

BIOINFORMATICS MINOR

Given the cross-disciplinary nature of the field, the bioinformatics minor is composed of 25 credit hours, c.h., of classes in biology and CS.

CLASSES		25 CREDITS
Required		19 CREDITS
BIOL 104	Linux/Perl Programming	3
BIOL 105	Introduction to Biology (or BIOL 107 General Biology Lectures)	3
BIOL 214	Genetics	3
BIOL 4XX	Genomics/Transcriptomics (currently named BIOL 310)	3
CS 201	Accelerated Introduction to Computer Science (or CS 115/116 OO Prog. I/II)	4
CS 331	Data Structures & Algorithms	3
Electives		6 CREDITS
BIOL 114	Introduction to Human Biology (or BIOL 115 Human Biology Lectures)	3
BIOL 420	Population and Ecological Genetics	3
BIOL 445	Cell Biology	3
CS 330	Discrete Structures (or Math 230 Discrete Mathematics)	3
CS 422	Data mining	3
CS 425	Database Organization	3
MATH 425	Statistical Methods (or MATH 474 or 475)	3

Students doing a minor must complete a minimum of 15 c.h. not required by their major. Some of these courses are required by some majors and are thus ineligible for this 15 c.h. requirement, so it is important to demonstrate that this minor works for the anticipated majors from which students will be drawn. In the two most related and most anticipated constituencies, Biology and CS majors, this is illustrated below. In practice, with optimal scheduling:

- CS students may utilize 12 c.h. free electives, 6 c.h. Science electives and 12 c.h. CS electives to achieve this within their program minimum of 127 CH
- BIO students may use 12 c.h. technical electives and 3 c.h. Free electives, and need only 2 c.h. beyond their minimum of 126 C c.h. to achieve this minor
- Students from other majors with limited backgrounds in biology and/or computing science may need more additional c.h., depending on the specifics of required classes and electives for each major.

		BIO required		CS required	
			17		15
<i>BIOL 104</i>	3		3		3
<i>BIOL 105</i>	3	x			3
<i>BIOL 214</i>	3	x			3
<i>BIOL 4XX</i>	3		3		
<i>CS 201 OR (115+116)</i>	4	(115 yes)*	2	x	
<i>CS 331</i>	3		3	x	
<i>Electives</i>			6		6
<i>BIOL 114</i>	3				
<i>BIOL 420</i>	3				
<i>BIOL 445</i>	3	x			
<i>CS 330</i>	3			x	
<i>CS 422</i>	3				
<i>CS 425</i>	3			x	
<i>MATH 425 or 474 or 475</i>	3	x		x	

*CS115 may be taken in place of CS105 or 110 within BS BIO