

All Bachelor Programs require a minimum of 128 credits and a 2.00 cumulative average.

SCHOOL OF NATURAL SCIENCES AND MATHEMATICS MINORS

Courses for a minor must be earned with a grade of **C** or better.

Academic Year

Fall 2019-Fall 2020

BIOLOGY

Minimum 22 credits excluding CHEM

- BIOL 1200/05 Cells & Molecules w/lab (5)
- CHEM 2110/15 General Chemistry I w/lab (5)
- BIOL 1400/05 Biodiversity & Evolution (5)
- CHEM 2120/25 Chemistry II Organic w/lab (5)
- BIOL 2110/15 Genetics w/lab (4)
- BIOL 4600 Biology Seminar (1)
- BIOL Elective 3000 level _____
- BIOL Elective 3000 level _____

CHEMISTRY

Minimum 26 credits

- Introductory Core: (18 credits)
- CHEM 2110/15 Chemistry I w/lab (5)
- CHEM 2120/25 Chemistry II w/lab (5)
- CHEM 2130 Chemistry III w/lab (4)
- CHEM 2140/45 Chemistry IV w/lab (4)

Choose ONE of the following laboratory intensive courses (4 credits)

- CHEM 3035 Survey of Instrumentation (4)
- CHEM 3110 Inorganic Chemistry (4)
- CHEM 3310 Laboratory methods I (4)
- CHEM 3120 Lab Methods II (4)
- CHEM 3420/3425 Physical Chemistry III /lab (4)
- CHEM 3350 Biochemical Lab Methods (4)
- CHEM 3520 Advanced Organic Chemistry w/lab (4)

Elective: One, 4 credit CHEM course at the 3000 or 4000 level

Appropriate elective courses for the CHEM minor are: Inorganic, Physical, Environmental or Biochemistry, Laboratory Methods II, and topics in Chemistry or in Chemistry or Independent Study offerings

Intermediate/advanced Elective (4 credits)

CHEM acronym independent studies and/or internships may be used to satisfy this requirement.

Transfer students must complete credits beyond the introductory core at Stockton.

ENVIRONMENTAL STUDIES

Minimum Credits 24. All courses must be selected in consultation with an ENVL faculty member and must be approved in advance.

- ENVL _____ (4)
- ENVL _____ (4)
- ENVL _____ (4)
- ENVL _____ (4)
- ENVL _____ (4)
- ENVL _____ (4)

MARINE SCIENCE

Minimum Credits 20. Required courses: 8 credits

MARS 1100 Survey of Ocean Life (4) **OR** MARS 1200 Introduction to Marine Biology (4) **OR** MARS 2100 MARS

1300 Introduction to Oceanography (4) **OR** MARS 2202 Introduction to Oceanography (4)

Electives: At least 12 MARS credits, 8 of which **MUST** be at the 3000 or 4000 level. Students **MUST** complete all prerequisites for any MARS electives.

- MARS _____ (4)
- MARS 3000 level or greater (4)
- MARS 3000 level or greater (4)

PHYSICS

Minimum Credits 22. Required courses: 14-16 credits

- PHYS 2220/25 Physics I w/lab (6) **OR**
- PHYS 2110/15 Physics for Life Sciences I w/lab (5)
- PHYS 2230/35 Physics II w/lab (6) **OR**
- PHYS 2120/25 Physics for Life Sciences II w/lab (5)
- PHYS 3010 Physics III (4)
- A choice of any two 3000 level physics courses (8 credits)
- PHYS 3000 level _____ (4)
- PHYS 3000 level _____ (4)

"The student is responsible for insuring that all graduation requirements are met" (Bulletin). Consult with your preceptor and/or the Center for Academic Advising on a regular basis.

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MATHEMATICS	ENERGY CERTIFICATE PROGRAM
Minimum 23	Common Core (21 credits)
MATH 2215 Calculus I (5)	CHEM 2110/15 Chemistry I w/lab (5)
MATH 2216 Calculus II (5)	Energy-related senior project / internship (4)
MATH 2217 Calculus III (5)	Choose TWO of the following courses (8 credits)
MATH 3323 Linear Algebra (4)	PHYS/ENVL 3343 Energy Planning (4)
MATH 3000 Level or greater	PHYS/ENVL 3444 Energy Management (4)
	PHYS Energy Phys. (Independent Study) (4)
	PHYS Alternate Energy Sources (Independent Study) (4)
GEOLOGY	Choose ONE emphasis from the following (14-22 credits)
Minimum 22 credits Required courses: 10 credits	Environmental Sciences (14)
GEOL 2101/05 Physical Geology w/lab	PHYS 2110/15 Physics for Life Sciences I w/lab (5)
GEOL 2102/06 Historical Geology w/lab	PHYS 2120/25 Physics for Life Sciences II w/lab (5)
At least 8 credits from the following:	Energy-related senior project / internship (4)
GEOL 3211 Mineralogy, 3212 Petrology, 3221 Field Geology, 3222 Structural Geology, 3231 Sedimentology and Stratigraphy	Physical Science (22)
	MATH 2215 Calculus I (5)
No more than 6 credits from the following:	MATH 2216 Calculus II (5)
ENVL 3432 Soil Science (4)	PHYS 2220/25 Physics I w/lab (6)
Any 3000-4000 GEOL course	PHYS 2230/35 Physics II w/lab (6)
GEOGRAPHIC INFORMATION SYSTEMS GIS CERTIFICATE PROGRAM	
17-18 Credits	
<i>Prerequisites for non-ENVL majors:</i>	
GNM 1242 Mapping the World's Natural Resources	
ENVL 2400 Intro to Statistics and Computers (4)	
Common Core (10 credits)	
ENVL 3302 Geographic Information Systems (Fall) (3-4)	
ENVL 3303 Advanced GIS (Spring) (4)	
ENVL 4622 Global Positioning Systems for GIS (Fall) (2)	
Select ONE or TWO from the following courses (4 credits)	
ENVL 3304 Remote Sensing	
ENVL 3307 Geodatabase (Spring) (4)	
CSIS 3222 Database System (4)	
GIS Sr. Project or Internship (4)	
ENVL 48/4900 GIS Project (4)	

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