# **Bachelor of Biomedical Science**

**COURSE CODE: HBBS** 

CAMPUS	St Albans (SA)
COLLEGE	College of Sport, Health and Engineering
STUDY MODE	Full Time or Part Time
DURATION	3 years Full Time or Part Time equivalent
FEE TYPE	For information on course fees, refer to http://vu.edu.au/fees
APPLICATION METHOD	VTAC - https://vtac.edu.au Direct Application - https://gotovu.custhelp.com/app/landing
TIMETABLE	vu.edu.au/timetables
COURSE REQUIREMENTS	To attain the Bachelor of Biomedical Science students will be required to complete 288 credit points consisting of:

- 96 credit points of First Year Core studies;
- 96 credit points of Major studies;

Plus One (1) of the following:

#### Option A:

96 credit points of second Major studies;

OR

#### Option B:

96 credit points of Minor studies (Two Minor sets in total):

Please Note: Students that select Option A must choose 12 credit points in place of HBM3202 Applied Biomedical Science, as this unit is covered in the first Major study. Students are able to select a unit from within any of the Minors offered in this course, in consultation with the Course Coordinator and according to unit pre-requisites.

FURTHER INFORMATION	Unit and course information is available from the University course search site at http://vu.edu.au/course-search or go to https://askvu.vu.edu.au or Phone VUHQ on 03 9919 6100
COURSE CHAIR	Anthony Zulli
COURSE ADVICE	AskVU https://askvu.vu.edu.au/app/askcua

Note: Students are required to enrol in all units for semester 1 and 2, and are not permitted to enrol in more than 48 credit points per semester as a full-time load.



Core/Elective Core (a unit that must be completed) & Elective (you have some choice in what you select).

Prerequisites A number of units within the degree have 'prerequisites'. These prerequisites must be met before enrolment in the unit is permitted. Generally these prerequisites require the successful completion of a unit or units taken at an earlier stage in the course. Students should pay particular attention to these prerequisite requirements as failure to meet these can seriously hinder progression through the course.

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### YEAR 1

UNIT CODE	UNIT TITLE	UNIT TYPE	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
HBM1002	Biological Systems	Core	1B1, SB1	12	SA	
RBM1100	Functional Anatomy of the Trunk	Core	1B2, 1B3, 1B4	12	SA	
RBM1518	Human Physiology 1	Core	1B2, 1B3, 1B4, WB1	12	FP	
			1B2, 1B3, 1B4		SA	
RCS1601	Chemistry 1A	Core	1B2, 1B3, 1B4, 2B1	12	FP, SA	
RBM1200	Functional Anatomy of the Limbs	Core	2B1, 2B2, 2B3, 2B4	12	SA	
HHH1001	Mathematics and Statistics for Biomedicine	Core	2B1, 2B3	12	FP	
RBM1528	Human Physiology 2	Core	2B1, 2B2, 2B3, 2B4	12	FP	RBM1518
			1B4, 2B2, 2B3, 2B4		SA	
RCS1602	Chemistry 1B	Core	2B2, 2B3, 2B4	12	FP	RCS1601
			2B2, 2B4		SA	

### YEAR 2

UNIT CODE	UNIT TITLE	UNIT Type	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
	Major 1 - Unit 1	Major		12		
	Major 1 - Unit 2	Major		12		
	Major 1 - Unit 3	Major		12		
	Major 1 - Unit 4	Major		12		
	Major 2 - Unit 1	Major		12		
	Major 2 - Unit 2	Major		12		
	Major 2 - Unit 3	Major		12		
	Major 2 - Unit 4	Major		12		



### YEAR 3

UNIT CODE	UNIT TITLE	UNIT TYPE	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
	Major 1 - Unit 5	Major		12		
	Major 1 - Unit 6	Major		12		
	Major 2 - Unit 5 <b>Or</b> Minor 1 - Unit 1	Major/Minor		12		
	Major 2 - Unit 6 <b>Or</b> Minor 1 - Unit 2	Major/Minor		12		
	Major 1 - Unit 7	Major		12		
	Major 1 - Unit 8	Major		12		
	Major 2 - Unit 7 <b>Or</b> Minor 1 - Unit 3	Major/Minor		12		
	Major 2 - Unit 8 <b>Or</b> Minor 1 - Unit 4	Major/Minor		12		

List of major/s available in this course HMAHPH **Human Physiology HMAMCB** Molecular Cell Biology

List of minor/s available in this course **HMIAPP** Applied Research

**HMIHPH** Anatomy & Integrated Physiology

**HMIMCB** Molecular Cell Biology

#### **MAJORS**

#### **Human Physiology HMAHPH**

The Human Physiology major provides an integrated suite of units which builds upon the fundamentals of anatomy and physiology covered in the College core units. Specifically, students will learn about regional and rehabilitation anatomy, cardiorespiratory, renal and neuromuscular physiology and associated diseases. The relationships between gastrointestinal function, diet, nutrition, metabolism and human health will be covered, including examining the role of diet in chronic diseases and its importance in growth and development. In the final year, students will draw on their knowledge and apply their learning in different contexts in the two capstone units, Applied Biomedical Sciences and Integrative Physiology.

