2022-23
Bioinformatics and Computational Biology (BCBio)
College of Liberal Arts and Sciences, Iowa State University

Students must fulfill all area requirements and have **120.5** credits to graduate. This is a suggested plan of study. Students may need to deviate from this plan to satisfy unmet requirements or to add a minor or second major. We **strongly encourage** student involvement in internships, study abroad, and research opportunities at ISU. **Courses in bold are standard choices for that semester.**

Semester 1 Fall		Semester 2 Spring	
BCBio 110 – Orientation or GEN 110	0.5 - 1	**English 250, World Language (if needed), or Social Sciences Choice**	3-4
Biology 212 & L – Principles of Biology II & L	4	**Biology 211 & L** –Principles of Biology I & L	4
Chemistry 177 & L – General Chemistry I & L **Or Chemistry 163 & L**- College Chem & L	5	**Chemistry 178 & L**– General Chemistry II if taking two semester sequence or Elective	4
Math 165 – Calculus I	4	**Math 166** – Calculus II	4
English 150 or 250	3	Lib 160 – Library (or Semester 1 with 250)	0-1
Lib 160 if taking English 250	1	Consider COM S 127 if no programming exp.	0-4
	17.5		**15-18**

Semester 3 Fall		Semester 4 Spring	
Biology 313 & L – Principles of Genetics & Lab	4	**Biology 314** – Principles of Molecular Cell Biology or **Biology 315** – Biological Evolution	3
Chemistry 331 & L – Organic Chemistry I & Lab **or Chemistry 231 & L** –Elementary Organic Chemistry & Lab	4	**Physics 115 & L** – Physics for the Life Sciences	5
BCBio 322 –Intro to BCBio	3	**Computer Science 228** – Introduction to Data Structures	3
Computer Science 227 – Introduction to Object-oriented programming	4	English 250 & Lib 160 (if needed) or Humanities Choice (1 of 4)	3-4
	15		**14-15**

Semester 5 Fall		Semester 6 Spring	
Computer Science 230 - Discrete Computational Structures	3	**Computer Science 311** – Design and Analysis of Algorithms	3
Statistics 330 Probability and Statistics for Computer Science	3	**BCBio Support Elective**	3
BCBio Support Elective (Math 265 recommended)	3-4	**BCBio Support Elective**	3
English 309, 312, or 314	3	Humanities Choice (2 of 4)	3
U.S. Diversity/Social Sciences Choice (1 of 3)	3	Social Science Choice (2 of 3)	3
	15-16		**15**

Semester 7 Fall		Semester 8 Spring	
BCBio 401 Fundamentals of BCBio I	3-4	**BCBio 406** Fundamentals of BCBio II	3
Humanities Choice (3 of 4)	3	International Perspective/Humanities (4 of 4)	3
STAT 483 – Empirical Methods for the Computational Sciences	3	**BCBio 490 or 491** Independent Study or Team Research Project or Elective	3
BCBio 490 or 491 Independent Study or Team Research Project or Elective	3	Social Sciences Choice (3 of 3) or Electives	3 -6
	12-13		**12-15**

Check with your advisor for suggested support electives.