

Bachelor of Science in Bioinformatics

Year I		Credits
<i>Compulsory Major Courses</i>		
CISC1001	Programming Science	3
HSCI1002	Introduction to Biological Sciences	3
HSCI1003	General and Clinical Biochemistry	3
<i>Language and Skills Courses*</i>		
CISC1000	Information Technology Fundamentals and Practices	3
EELC1001	Interactive English I	3
EELC1002	Interactive English II	3
<i>Community and Peer Education Courses</i>		
CPED1000	Residential College Experiential Learning	1
CPED1001	Physical Education I	0.5
CPED1002	Physical Education II	0.5
<i>General Education Courses</i>		
GEA1000	Macao and Chinese Civilization (Area of Global Awareness)	3
GELH1000	Chinese Language and Culture (Area of Literature & Humanities)	3
GESB1000	Ethics, Values, Law and Society (Area of Society & Behaviour)	3
GEST1003	Quantitative Reasoning for Health Sciences (Area of Science and Technology)	3
Total Credits:		32
Year II		Credits
<i>Compulsory Major Courses</i>		
CISC1002	Discrete Structures	3
CISC2003	Object Oriented Programming and Data Structures	3
CISC2006	Algorithm Design and Analysis	3
HSCI2000	Cell and Molecular Biology	3
HSCI2004	Genetics and Epigenetics	3
MATH1001	Linear Algebra I	3
<i>Required Elective Course</i>		
	1 Required Elective Course	3

*Language and Skills Course**

EELC1003	Academic English	3
1 Language and Skills Course selected from the following:		3
CHLL1000	University Chinese or	
PORT1000	Portuguese Language I - Introductory Portuguese	

Community and Peer Education Course

CPED1003	Communication Skills and Leadership	1
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General Education Course

1 course from area of Global Awareness	3
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Free Elective Course

1 Free Elective Course	3
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Total Credits: **34**

Year III

Credits

Compulsory Major Courses

CISC3000	Introduction to Database Systems	3
HSCI3003	Biostatistics and Experimental Design	3
HSCI3004	Genomics and Bioinformatics	3
HSCI3006	Advanced Bioinformatics	3

Required Elective Courses

3 Required Elective Courses	9
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General Education Courses

1 course from area of Society and Behaviour	3
1 course from area of Science and Technology	3

Free Elective Course

1 Free Elective Course	3
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Total Credits: **30**

Year IV		Credits
<i>Compulsory Major Courses</i>		
HSCI4000	Graduation Project I	3
HSCI4005	Graduation Project II	3
<i>Required Elective Courses</i>		
	3 Required Elective Courses	9
<i>General Education Course</i>		
	1 course from area of Literature and Humanities	3
<i>Free Elective Courses</i>		
	2 Free Elective Courses	6
Total Credits:		24

List of Required Elective Courses:

CISC1004	Introduction to Computer Science	3
CISC1006	Probability and Statistics	3
CISC2002	Numerical Methods and Computation	3
CISC3003	Web Programming	3
CISC3005	Advanced Database Systems	3
CISC3011	Digital Image Processing	3
CISC3012	Artificial Intelligence	3
CISC3014	Information Retrieval and Web Search	3
CISC3015	Data and Information Visualization	3
CISC3018	Cloud Computing and Big Data Systems	3
CISC3023	Machine Learning	3
CISC3024	Pattern Recognition	3
HSCI3005	Genetics, Genomic and Bioinformatics Lab	1.5
HSCI4001	Cancer Biology and Therapy	3
HSCI4002	Stem Cell Biology and Regenerative Medicine	3
HSCI4006	Public Health	3
HSCI4007	Translational Medicine	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 REG's webpage (https://req.um.edu.mo/current-students/uqmodel/lang_skills/) for more details about the test out criteria.