

BS Bioinformatics revision 2017

This has been approved by:

- Biology, 2nd feb 2017

Rationale

A required class, CS105 is now viewed as redundant with CS115, which is also a required class. Students who take CS115, (or CS201 = CS115+116) are thus not allowed into CS105. Most students take CS115 in their first semester, and then are not allowed to take CS105 in subsequent semesters, producing an absurd situation in which they simultaneously:

- must take CS105 as a requirement of their degree, and
- cannot take CS105 due to curriculum overlap.

Currently this is dealt with in advising by ad hoc substitutions but this is confusing and irrational. As well, ad hoc solutions result in inconsistencies between students. CS105 is generally considered a non-majors introduction to CS for students who will not take higher level CS classes. However, Bioinformatics students take several upper division CS classes (see required classes). Currently, the few students who have gone through this new major (2) to this point do well in CS115 or 201, without CS105.

The solution proposed is simply to remove this redundant course in this program. Since this course is redundant, there is no reduction in rigor in the program. This will reduce the c.h. by 2 from 129-130 to 127-128 (depending on track options). This is still over the 126 c.h. IIT minimum.

All other program requirements remain the same.

Required courses

Bachelor of Science in Bioinformatics

	Credit Hours
Biology Requirements	29
BIOL 100, 104, 107, 115, 210, 214, 225, 310, 403, 451, 495	
Chemistry Requirements	12
CHEM 124, 125, 237	
Physics Requirements	11
PHYS 123, 221, 224	
Track Electives	9-10
<i>Computational Biology</i>	
MATH 252	4
BIO445, 446	6
<i>Applied Bioinformatics</i>	
MATH 332	3
CS 422, 425	6
Technical Electives	9
Mathematics Requirements	20
MATH151, 152, 251, 475, 476	
Computer Science Requirement	10
CS ((115 and 116) OR 201) 330, 331	
Humanities and Social Science Requirements	21
I PRO	6
Total	127-128

Sample schedule

BIOL 100	2	BIOL 115	2
BIOL 107	3	BIOL 104	3
CS 115	2	CS 116	3
CHEM 124	4	CHEM 125	4
MATH 151	5	MATH 152	5
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	16		17
BIOL 214	3	BIOL 210	3
PHYS 123	4	BIOL 225	2
CS 330	3	PHYS 221	4
MATH 251	4	track	4 *
H 2xx	3	S 2xx	3
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	17		16
CHEM 234	4	PHYS 224	3
tech elec	3	tech elec	3
MATH 475	3	BIOL 310	3
H 3xx	3	S 3xx	3
S 3xx	3	S 3xx	3
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	16		15
math 476	3	BIOL 451	2
track	3	BIOL 115	4
track	3	BIOL 104	1
H 3xx	3	tech elec	3
I PRO	3	H/S 1xx	3
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	15		16
			128

* or track elective for 3 c.h. in applied bioinformatics track, yielding TOTAL 127 c.h.