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# **BIOMEDICAL SCIENCE, TESTAMUR MAJOR (T086)**

Western Sydney University Major Code: T086

Previous code: MT3030.1

Available to students in other Western Sydney University programs? No

This testamur major is available as an elective major for Bachelor of Science students only.

Biomedical science is a broad field that aims to understand the biology that underpins human health and disease. The coursework in this major will give you an integrated foundation in physiology and anatomy, along with biochemistry, cell biology and genetics. It will equip you with knowledge from which you can embark on unlimited career choices from research laboratories to hospital pathology to biomedical engineering, medical technology, teaching and beyond. The degree also allows for enrolment in minors or flexible subjects, so students can design their own learning journey.

All students must complete 60 credit points of study at Level 3 to meet program requirements.

NOTE: Students up to end of 2023 - Students will need to select at least 10 credit points of elective study at Level 3 to meet this requirement.

## Leasting

Location			Credit Points	40
Campus	Mode	Advice 1H session	Credit Points	40
Campbelltown Ca		science@westernsydney.edu au NATS 3055	Practicum 1	10
Parramatta Cam Victoria Road	pus - Internal	science@westernsydney.e <del>uu.au</del>	Credit Points	10
			Total Credit Points	240

Choose one elective

Autumn session **BIOS 2042** 

Choose one elective

Year 2

**BIOS 2018** 

**NATS 2033** 

Spring session

Choose one of

NATS 3044

NATS 3045

Autumn session

Spring session

**NATS 3034** 

Choose two electives

Choose three electives

BIOS 3014

Choose one elective

**BIOS 3027** 

**BIOS 3038** 

Year 3

Credit Points

Biochemistry

Credit Points

Metabolism

Credit Points

Credit Points

Molecular Medicine

Cell Form and Function

Molecular Biology of the Cell

**Complex Case Studies in Science** 

Genes, Genomics and Human Health

Work Internship for Science Professionals

Genetics

# **Recommended Sequence Current**

All students must complete 60 credit points of study at Level 3 to meet course requirements. Students will need to select at least 10 credit points of elective study at Level 3 to meet this requirement.

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

### **Bachelor of Medical Science**

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

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
NATS 1009	Human Anatomy and Physiology 1	10
Choose one of the fe	ollowing:	10
MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	
MATH 1003	Biometry	
	Credit Points	40
Spring session		
BIOS 1012	Cell Biology	10
CHEM 1012	Essential Chemistry	10
NATS 1010	Human Anatomy and Physiology 2	10

Bachelor of Advanced Medical Science

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

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
NATS 1009	Human Anatomy and Physiology 1	10
Choose one of		10
MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	
MATH 1003	Biometry	
	Credit Points	40
Spring session		
BIOS 1012	Cell Biology	10
CHEM 1012	Essential Chemistry	10
NATS 1010	Human Anatomy and Physiology 2	10
Choose one elective		10
	Credit Points	40
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10

	Total Credit Points	240
	Credit Points	10
NATS 3055	Practicum 1	10
1H session		
	Credit Points	40
Choose two electives	S	20
NATS 3043	Advanced Science Research Project C	10
NATS 3034	Molecular Medicine	10
Spring session		
	Credit Points	30
Choose one elective		10
NATS 3043	Advanced Science Research Project C	10
BIOS 3014	Genes, Genomics and Human Health	10
Autumn session		
Year 3		
	Credit Points	40
NATS 3045	Work Internship for Science Professionals	
NATS 3044	Complex Case Studies in Science	
Choose one of		10
NATS 2002	Advanced Science Project B	10
BIOS 3038	Metabolism	10
BIOS 3027	Molecular Biology of the Cell	10
Spring session		
	Credit Points	40
NATS 2001	Advanced Science Project A	10
NATS 2033	Cell Form and Function	10
BIOS 2018	Genetics	10

### **Diploma in Science/Bachelor of Medical Science**

Qualification for the award of Diploma in Science/Bachelor of Medical Science with a major in Biomedical Science requires the successful completion of 250 credit points as per the recommended sequence below.

