

Computational Biology
Minor Checklist
2024-2025 Catalog

Name: _____ Student ID: _____

	Course Number & Title (units)	Prerequisites†
Complete ALL of the following required core courses:		
	ONE (1) of the following: <input type="checkbox"/> ECS 117: Algorithms for Data Science (4)* <input type="checkbox"/> ECS 122A: Algorithm Design & Analysis (4)*	117: ECS 17 or 20; ECS 32B or 36C 122A: ECS 20; ECS 32B or 36C
	ONE (1) of the following: <input type="checkbox"/> ECS 124: Theory & Practice of Bioinformatics (4)*^ <input type="checkbox"/> ECS 129: Computational Structural Bioinformatics (4)*	124: ECS 32A/32AV or 36A or ENG 6; BIM 105 or ECS 132 or EEC 161 or or MAT 135A or STA 32 or 35B or 100 or 131A; BIS 2A or MCB 10 129: BIS 2A or MCB 10; ECS 32A/32AV or 36A

Complete 12 units of electives:

<input type="checkbox"/>	BIM 117: Modeling Strategies for Biomedical Engineering (4)	a 'C-' or better in BIS 2A and MAT 22A
<input type="checkbox"/>	BIS 101: Genes & Gene Expression (4)	a 'C-' or better in BIS 2A or BIS 2B; CHE 8A or CHE 118A or CHE 128A; and either STA 13/13Y or STA 100 or 102 or 130A
<input type="checkbox"/>	BIS 104: Cell Biology (3)	BIS 101/101V; a 'C-' or better in BIS 102 or BIS 105 or ABI 102
<input type="checkbox"/>	BIS 122: Population Biology & Ecology (3)	BIS 1A and 1B and 1C, or BIS 2A and 2B and 2C; residence at Bodega Marine Laboratory required.
<input type="checkbox"/>	BIT 150: Applied Bioinformatics (4)^	BIS 101/101V; ECS 32A/32AV or ECS 32B or PLS 21/21V; PLS 120 or STA 13/13Y or STA 100
<input type="checkbox"/>	EVE 100: Introduction to Evolution (4)	BIS 2A, BIS 2B, BIS 2C; MAT 17A or 19A or 21A; MAT 17B or 19B or 21B
<input type="checkbox"/>	EVE 101: Introduction to Ecology (4)	BIS 2A, BIS 2B, BIS 2C; MAT 17A or 19A or 21A; MAT 17B or 19B or 21B
<input type="checkbox"/>	EVE 102: Population & Quantitative Genetics (4)	BIS 101/101V; STA 100 or 102; EVE 100
<input type="checkbox"/>	EVE 103: Phylogeny, Speciation, & Macroevolution (4)	EVE 100
<input type="checkbox"/>	EVE 131: Human Genetic Variation & Evolution (3)	BIS 1B or BIS 2B
<input type="checkbox"/>	ECS 111: Applied Machine Learning for Non-Majors OR ECS 171: Machine Learning (4)*	ECS 111 : ECS 32B or ECS 36C; MAT 135A or STA 35C or MAT/BIS 107; MAT 22A or 27A or 67 ECS 171 : ECS 32B or 36C; STA 32 or STA 35B or STA 131A or ECS 132 or MAT 135B or EEC 161; MAT 22A or 27A or 67
<input type="checkbox"/>	ECS 116: Databases for Non-Majors OR ECS 165A: Database Systems (4)*	ECS 116: ECS 32B or ECS 36C ECS 165A: ECS 32B or 36C
<input type="checkbox"/>	ECS 117: Algorithms for Data Science (4)*	ECS 17 or 20; ECS 32B or 36C
<input type="checkbox"/>	ECS 122A: Algorithm Design & Analysis (4)*	ECS 20; ECS 32B or 36C
<input type="checkbox"/>	ECS 124: Theory & Practice of Bioinformatics (4)*^	ECS 32A/32AV or 36A or ENG 6; BIM 105 or ECS 132 or EEC 161 or or MAT 135A or STA 32 or 35B or 100 or 131A; BIS 2A or MCB 10
<input type="checkbox"/>	ECS 129: Computational Structural Bioinformatics (4)*	BIS 2A or MCB 10; ECS 32A/32AV or 36A
<input type="checkbox"/>	ECS 130: Scientific Computation (4)	ECS 32A/32AV or ECS 36A or ENG 6; MAT 22A or 27A or 67
<input type="checkbox"/>	ECS 132: Probability & Statistical Modeling for Computer Science (4)	ECS 34 or 36B; ECS 20; MAT 21C; MAT 22A or 27A or 67
<input type="checkbox"/>	ECS 140A: Programming Languages (4)	ECS 20; ECS 50; ECS 32B or 36C; ECS 150 recommended; CS/CSE majors only
<input type="checkbox"/>	ECS 145: Scripting Languages & their Applications (4)	ECS 34 or 36C
<input type="checkbox"/>	ECS 158: Programming on Parallel Architectures (4)	ECS 150; CS/CSE majors only
<input type="checkbox"/>	ECS 160: Software Engineering (4)	ECS 140A; CS/CSE majors only
<input type="checkbox"/>	ECS 170: Introduction to Artificial Intelligence (4)	ECS 32B or 36C
<input type="checkbox"/>	ECS 177: Scientific Visualization (4)	ECS 175
<input type="checkbox"/>	MCB 121: Advanced Molecular Biology (3)	BIS 101/101V; BIS 102 or BIS 105 or ABI 102 may be taken concurrently
<input type="checkbox"/>	MCB 124: Macromolecular Structure & Function (4)	a 'C-' or better in BIS 102; BIS 101/101V
<input type="checkbox"/>	MCB 182: Principles of Genomics (3)	BIS 101/101V
<input type="checkbox"/>	STA 130A: Mathematical Statistics: Brief Course (4)	a 'C-' or better in MAT 16C or 17C or 19C or 21C; a 'C-' or better in STA 13/13Y or 32 or 35B or 100
<input type="checkbox"/>	STA 141A: Fundamentals of Statistical Data Science (4)	a 'C-' or better in STA 106 or STA 108
<input type="checkbox"/>	STA 141B: Data & Web Technologies for Data Analysis (4)	a 'C-' or better in STA 141A
<input type="checkbox"/>	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/32AV

†Prerequisites are subject to change; consult the University Catalog (<https://catalog.ucdavis.edu/>) for the most recent updates

*Completion of a core requirement will not satisfy an elective requirement simultaneously

^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