Computational Biology
Minor Checklist
2022-2023 Catalog

Name: _____ Student ID: _____

	Course Number & Title (units)	Prerequisites†
Complete ALL of the following required core courses:		
	ECS 122A: Algorithm Design & Analysis (4)	*ECS 20; ECS 32B or 36C*
	ECS 124: Theory & Practice of Bioinformatics (4)	*ECS 32A or 36A or ENG 6; STA 12 or 13 or 13Y or 32 or 100 or 131A or MAT 135A or BIM 105; BIS 2A or MCB 10*
Complete 12 units of electives:		
Complete at least ONE of the following biology courses: (4 units minimum)		
	□ BIS 101: Genes & Gene Expression (4)	*a 'C-' or better in BIS 2A or BIS 2B; CHE 8A or CHE 118A or CHE 128A; either STA 13/13Y, or STA 100 or 102 or 130A*
	□ BIS 104: Cell Biology (3)	*BIS 101; BIS 102 or 105*
	□ BIS 122: Population Biology & Ecology (3)	*BIS 1A and 1B and 1C, or BIS 2A and 2B and 2C*
	□ ECE 100: Introduction to Evolution (4)	*BIS 2A, BIS 2B, BIS 2C; MAT 16A or 17A or 21A; MAT 16B or 17B or 21B*
	□ EVE 101: Introduction to Ecology (4)	*BIS 2A, BIS 2B, BIS 2C; MAT 16A or 17A or 21A; MAT 16B or 17B or 21B*
	□ EVE 102: Population & Quantitative Genetics (4)	*BIS 101; STA 100 or 102; EVE 100*
	□ EVE 103: Phylogeny, Speciation, & Macroevolution (4)	*EVE 100*
	□ EVE 131: Human Genetic Variation & Evolution (3)	*BIS 1B or BIS 2B*
	□ MCB 121: Advanced Molecular Biology (3)	*BIS 101; BIS 102 or BIS 105 or ABI 102 may be taken concurrently*
	□ MCB 124: Macromolecular Structure & Function (4)	*a 'C-' or better in BIS 102; BIS 101*
	□ MCB 182: Principles of Genomics (3)	*BIS 101*
Complete at least ONE of the following computational or statistics courses:		
	□ BIT 150: Applied Bioinformatics (4)*	*BIS 101; ECS 10 or ECS 15 or PLS 21; PLS 120 or STA 13 or STA 13Y or STA 100*
	□ ECS 130: Scientific Computation (4)	*ECS 32A or ECS 36A or ENG 6; MAT 22A or 27A or 67*
	□ ECS 132: Probability & Statistical Modeling for Computer Science (4)	*ECS 34 or 36B; ECS 20; MAT 21C; MAT 22A or 27A or 67*
	□ ECS 140A: Programming Languages (4)	*ECS 20; ECS 50; ECS 150; ECS 32B or 36C*
	□ ECS 145: Scripting Languages & their Applications (4)	*ECS 50 or EEC 70*
	□ ECS 158: Programming on Parallel Architectures (4)	*ECS 150*
	□ ECS 160: Software Engineering (4)	*ECS 140A*
	□ ECS 165A: Database Systems (4)	*ECS 32B or 36C*
	□ ECS 170: Introduction to Artificial Intelligence (4)	*ECS 32B or 36C*
	□ ECS 171: Machine Learning (4)	*ECS 32B or 36C or instructor consent*
	□ ECS 177: Scientific Visualization (4)	*ECS 175*
	□ STA 130A: Mathematical Statistics: Brief Course (4)	*a 'C-' or better in MAT 16C or MAT 17C or MAT 21C; a 'C-' or better in STA 13 or STA 13Y or STA 32 or STA 100*
	□ STA 141A: Fundamentals of Statistical Data Science (4)	*a 'C-' or better in STA 106 or STA 108*
	□ STA 141B: Data & Web Technologies for Data Analysis (4)	*a 'C-' or better in STA 141A*
	□ STA 141C: Big Data & High Performance Statistical Computing (4)	*a 'C-' or better in STA 141B, or a 'C-' or better in STA 141A and ECS 32A*
Complete at least ONE of the following computational biology and bioinformatics courses:		
	□ BIT 150: Applied Bioinformatics (4)*	*BIS 101; ECS 10 or ECS 15 or PLS 21; PLS 120 or STA 13 or STA 13Y or STA 100*
	□ BIS 117: Modeling Strategies for Biomedical Engineering (4)	*a 'C-' or better in BIS 2A and MAT 22A*
	□ ECS 129: Computational Structural Bioinformatics (4)	*BIS 2A or MCB 10; ECS 32A or 36A*

†*Prerequisites are subject to change; consult the University Catalog (https://catalog.ucdavis.edu/) for the most recent updates*
**Please note you will only receive 2 units of credit for this course and will need to take additional coursework to reach the 20 upper division unit minimum*
✓***Total units required for CS minor: 20-23***