Course	Title	Credit Points
Year 1		
College subjects		
Standard 3-term yea	ar	
Preparatory subject		
CHEM 0001	Chemistry (WSTC Prep)	10
And eight university	v level subjects as follows	
BIOS 1014	Cell Biology (WSTC)	10
CHEM 1013	Essential Chemistry (WSTC)	10
NATS 1020	Scientific Literacy (WSTC)	10
CHEM 1009	Introductory Chemistry (WSTC)	10
MATH 1027	Quantitative Thinking (WSTC)	10
NATS 1029	Human Anatomy and Physiology 1 (WSTC)	10
NATS 1030	Human Anatomy and Physiology 2 (WSTC)	10
And choose one ele	ctive	10
	Credit Points	90
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2018	Genetics	10

	Total Credit Points	250
	Credit Points	10
NATS 3055	Practicum 1	10
1H session		
	Credit Points	40
Choose three elective	es	30
NATS 3034	Molecular Medicine	10
Spring session		
	Credit Points	30
Choose two electives	3	20
BIOS 3014	Genes, Genomics and Human Health	10
Autumn session		
Year 3		
	Credit Points	40
Choose one elective		10
NATS 3045	Work Internship for Science Professionals	
NATS 3044	Complex Case Studies in Science	
Choose one of		10
BIOS 3038	Metabolism	10
BIOS 3027	Molecular Biology of the Cell	10
Spring session		
	Credit Points	40
Choose one elective		10
NATS 2033	Cell Form and Function	10

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

Qualification for the Bachelor of Science (Pathway to Teaching Primary/Secondary) with a major in Biomedical Science requires the successful completion of 240 credit points as per the recommended sequence for the Bachelor of Science with a major in Biomedical Science, 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-studiesprimary-teaching-minor/)

Or

Education Studies - Secondary Teaching, Minor (0267) (https:// hbook.westernsydney.edu.au/majors-minors/education-studiessecondary-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
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
NATS 1009	Human Anatomy and Physiology 1	10
Choose one of		10
MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	

	Total Credit Points	240
	Credit Points	10
NATS 3055	Practicum 1	10
1H session		
	Credit Points	40
Choose two elective		20
	m chosen Education minor	10
NATS 3034	Molecular Medicine	10
Spring session		30
	Credit Points	<u> </u>
	rom chosen Education minor	20
BIOS 3014	Genes, Genomics and Human Health	10
Year 3 Autumn session		
Veer 2	Credit Points	40
And one subject fro	m chosen Education minor	10
NATS 3045	Work Internship for Science Professionals	
NATS 3044	Complex Case Studies in Science	
Choose one of		10
BIOS 3038	Metabolism	10
BIOS 3027	Molecular Biology of the Cell	10
Spring session		40
	Credit Points	40
Choose one elective		10
NATS 2033	Cell Form and Function	10
BIOS 2042 BIOS 2018	Biochemistry Genetics	10
Autumn session BIOS 2042	Piechemietry	10
Year 2		
	Credit Points	40
Choose one elective	ē	10
NATS 1010	Human Anatomy and Physiology 2	10
CHEM 1012	Essential Chemistry	10
BIOS 1012	Cell Biology	10
Spring session		
	Credit Points	40
MATH 1003	Biometry	

# **Recommended Sequence 2023**

All students must complete 60 credit points of study at Level 3 to meet course requirements. Students will need to select at least 10 credit points of elective study at Level 3 to meet this requirement.

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

#### **Bachelor of Medical Science**

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

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
NATS 1009	Human Anatomy and Physiology 1	10
Choose one of the fo	ollowing:	10

MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	
MATH 1003	Biometry	
	Credit Points	40
Spring session		
BIOS 1012	Cell Biology	10
CHEM 1012	Essential Chemistry	10
NATS 1010	Human Anatomy and Physiology 2	10
Choose one elective		10
	Credit Points	40
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2018	Genetics	10
NATS 2033	Cell Form and Function	10
Choose one elective		10
	Credit Points	40
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2021	Metabolism	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		
NATS 3040	Topics in Medical Science	10
BIOS 3014	Genes, Genomics and Human Health	10
Choose two electives	-	20
	Credit Points	40
Spring session		
NATS 3034	Molecular Medicine	10
Choose three elective		30
	Credit Points	40
	Total Credit Points	240

