CATALOG TERM: 2024-2027 **TOTAL UNITS REQUIRED = 22-24**

QUANTITATIVE BIOLOGY AND BIOSTATISTICS MINOR

- This worksheet is intended for supplemental use only. The University will use your Academic Requirements Report (ARR) to track your graduation requirements, including those for your minor. Please continue to check your ARR for accuracy. If your ARR requires a correction, please submit an ARR Correction Form.
- Your Degree Planner will display the following requirements in the University's recommended sequence.
- All courses used for the minor must be completed with a grade of C (2.0) or higher.
- The minor must contain at least 6 units beyond those used for major requirements and other minors (APC 265-03).
- All non-articulated courses MUST be reviewed and approved by a faculty advisor.
- Students are advised that some courses have prerequisites and should plan courses accordingly.
- At least 15 units must be at the upper-division level.
- At least 6 upper-division units must be completed at CSUSM.

LOWER-DIVISION COURSEWORK (7-9 UNITS)

✓	Course	Units
☐	BIOL 215: Experimental Design & Statistical Analysis	4

Select 1 course from the following:

(Students interested in pursuing a graduate degree in biostatistics should take MATH 160, as well as MATH 162 and MATH 264)

MATH 150: Calculus for the Life Sciences (*MATH 125, 126 or pass Calculus Readiness Diagnostic)
MATH 160: Calculus with Applications, I (*MATH 125, 126 or pass Calculus Readiness Diagnostic)

✓	Course	Units
☐		3-5

UPPER-DIVISION COURSEWORK (6 UNITS)

Computing:

Select 1 course from the following:

BIOL 365: Computing Skills for Biologists (3) (*BIOL 210, 211, 215)
CS 321: Programming for Data Science (3) (*GE Area 2)

✓	Course	Units
☐		3

Modeling:

Select 1 course from the following:

BIOL 535: Ecological Modeling (3) (*BIOL 354)
MATH 448: Mathematical Models and Methods in Biology (3)

✓	Course	Units
☐		3

UPPER-DIVISION ELECTIVES (9 UNITS)

Select 3 courses from the following:

BIOL 365[#]: Computing Skills for Biologists (3) (*BIOL 210, 211, 215)
BIOL 420: Ecological Monitoring (4) (*BIOL 215, 354)
BIOL 502: Population Genetics (5) (*BIOL 352)
BIOL 531[%]: Biological Data Analysis I (3) (*BIOL 215 with a grade of B or higher or instructor consent)
BIOL 532[%]: Biological Data Analysis II (3) (*BIOL 215 with a grade of B or higher or instructor consent)
BIOL 533: Geographic Information Systems Applications in Landscape Ecology (4) (*BIOL 354)

**prerequisite; [#]If not taken to satisfy one of the upper-division required courses for the minor;*
[%]students interested in pursuing a graduate degree in biostatistics should take at least one advanced statistics class.

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BIOL 535[#]: Ecological Modeling (3) (*BIOL 354)
MATH 448[#]: Mathematical Models and Methods in Biology (3)
PHYS 440: Biological Physics (3) (*PHYS 202 or 206)
Other courses may be approved with Biology faculty approval.

✓	Course	Units

**prerequisite; [#]If not taken to satisfy one of the upper-division required courses for the minor;*
[%]students interested in pursuing a graduate degree in biostatistics should take at least one advanced statistics class.