

**Bachelor of Science with Major in Mathematics
Concentration in Bioinformatics
(For Students entering in Fall 2008)**

Freshman Year / Fall Semester	Cr.	Freshman Year / Spring Semester	Cr.
___ 92.131 Calculus I	4	___ 92.132 Calculus II	4
___ 91.101 Computing I	4	___ 91.102 Computing II	4
___ 84.121 Chemistry I	3	___ 84.122 Chemistry II	3
___ 84.123 Chemistry I Lab	1	___ 84.124 Chemistry II Lab	1
___ 42.101 (Gen Ed) College Writing I	<u>3</u>	___ 42.102 (Gen Ed) College Writing II	<u>3</u>
	15		15

Sophomore Year / Fall Semester	Cr.	Sophomore Year / Spring Semester	Cr.
___ 92.231 Calculus III	4	___ 92.23 Differential Equations (234 or 236)	3
___ 92.221 Linear Algebra I	3	___ 92.222 Linear Algebra II	3
___ 91.201 Computing III	4	___ 81.112 Principles of Biology II	3
___ 81.111 Principles of Biology I	3	___ 81.114 Principles of Biology II Lab	1
___ 81.113 Principles of Biology I Lab	<u>1</u>	___ ._. (Gen Ed) AH	3
	15	___ ._. (Gen Ed) SS	<u>3</u>
			16

Junior Year / Fall Semester	Cr.	Junior Year / Spring Semester	Cr.
___ 92.321 Discrete Structures I (see note p. 2)	3	___ 92.322 Discrete Structures II	3
___ 92.____ Probability/Statistics Elective	3	___ 92.362 Numerical Analysis I	3
___ ._. (Gen Ed) AH	3	___ 91.301 Org. of Programming Lang.	3
___ ._. (Gen Ed) SS	3	___ ._. (Gen Ed) AH	3
___ 42.____ Writing Requirement	<u>3</u>	___ ._. (Gen Ed) SS	3
	15	___ 92.375 Senior Seminar I	<u>1</u>
			16

Senior Year / Fall Semester	Cr.	Senior Year / Spring Semester	Cr.
___ 92.____ Basic Analysis Elective	3	___ 92.____ Analysis Elective	3
___ 92.____ Math Elective	3	___ 91.404 Analysis of Algorithms	3
___ ._. Free Elective	3	___ ._. Bio/Chem Elective	3
___ ._. Bio/Chem Elective	3	___ ._. Free Elective	3
___ 92.475 Senior Seminar II	<u>3</u>	___ ._. Free Elective	<u>3</u>
	15		15

Minimum total credits = 120

Consult the *Schedule of Classes* booklet regarding General Education (Gen. Ed.) requirements.

Course selections are subject to restrictions. See reverse side for additional information.

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Notes:

No more than 60 mathematics credits can be counted towards the degree.
Preparation for Calculus (92.127) cannot be used as an elective.
Introduction to Data Analysis (92.363) cannot be used as a Math Elective.

Mathematics requirements: A minimum of 46 credits in the Mathematics Department, including: 92.131, 92.132, 92.231 (Calculus I-III); 92.221, 92.222 (Linear Algebra I,II); 92.234 or 92.236 (Differential Equations); 92.321 or 92.322 (Discrete Structures I or II); one basic analysis course (92.305, 92.411, 92.501, 92.503); one additional analysis course not used to fulfill another requirement (92.301, 92.305, 92.306, 92.322, 92.362, 92.411, 92.412, 92.413, 92.421, 92.420, 92.442, 92.450); one course in probability and statistics (92.385, 92.386, 92.486); 92.474 and 92.475 (Senior Seminar I and II); three mathematics electives at 300, 400 or 500 level, if prerequisites are met.

Note: A student may not take both 92.305 and 92.503 to satisfy the two-course analysis requirement. A student who uses 92.322 (Discrete Structures II) to satisfy the discrete structures requirement may not use it to satisfy the analysis requirement.

Writing Requirement: 42.229 (Essay Writing for Non-English Majors). If a student has completed other courses with substantial writing requirements, he/she can petition to have that work satisfy the mathematics writing requirement.

Students with a joint major in Computer Science should take 42.220 (Oral and Written Communication for CS Majors) rather than 42.229.

Bachelor of Science Requirements: A minimum of 74 credits and 20 courses from the offerings of science and mathematics; four science lecture courses with corequisite labs (2 from each of two Math/Science departments; or 4 from one Math/Science department; or 3 from Physics and 1 from the College of Engineering; or 2 from Physics and 2 from any one department in the College of Engineering).

General Education Electives must include at least 6 courses:

3 in Arts & Humanities (AH) and 3 in Social Sciences (SS); one course must satisfy the Diversity (D) requirement and one the Ethics (E) requirement. No more than two courses from a single department can be used to satisfy these Gen Ed requirements. Math/Science Gen Ed requirements are fulfilled by the major's courses.

Computer Science Minor: Successful completion of an appropriate CS course as a free elective satisfies the requirements for a Minor in Computer Science.

Computer Science Major: Successful completion of appropriate Computer Science Courses as free electives will satisfy the requirements for a Major in Computer Science. CS majors must take a course in Ethics in Computer Science.

Advice to Students: Any deviations from this sample program of study require permission of the Mathematics Undergraduate Coordinator or Department Chair. To receive written permission, use an Academic Petition form and keep a copy for your own files.