## **Bachelor of Advanced Medical Science**

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

Credit Points
10
10
10
10
40
10
10

NATS 1010	Human Anatomy and Physiology 2	10
Choose one elective		10
	Credit Points	40
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2018	Genetics	10
NATS 2033	Cell Form and Function	10
NATS 2001	Advanced Science Project A	10
	Credit Points	40
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2021	Metabolism	10
NATS 2002	Advanced Science Project B	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		
NATS 3040	Topics in Medical Science	10
BIOS 3014	Genes, Genomics and Human Health	10
NATS 3043	Advanced Science Research Project C	10
Choose one elective		10
	Credit Points	40
Spring session		
NATS 3034	Molecular Medicine	10
NATS 3043	Advanced Science Research Project C	10
Choose two electives	5	20
	Credit Points	40
	Total Credit Points	240

#### **Diploma in Science/Bachelor of Medical Science**

Qualification for the award of Diploma in Science/Bachelor of Medical Science with a major in Biomedical Science requires the successful completion of 250 credit points as per the recommended sequence below.

Course	Title	Credit Points
Year 1		
College subjects		
Standard 3-term y	ear	
Preparatory subje	ct	
CHEM 0001	Chemistry (WSTC Prep)	10
And eight university level subjects as follows		
BIOS 1014	Cell Biology (WSTC)	10
CHEM 1013	Essential Chemistry (WSTC)	10
NATS 1020	Scientific Literacy (WSTC)	10
CHEM 1009	Introductory Chemistry (WSTC)	10
MATH 1027	Quantitative Thinking (WSTC)	10
NATS 1009	Human Anatomy and Physiology 1	10
NATS 1010	Human Anatomy and Physiology 2	10
And choose one elective		10
	Credit Points	90

Year 2	
A	

Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2018	Genetics	10
NATS 2033	Cell Form and Function	10
Choose one elective		10
	Credit Points	40
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2021	Metabolism	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		
NATS 3040	Topics in Medical Science	10
BIOS 3014	Genes, Genomics and Human Health	10
Choose two electives		20
	Credit Points	40
Spring session		
NATS 3034	Molecular Medicine	10
Choose three electives		30
	Credit Points	40
	Total Credit Points	250

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

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

Course	Title	Credit Points
Year 1		
Autumn session		
NATS 1019	Scientific Literacy	10
CHEM 1008	Introductory Chemistry	10
NATS 1009	Human Anatomy and Physiology 1	10
Choose one of		10
MATH 1014	Mathematics 1A	
MATH 1026	Quantitative Thinking	
MATH 1003	Biometry	
	Credit Points	40
Spring session		
BIOS 1012	Cell Biology	10
CHEM 1012	Essential Chemistry	10
NATS 1010	Human Anatomy and Physiology 2	10
Choose one elective		10
	Credit Points	40
Year 2		
Autumn session		
BIOS 2042	Biochemistry	10
BIOS 2018	Genetics	10

NATS 2033	Cell Form and Function	10
Choose one elective		10
	Credit Points	40
Spring session		
BIOS 3027	Molecular Biology of the Cell	10
BIOS 2021	Metabolism	10
Choose one of		10
NATS 3044	Complex Case Studies in Science	
NATS 3045	Work Internship for Science Professionals	
And one subject from chosen Education minor		10
	Credit Points	40
Year 3		
Autumn session		
NATS 3040	Topics in Medical Science	10
BIOS 3014	Genes, Genomics and Human Health	10
And two subjects from chosen Education minor		20
	Credit Points	40
Spring session		
NATS 3034	Molecular Medicine	10
And one subject from chosen Education minor		10
Choose two electives		20
	Credit Points	40
	Total Credit Points	240

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-studiessecondary-teaching-minor/)

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

# **Related Programs**

Bachelor of Advanced Medical Science (3758) (https:// hbook.westernsydney.edu.au/programs/bachelor-advanced-medicalscience/)

Bachelor of Medical Science (3755) (https://

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

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