

FACULTY OF HEALTH SCIENCES  
Bachelor's Degree Programmes

**Bachelor of Science**  
• **Bioinformatics**

Year I		Credits
<b>Compulsory Major</b>		
HSCI1000	General Chemistry	3
HSCI1002	Introduction to Biological Sciences	3
HSCI1003	General and Clinical Biochemistry	3
HSCI1004	Biochemistry Lab	1.5
MATH1001	Linear Algebra I	3
MATH1007	Introduction to Probability	1
<b>Languages and Skills*</b>		
	English Language Courses or Free Electives	6
	Chinese/Portuguese Language Courses or Free Electives	3
<b>Community and Peer Education</b>		2
<b>General Education</b>		
GELH1000	Chinese Language and Culture (Area of Literature & Humanities)	3
GEST1003	Quantitative Reasoning for Health Sciences (Area of Science & Technology)	3
	1 General Education Course	3
<b>Total Credits:</b>		<b>34.5</b>

<b>Year II</b>		<b>Credits</b>
<b>Compulsory Major</b>		
CISC1001	Programming Science	3
CISC1004	Introduction to Computer Science	3
HSCI2000	Cell and Molecular Biology	3
HSCI2001	Cell and Molecular Biology Lab	1.5
HSCI2002	General and Clinical Microbiology	3
HSCI2004	Genetics and Epigenetics	3
HSCI2006	Physiology and Pathophysiology	3
HSCI3002	Immunology and Infectious Diseases	3
HSCI3003	Biostatistics and Experimental Design	3
<b>Languages and Skills*</b>		
	English Language Courses or Free Electives	3
	Information Technology Courses	3
<b>Community and Peer Education</b>		1
<b>General Education</b>		
GEA1000	Macao and Chinese Civilization	3
<b>Total Credits:</b>		<b>35.5</b>
<b>Year III</b>		<b>Credits</b>
<b>Compulsory Major</b>		
CISC2003	Object Oriented Programming and Data Structures	3
CISC3000	Introduction to Database Systems	3
HSCI2008	Human Anatomy	3
HSCI3004	Genomics and Bioinformatics	3
HSCI3005	Genetics, Genomics and Bioinformatics Lab	1.5
HSCI3006	Advanced Bioinformatics	3
HSCI3016	Evolutionary Biology	3
HSCI3017	Medical Genetics	3
<b>Required Elective</b>		
	2 Required Elective Courses	6
<b>General Education</b>		
GESB1000	Ethics, Values, Law and Society (Area of Society & Behaviour)	3
	1 General Education Course	3
<b>Total Credits:</b>		<b>34.5</b>

<b>Year IV</b>		<b>Credits</b>
<b>Compulsory Major</b>		
HSCI4000	Graduation Project I	3
HSCI4005	Graduation Project II	3
HSCI4006	Public Health	3
HSCI4007	Translational Medicine	3
HSCI4011	Pharmacoinformatics	3
HSCI4012	Bioinformatics in Action	3
<b>Required Elective</b>		
	1 Required Elective Course	3
<b>General Education</b>		
	2 General Education Courses	6
<b>Total Credits:</b>		<b>27</b>
<b>GRAND TOTAL:</b>		<b>131.5</b>

<b>List of Required Elective Courses:</b>		<b>Credits</b>
CISC1006	Probability and Statistics	3
CISC2002	Numerical Methods and Computation	3
CISC3011	Digital Image Processing	3
CISC3012	Artificial Intelligence	3
CISC3015	Data and Information Visualization	3
CISC3023	Machine Learning	3
HSCI3014	Pharmacy Administration	3
HSCI4010	Pharmaceutical Economics and Policy	3

\*Students who test out of some or all of the Languages and Skills course(s) are required to make up the credits by taking additional Free Elective(s). Please visit the Registry's webpage (<https://reg.um.edu.mo/current-students/curriculum-model/ug-curriculum-model/languages-and-skills/>) for more details about the test out criteria.