

Appendix C

BACHELOR OF SCIENCE IN BIOINFORMATICS-BIOLOGY MINOR			
FALL	HRS	SPRING	HRS
FIRST YEAR COURSE			
SMC 1301 Foundations of Civilization	3	SMC 1312 Foundations of Reflection: Nature	3
CH 1401 General Chemistry I	4	BL 1402 General Biology for Majors II	4
BL 1401 General Biology for Majors I	4	CH 1402 General Chemistry II	4
SMC 1311 Foundations of Reflection: Self	3	MT 2412 Calculus I	4
ND 0101 Personal & Academic Development	0	EN 1311 Rhetoric & Composition	3
Total	14	Total	18
SECOND YEAR COURSES			
BL 2233 Cell and Molecular Methods	2	SMC 1313 Foundations of Reflection: Others	3
BL 2332 Cell Biology	3	BIO 3411 Intro to bioinformatics	4
CS 1310 Programming I	3	CH 3412 Organic Chemistry II	4
CH 3411 Organic Chemistry I	4	BIO 3311 Biostatistics for Life Sciences	3
MT 2303 Intro to Probability and Statistics	3	BL 2330 Genetic Principles	3
Total	15	Total	17
THIRD YEAR COURSES*			
SMC 1314 Foundations of Reflection: God	3	SMC 2301 Foundations of Practice - Ethics	3
Social Science	3	BIO 3313 Big Data Concepts	3
BIO 3312 Algorithms for Computational Biology with PERL	3	BIO 4412 Transcriptomics, Proteomics and Metabolomics	4
BL 4451 Biochem I	4	SMC 2302 Foundations of Practice	3
BIO 4411 Genes, Genomes and Genomics	4	PY1401 General Physics I	4
Total	17	Total	17
THIRD YEAR SUMMER		BIO XXXX Internship/Research	3
FOURTH YEAR COURSES			
SMC 2303 Foundations of Practice	3	TH 33XX Advanced Theology	3
Speech/Communication	3	Fine Arts	3
Foreign Language I	3	Foreign Language II	3
SMC 2304 Foundations of Practice	3	BIO 4312 Bioinformatics Capstone	3
BIO 4311 Bioinformatics Programming with R/ BIO 4313 Special Topics in Bioinformatics	3		
Total	15	Total	12
TOTAL OF 128 Credit HRS			

*Students will take a summer research/internship course after the third year of course.

BACHELOR OF SCIENCE IN BIOINFORMATICS-COMPUTER SCIENCE MINOR			
FALL	HRS	SPRING	HRS
FIRST YEAR COURSE			
SMC 1301 Foundations of Civilization	3	SMC 1312 Foundations of Reflection: Nature	3
CH 1401 General Chemistry I	4	BL 1402 General Biology for Majors II	4
BL 1401 General Biology for Majors I	4	CH 1402 General Chemistry II	4
SMC 1311 Foundations of Reflection: Self	3	MT2412 Calculus I	4
ND 0101 Personal & Academic Development	0	EN 1311 Rhetoric & Composition	3
Total	14	Total	18
SECOND YEAR COURSES			
SMC 1313 Foundations of Reflection: Others	3	SMC 1314 Foundations of Reflection: God	3
BL 2332 Cell Biology	3	BIO 3411 Intro to bioinformatics	4
CS 1310 Programming I	3	CS 1311 Programming II	3
Social Science	3	BIO 3311 Biostatistics for Life Sciences	3
MT 2303 Intro to Probability and Statistics	3	BL 2330 Genetic Principles	3
Total	15		16
THIRD YEAR COURSES*			
SMC 2301 Foundations of Practice - Ethics	3	SMC 2302 Foundations of Practice	3
BIO 3312/CSXXXX Algorithms for Computational Biology with PERL	3	BIO 3313 Big Data Concepts	3
CS 2313 Object Oriented Programming I	3	BIO 4412 Transcriptomics, Proteomics and Metabolomics	4
BIO 4411 Genes, Genomes and Genomics	4	CS 3340 Software Engineering	3
CS 3310 Systems Analysis and Design	3	SMC 2303 Foundations of Practice	3
Total	16	Total	16
THIRD YEAR SUMMER		BIO 3314 Internship/Research	3
FOURTH YEAR COURSES			
SMC 2304 Foundations of Practice	3	TH 33XX Advanced Theology	3
CS 4320 Files and Databases	3	Speech/Communication	3
Foreign Language I	3	Foreign Language II	3
Fine Arts	3	BIO 4312 Bioinformatics Capstone	3
BIO 4311/CSXXXX Bioinformatics Programming with R/ BIO 4313 Special Topics in Bioinformatics	3		
Total	15	Total	12
Total of 125 Credit HRS			

