BIOLOGY AND MATHEMATICS – SPECIALIZATION (SCIENCE) – BACHELOR OF SCIENCE (HONOURS)

Plans of study for students who were admitted to a Biology and Mathematics Specialization after May 1, 2016
BIMA-P-BSH
Subject: Administered by the Departments of Biology and Mathematics and Statistics.
Plan: Consists of 84.0 units as described below.
Program: The Plan, with sufficient electives to total of 120.0 units, will lead to a Bachelor of Science (Honours) Degree.

Requirements for this program have been modified. Please consult the 2020-2021 Calendar for the previous requirements.

Code	Title	Units
1. Core		
Biology:		
A. Complete the following:		6.00
BIOL 102	Fundamentals of Biology: Molecular and Cell Biology	
BIOL 103	Fundamentals of Biology: Organisms to Ecosystems	
B. Complete the following:		6.00
CHEM 112	General Chemistry	
C. Select 12.00 units from the following:		12.00
BIOL 200	Diversity Of Life	
BIOL 205	Mendelian and Molecular Genetics	
BIOL 206	Evolutionary Genetics	
BIOL 212	Scientific Methods in Biology	
D. Complete the following:		3.00
BIOL 300	Ecology	
E. Select 3.00 units from the following:		3.00
BIOL 334	Comparative Biochemistry	
BIOL 339	Animal Physiology	
BIOL 341	Plant Physiology	
F. Complete 3.00 units from the following:		3.00
BIOL 330	Cell Biology	
Mathematics:		
G. Select 6.00 units from the following:		6.00
MATH 110	Linear Algebra	
MATH 111	Linear Algebra	
H. Select 6.00 units from the following:		6.00
MATH 120	Differential and Integral Calculus	
MATH 121	Differential and Integral Calculus	
MATH 123	Differential and Integral Calculus I	
MATH 124	Differential and Integral Calculus II	
I. Select 3.00 units from the following:		3.00
MATH 221	Vector Calculus	
MATH 280	Advanced Calculus	
J. Select 3.00 units from the following:		3.00
MATH 225	Ordinary Differential Equations	
MATH 231	Differential Equations	
K. Select 3.00 units from the following:		3.00
STAT 252	Introductory Applied Probability	
STAT 268	Statistics and Probability I	
STAT 351	Probability I	
L. Select 3.00 units from the following:		3.00
BIOL 243	Introduction to Statistics	
STAT 269	Statistics and Probability II	
M. Complete the following:		6.00
BIOM 300	Modeling Techniques in Biology	
MATH 339	Evolutionary Game Theory	
2. Option		
A. Select 6.00 units from the following:		6.00
BIOL at the 300 level or above		
BIOL_Subs_A		
BIOL_Subs_B		
B. BIOL		3.00
C. Select 6.00 from the following:		6.00
MATH at the 300 level or above		
STAT at the 300 level or above		
D. Select 6.00 units from the following		6.00
MATH		
STAT		
Electives		
Elective Courses		36.00
Total Units		**120.00**

3. Substitutions

A. BCHM 310/9.0 (or the combination of BCHM 315 Proteins and Enzymes and BCHM 316 Metabolism) may be substituted for 3.0 units from (BIOL 339 Animal Physiology or BIOL 341 Plant Physiology or BIOL 334 Comparative Biochemistry) with the remaining units applied toward Option Course requirements in the degree program.

B. Students registered in a BIOL Plan prior to May 1, 2016 may use BCHM 218 Molecular Biology as an alternative to BIOL 330 Cell Biology to satisfy requirement 1.F.

4. Note

A. A maximum of 6.0 units from courses offered by other Faculties and Schools may be counted toward the program and/or Plan Requirements. This includes courses in BMED, COMM, GLPH, LAW, NURS and courses in the Faculty of Engineering and Applied Science.

Biology and Mathematics Course Lists

The following lists contain courses offered through other Departments. In accordance with Academic Regulation 2.5 (Access to Classes), students do not have enrolment priority in all of these courses. Access to these courses may only be made available during the Open Enrolment period, and then only if space permits.

BIOL_Subs_A

Code	Title	Units
Biology Substitutions List A		
ANAT at the 300 level or above		
BCHM at the 300 level or above		
LISC at the 300 level or above		
MICR 221	Basic Microbiology	3.00
MICR 271	Introduction to Microbiology	3.00
MICR at the 300 level or above		
PATH at the 300 level or above		
PHGY at the 300 level or above		

BIOL_Subs_B

Code	Title	Units
Biology Substitutions List B		
APSC 400	Technology, Engineering & Management (TEAM)	7.00
CHEE 400	Technology, Engineering & Management (TEAM)	7.00
CHEM at the 200 level or above		
ENSC 301	Environmental Assessment	3.00
ENSC 307	Marine Environmental Issues	3.00
ENSC 320	Wildlife Issues in a Changing World	3.00
ENSC 390	Sustainability	3.00
ENSC 425	Ecotoxicology	3.00
ENSC 471	Environmental Analysis Methods	3.00
EPID 301	Principles of Epidemiology	3.00
GEOL 337	Paleontology	3.00
GEOL 466	Isotopes and the Environment	3.00
GPHY 304	Northern and Arctic Environments	3.00
GPHY 306	Natural Environmental Change	3.00
GPHY 310	Landscape Ecology	3.00
GPHY 314	Climate Change	3.00
GPHY 315	Advanced Field Measurements and their Analysis	3.00
GPHY 318	Advanced Biogeography	3.00
GPHY 339	Medical Geography	3.00
HLTH 323	Epidemiology	3.00
PHAR 340	Principles of General Pharmacology I	3.00
PHAR 370	Fundamentals of Pharmacology and Therapeutics	3.00
PHIL 301	Bioethics	3.00
PSYC 236	Introdution to Clinical Psychology	3.00
PSYC 271	Brain and Behaviour I	3.00
PSYC 370	Brain and Behaviour II	3.00
PSYC 470	Advanced Topics in Behavioural Neuroscience	3.00
STAT 353	Probability II	3.00