

Computational Biology
Minor Checklist
2022-2023 Catalog

Name: _____ Student ID: _____

	Course Number & Title (units)	Prerequisites†
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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)

	<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; either STA 13/13Y, or STA 100 or 102 or 130A
	<input type="checkbox"/> BIS 104: Cell Biology (3)	BIS 101; BIS 102 or 105
	<input type="checkbox"/> BIS 122: Population Biology & Ecology (3)	BIS 1A and 1B and 1C, or BIS 2A and 2B and 2C
	<input type="checkbox"/> ECE 100: Introduction to Evolution (4)	BIS 2A, BIS 2B, BIS 2C; MAT 16A or 17A or 21A; MAT 16B or 17B or 21B
	<input type="checkbox"/> EVE 101: Introduction to Ecology (4)	BIS 2A, BIS 2B, BIS 2C; MAT 16A or 17A or 21A; MAT 16B or 17B or 21B
	<input type="checkbox"/> EVE 102: Population & Quantitative Genetics (4)	BIS 101; 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"/> MCB 121: Advanced Molecular Biology (3)	BIS 101; 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
	<input type="checkbox"/> MCB 182: Principles of Genomics (3)	BIS 101

Complete at least ONE of the following computational or statistics courses:

	<input type="checkbox"/> 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
	<input type="checkbox"/> ECS 130: Scientific Computation (4)	ECS 32A 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 34 or 36C; ECS 150 recommended
	<input type="checkbox"/> ECS 145: Scripting Languages & their Applications (4)	ECS 50 or EEC 70
	<input type="checkbox"/> ECS 158: Programming on Parallel Architectures (4)	ECS 150
	<input type="checkbox"/> ECS 160: Software Engineering (4)	ECS 140A
	<input type="checkbox"/> ECS 165A: Database Systems (4)	ECS 32B or 36C
	<input type="checkbox"/> ECS 170: Introduction to Artificial Intelligence (4)	ECS 32B or 36C
	<input type="checkbox"/> ECS 171: Machine Learning (4)	ECS 32B or 36C; STA 32 or STA 131A or ECS 132; MAT 22A or MAT 27A
	<input type="checkbox"/> ECS 177: Scientific Visualization (4)	ECS 175
	<input type="checkbox"/> 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
	<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

Complete at least ONE of the following computational biology and bioinformatics courses:

	<input type="checkbox"/> 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
	<input type="checkbox"/> BIM 117: Modeling Strategies for Biomedical Engineering (4)	a 'C-' or better in BIS 2A and MAT 22A
	<input type="checkbox"/> 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