

B.S. in Bioinformatics - Applied Mathematics Minor

Code	Title	Semester Hours
St. Mary's University Core ¹		
SMC 1301	Foundations of Civilization	3
SMC 1311	Foundations of Reflection:Self	3
SMC 1312	Foundations of Reflection: Nature	3
SMC 1313	Foundations of Reflection: Others	3
SMC 1314	Foundations of Reflection: God	3
SMC 2301	Foundations of Practice: Ethics	3
SMC 2302	Foundations of Practice: Civic Engagement and Social Action	3
SMC 2303	Foundations of Practice:Fine Arts and Creative Process	3
SMC 2304	Foundations of Practice: Literature	3
School of Science, Engineering, and Technology Specific Core		
Speech		3
Select one of the following:		
CM 1341	Fundamentals of Oral Communication	
CM 2333	Business and Professional Communication	
CM 3391	Argumentation and Debate	
Rhetoric & Composition ²		3
EN 1311	Rhetoric and Composition	
Foreign Languages		6
Select one of the following:		
6 hours at the sophomore level (2311, 2312) in a Foreign Language previously studied for a minimum of one year		
6 hours of introductory level (1311, 1312) in a Foreign Language not previously studied		
12 hours of CLEP/AP credit		
History/Social Science		3
BA 1310	Fundamentals of Business Enterprise	
CJ 1301	Introduction to Criminal Justice	
CJ 3300	Adjudication of Social Issues	
EC 2301	Introductory Macroeconomic Theory	
EC 2303	Introductory Microeconomic Theory	
HU 3303	Perspectives and Themes in Social Science	
MN 3330	Organizational Behavior	
PO 1311	American National Government	
PO 1312	Texas State & Local Government	
PO 1314	Introduction to Global Affairs	
PS 1301	General Psychology	
SC 1311	Introductory Sociology	
SC 3321	Social Issues	
Fine Arts/Literature - Select one from AR, DM, MU or any EN23XX literature course		3
Advanced Theology TH 33XX/43XX		3
School of Science, Engineering, and Technology Courses		
BL 1401	General Biology for Majors I	4
BL 1402	General Biology for Majors II	4
BL 2330	Genetic Principles	3
BL 2332	Cell Biology	3
CH 1401	General Chemistry I	4
CH 1402	General Chemistry II	4
CS 1310	Programming I	3

MT 2303	Introduction to Probability and Statistics	3
MT 2412	Calculus I	4
MT 2413	Calculus II	4
MT 3414	Calculus III	4
MT 4331	Probability Theory	3
MT 2318	Applied Linear Algebra	3
Math Electives		3
MT 3311	Differential Equations	
MT 4333	Applied Statistical Methods	
Bioinformatics Courses		
BIO 3311	Biostatistics for Life Sciences	3
BIO 3312	Algorithms for Computational Biology with PERL	3
BIO 3313	Big Data Concepts	3
BIO 3314	Internship/Research	3
BIO 3411	Introduction to Bioinformatics	4
BIO 4311	Bioinformatics Programming with R	3
BIO 4312	Bioinformatics Capstone	3
BIO 4411	Genes, Genomes and Genomics	4
BIO 4412	Transcriptomics, Proteomics and Metabolomics	4
Proficiency in Information Technology and Information Literacy		
For this major, this requirement will be fulfilled by successfully completing BL 2233.		

Total Semester Hours

127

First Year

Fall	Semester Hours Spring	Semester Hours
BL 1401	4 BL 1402	4
CH 1401	4 CH 1402	4
SMC 13XX	3 MT 2412	4
SMC 13XX	3 EN 1311	3
ND 0101	0 SMC 13XX	3
	14	18

Second Year

Fall	Semester Hours Spring	Semester Hours
BL 2332 or 2330	3 BIO 3311	3
CS 1310	3 BIO 3411	4
MT 2303	3 BL 2330 or 2332	3
MT 2413	4 MT 3414	4
SMC 13XX	3 SMC 13XX	3
	16	17

Third Year

Fall	Semester Hours Spring	Semester Hours Summer	Semester Hours
BIO 3312	3 BIO 3313	3 BIO 3314	3
BIO 4411	4 BIO 4412		4
MT 2318	3 MT 3311		3
Social Science	3 SMC 23XX		3
SMC 23XX	3 SMC 23XX		3
	16	16	3

Fourth Year

Fall	Semester Hours Spring	Semester Hours
BIO 4311	3 BIO 4312	3
MT 4331	3 Foreign Language II	3
Fine Arts/Literature	3 Speech/Communication	3

Foreign Language I	3	Advanced Theology	3
SMC 23XX	3		
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	15		12
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Total Semester Hours 127			