



Molecular Biology and Bioinformatics Emphasis

2011-12 catalog

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The emphasis in Molecular Biology and Bioinformatics is based on an interdisciplinary education centered in biology, chemistry, mathematics, and computer information systems. This study plan is geared to the student who is interested in careers in the fast growing area of Molecular Biology and Bioinformation in Biotechnology. Students completing this emphasis are ready for graduate school, professional school, or entry into industry. Students entering into the Molecular Biology and Bioinformatics emphasis should have a good background in math, science, and computers.

Molecular Biology and Bioinformatics Course Requirements

Biology Courses	Course Name	Cr.	Semester
BIOL 171	Career Planning	1	
BIOL 181/L	College Biology I-Organismal/Lab	4	
BIOL 182/L	College Biology II-Cellular/Lab	4	
BIOL 201/L or 202/L	Botany or Zoology/Lab	4	
BIOL 301/L	General Microbiology/Lab	5	
BIOL 350	Mendelian and Population Genetics	2	
BIOL 351/L	Molecular Biology and Genetics/Lab	4	
BIOL 352	Evolutionary Biology and Ecology	3	
BIOL 412/L	Cellular Biology/Lab	4	
BIOL 450/L	Survey of Genomics and Bioinformatics	3	
BIOL 493	Seminar	1	
Biology Electives*	See Electives Sheet	5	
	Biology Total	40	
Chemistry Courses			
CHEM 121/L	General Chemistry I/Lab	5	
CHEM 122/L	General Chemistry II/Lab	5	
CHEM 301/L	Organic Chemistry I/Lab	5	
CHEM 302/L	Organic Chemistry II/Lab	5	
CHEM 411	Biochemistry I	3	
CHEM 412/L	Biochemistry II/Lab	5	
	Chemistry Total	28	
Math Courses			
MATH 126	Calculus and Analytic Geometry I	5	
MATH 224	Calculus and Analytic Geometry II	5	
MATH 256	Probability for Engineers and Scientists	3	
MATH 356	Statistics for Engineers and Scientists	3	
	Math Total	16	
Physics Course			
PHYS 201/L OR PHYS 221/L	Principles of Physics I/Lab OR General Physics I/Lab	4 5	
PHYS 202/L OR PHYS 222/L	Principles of Physics II I/Lab OR General Physics II/Lab	4 5	
	Physics Total	8-10	
Other Courses			
CIS 171	Intro to Java Programming	4	
ENG 101/102	English Composition I and II	6	
SPCOM 103	Speaking and Listening	3	
History		3	
Humanities		6	
Social Sciences		6	
	Overall Total Credits	120-122	

***Suggested Biology Electives:** Medical Microbiology (302/L); Immunology (402); Molecular Genetics (440); Histology (421/L); Developmental Biology (432/L)