*Students will take a summer research/internship course after the third year of course.

BACHELOR OF SCIENCE IN BIOINFORMATICS-APPLIED MATHEMATICS MINOR			
FALL	HRS	SPRING	HRS
FIRST YEAR COURSE			
SMC 1301 Foundations of Civilization	3	SMC 1312 Foundations of Reflection: Nature	3
CH 1401 General Chemistry I	4	BL 1402 General Biology for Majors II	4
BL 1401 General Biology for Majors I	4	CH 1402 General Chemistry II	4
SMC 1311 Foundations of Reflection: Self	3	MT 2412 Calculus I	4
ND 0101 Personal & Academic Development	0	EN 1311 Rhetoric & Composition	3
Total	14	Total	18
SECOND YEAR COURSES			
SMC 1313 Foundations of Reflection: Others	3	SMC 1314 Foundations of Reflection: God	3
BL 2332 Cell Biology	3	BIO 3411 Intro to bioinformatics	4
MT2413 Calculus II	4	MT3414 Calculus III	4
CS 1310 Programming I	3	BIO 3311 Biostatistics	3
MT 2303 Intro to Probability and Statistics	3	BL 2330 Genetic Principles	3
Total	16		17
THIRD YEAR COURSES*			
SMC 2301 Foundations of Practice - Ethics	3	SMC 2302 Foundations of Practice	3
BIO 4411 Genes, Genomes and Genomics	4	BIO 3313 Big Data Concepts	3
Social Science	3	BIO 4412 Transcriptomics, Proteomics and Metabolomics	4
BIO 3312/CSXXXX Algorithms for Computational Biology with PERL /BIO 4313 Special Topics in Bioinformatics	3	MT 3311 Differential Equations/MT4333 Applied Statistical Methods	3
MT XXXX Applied Linear Algebra	3	SMC 2303 Foundations of Practice	3
Total	16	Total	16
THIRD YEAR SUMMER		BIO 3314 Internship/Research	3
FOURTH YEAR COURSES			
SMC 2304 Foundations of Practice	3	TH 33XX Advanced Theology	3
MT4331 Probability Theory	3	Speech/Communication	3
Foreign Language I	3	Foreign Language II	3
Fine Arts	3	BIO 4312 Bioinformatics Capstone	3
BIO 4311/CSXXXX Bioinformatics Programming with R	3		
Total	15	Total	12
Total of 127 Credit HRS			

*Students will take a summer research/internship course after the third year of course.

REQUIREMENTS FOR A MINOR IN BIOINFORMATICS

Bioinformatics Courses (21 hours)			
Course Number	Course Title		Hours
BIO 3411	Introduction to Bioinformatics		4
BIO 3311	Biostatistics for Life Sciences		3
BIO 3312	Algorithms for Computational Biology with PERL		3
BIO 4411	Genes, Genomes, and Genomics		4
BIO 4412	Transcriptomics, Proteomics, and Metabolomics		4
	BIOINFORMATICS ELECTIVES (Choose One)		
BIO 3313	Big Data Concepts		3
BIO 4311	Bioinformatics Programming with R		3
BIO 4313	Special Topics in Bioinformatics		3