1020	Scientific Literacy (WSTC)	10	Bachelor of Science/Bachelor of Arts (3763) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-arts/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-arts/</a> )
CHEM 1009	Introductory Chemistry (WSTC)	10	Bachelor of Science/Bachelor of Business (4748) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-business/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-business/</a> )
BIOS 1003	Biodiversity (WSTC)	10	Bachelor of Science/Bachelor of International Studies (3764) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-international-studies/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-international-studies/</a> )
MATH 1027	Quantitative Thinking (WSTC)	10	Bachelor of Science/Bachelor of Laws (2743) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-laws/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-science-bachelor-laws/</a> )
BIOS 1034	Management of Aquatic Environments (WSTC)	10	Diploma in Science/Bachelor of Medical Science (6042) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/diploma-science-bachelor-medical-science/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/diploma-science-bachelor-medical-science/</a> )
ENVL 1007	Environmental Health Issues and Solutions (WSTC)	10	Diploma in Science/Bachelor of Science (6043) ( <a href="https://hbook.westernsydney.edu.au/archives/2024-2025/programs/diploma-science-bachelor-science/">https://hbook.westernsydney.edu.au/archives/2024-2025/programs/diploma-science-bachelor-science/</a> )
<b>Credit Points</b>		<b>90</b>	
<b>Year 2</b>			
<b>Autumn session</b>			
CHEM 2001	Analytical Chemistry	10	
CHEM 2008	Organic Chemistry	10	
CHEM 2006	Inorganic Chemistry	10	
Choose one elective		10	
<b>Credit Points</b>		<b>40</b>	
<b>Spring session</b>			
CHEM 2010	Physical Chemistry	10	
CHEM 3004	Advanced Organic Chemistry	10	
Choose one of		10	
NATS 3044	Complex Case Studies in Science		
NATS 3045	Work Internship for Science Professionals		
Choose one elective		10	
<b>Credit Points</b>		<b>40</b>	
<b>Year 3</b>			
<b>Autumn session</b>			
CHEM 3005	Advanced Physical Chemistry	10	
CHEM 3003	Advanced Inorganic Chemistry	10	
Choose two electives		20	
<b>Credit Points</b>		<b>40</b>	
<b>Spring session</b>			
NATS 3027	Laboratory Quality Management	10	
CHEM 3001	Advanced Analytical Chemistry	10	
NATS 3039	Science Research Project	10	
Choose one elective		10	
<b>Credit Points</b>		<b>40</b>	
<b>Total Credit Points</b>		<b>250</b>	

## Related Programs

Bachelor of Advanced Science (3757) (<https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-advanced-science/>)