B.S. Computer Science/Bioinformatics (CS 27): Major Checklist, Fall 2020

Completed	***Lower Division***
	Mathematics
	Math 20A, Calculus for Science and Engineering
	Math 20B, Calculus for Science and Engineering
	Math 20C, Calculus for Analytical Geometry for Science and Engineering (or MATH 31BH Honors Multivariable Calculus)
	Math 18, Linear Algebra (or MATH 31AH Honors Linear Algebra)
	Chemistry/Chemistry Lab
	Chem 6A, General Chemistry I
	Chem 6B, General Chemistry II
	Organic Chemistry: CHEM 40A, Organic Chemistry I
	Biology
	BILD 1, The Cell
	BILD 3, Organismic and Evolutionary Biology
	BILD 4, Introductory Biology Lab
	Computer Programming
	CSE 8B/CSE 11, Introduction to Computer Science: Java
	CSE 12, Basic Data Structures and Object-Oriented Programming
	CSE 15L, Software Tools and Techniques Laboratory
	CSE 21, Mathematics for Algorithms and Systems
	CSE 30, Computer Organization and Systems Programming
	Physics
	Phys 2A, Physics- Mechanics
Completed	***Upper Division***
	Computer Science
	CSE 100, Advanced Data Structures
	CSE 101, Design and Analysis of Algorithms
	Biochemistry: CHEM 114A, Biochemical Structure and Function **or** BIBC 102, Metabolic Biochemistry
	Genetics: BICD 100
	Molecular Biology: BIMM 100
	Recombinant DNA Techniques: BIMM 101
	Bioinformatics
	CSE 181 **or** BIMM 181 **or** BENG 181, Molecular Sequence Analysis
	CSE 182 **or** BIMM 182 **or** BENG 182, Biological Databases
	BENG 183, Applied Genomic Technologies
	CSE 185, Bioinformatics Laboratory (Advanced) (Previously BIMM 185)
	Math 186, Introduction to Probability and Statistics for Bioinformatics
	CSE Electives (6 Total, 4 units each)
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective (may also be from approved list of Technical Electives)

Important:

- **ALL major requirements must be taken for *letter* grade AND passed with a *C- or better* with the exceptions of: CSE 95, CSE 197, CSE 198, and CSE 199.**
- **A maximum of 4 units of special studies courses may count towards CSE Electives from the following: CSE 197, 198, 199, 199H, ENG 100D, or ENG 100L**