UNIT CODE	UNIT TITLE	UNIT TYPE	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
Year 2						
HBM2103	Digestion, Nutrition and Metabolism	Major	1B2, 1B3, 1B4	12	SA	RBM1528; or RBM1174; or HBM1202
RBM2100	Rehabilitation Anatomy	Major	1B1, 1B2, 1B3, 1B4	12	SA	RBM1200; or AHE1101; and AHE2202
RBM2200	Functional Anatomy of the Head and Back	Major	2B1, 2B2, 2B3, 2B4	12	SA	RBM1100, RBM1200
RBM2800	Cardiorespiratory and Renal Physiology	Major	2B2	12	FP	RBM1528
			2B3		SA	
Year 3						
RBM3264	Advanced Nerve and Muscle Physiology	Major	1B1, 1B2, 1B3	12	SA	RBM2800
HBM3202	Applied Biomedical Science	Major	1B2, 1B4	12	SA	RBM2133, HBM2106, RBM2200, RBM2800
HBM3203	Integrative Physiology	Major	2B1, 2B4	12	SA	RBM2800
RBM3640	Advanced Neurosciences	Major	1B4, 2B1, 2B2, 2B3, 2B4	12	SA	RBM2100; or RBM2540; or RBM2800



#### Molecular Cell Biology HMAMCB

The Molecular Cell Biology major builds on the knowledge of introductory cell function and molecular mechanisms, acquired from the first year core units. The suite of units offered in this major focuses on the investigation of the human body at the molecular and cellular levels, with emphasis on the molecular basis of disease. Understanding the molecular techniques utilized in molecular biomedicine will underpin this major. Students will develop both theoretical and laboratory skills essential for becoming successful professionals in both research and clinical based biomedical science.

UNIT CODE	UNIT TITLE	UNIT TYPE	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
Year 2						
HBM2105	Medical Microbiology and Immunity	Major	2B1, 2B2, 2B4	12	SA	RBM1528; or RBF1310
HBM2106	Human Genetics	Major	1B2, 2B1, 2B2, 2B4	12	SA	HBM1002, RBF1320
RBM2133	Cell and Molecular Biology	Major	1B1, 1B2, 1B3, 1B4, WB1	12	SA	RBM2560; and RBM1528; or RBF1310
RBM2560	Medical Biochemistry	Major	1B1, 1B2, 1B3, 1B4, 2B2	12	FP	RBM1528; or RBF1310; and RCS1602
Year 3						
RBM3720	Immunology	Major	1B1, 1B3, 1B4	12	SA	HBM2105
HBM3202	Applied Biomedical Science	Major	1B2, 1B4	12	SA	RBM2133, HBM2106, RBM2200, RBM2800
HBM3204	Biomolecular Mechanisms of Disease	Major	2B1, 2B2	12	SA	RBM2133, HBM2106
RBM3800	Pharmacology	Major	2B3, 2B4	12	SA	RBM2560, RBM2800

#### **MINORS**

#### **Applied Research HMIAPP**

This Minor provides the opportunity for students to focus on theoretical and practical skills essential for Biomedical Research. The importance of biomedical research in developing new treatments and understanding the underlying mechanisms of diseases underpins this minor. Following on from first year core units students will further develop their understanding of qualitative and quantitative research with an emphasis on critically reviewing scientific literature, statistical analysis and effective scientific communication.

UNIT CODE	UNIT TITLE	UNIT Type	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
HBM3101	Research Methods	Minor	1B2, 1B3, 1B4	12	FP	RBM2800



HBM3105	Research Project	Minor	2B1, 2B2, WB1	12	SA	HBM3101
HBM3106	Reproductive and Developmental Biology	Minor	1B1, 1B2, 1B4	12	SA	
RBM3265	Exercise Biochemistry and Integrated Metabolism	Minor	2B3, 2B4	12	FP	RBM2560

#### **Anatomy & Integrated Physiology HMIHPH**

The Anatomy & Integrative Physiology minor introduces the students to the gross anatomy of the head, neck and back and the application of anatomy in medicine will be highlighted in clinical scenarios. The integrative nature of the cardiovascular, renal, respiratory systems will be interrogated further, building on basic physiological principals covered in Human Physiology in Year 1. The relationship between gastrointestinal physiology, nutrition and human health is also covered. Upon completion of this minor students will have an understanding of the link between anatomy, physiology, nutrition, metabolism and health.

UNIT CODE	UNIT TITLE	UNIT TYPE	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
HBM2103	Digestion, Nutrition and Metabolism	Minor	1B2, 1B3, 1B4	12	SA	RBM1528; or RBM1174; or HBM1202
RBM2100	Rehabilitation Anatomy	Minor	1B1, 1B2, 1B3, 1B4	12	SA	RBM1200; or AHE1101; and AHE2202
RBM2200	Functional Anatomy of the Head and Back	Minor	2B1, 2B2, 2B3, 2B4	12	SA	RBM1100, RBM1200
RBM2800	Cardiorespiratory and Renal Physiology	Minor	2B2	12	FP	RBM1528
			2B3		SA	

#### Molecular Cell Biology HMIMCB

The Molecular Cell Biology minor builds on the knowledge of introductory cell function and molecular mechanisms, acquired from the first year core units. The suite of units offered in this minor focuses on the investigation of the human body at the molecular and cellular levels. Key concepts in microbiology, human genetics and biochemistry will be taught and utilized to understand human disease at the molecular level.

UNIT CODE	UNIT TITLE	UNIT Type	SEM	CREDIT POINTS	CAMPUS	PRE-REQUISITES
HBM2105	Medical Microbiology and Immunity	Minor	2B1, 2B2, 2B4	12	SA	RBM1528; or RBF1310
HBM2106	Human Genetics	Minor	1B2, 2B1, 2B2, 2B4	12	SA	HBM1002, RBF1320



RBM2133	Cell and Molecular Biology	Minor	1B1, 1B2, 1B3, 1B4, WB1	12	SA	RBM2560; and RBM1528; or RBF1310
RBM2560	Medical Biochemistry	Minor	1B1, 1B2, 1B3, 1B4, 2B2	12	FP	RBM1528; or RBF1310; and RCS1602