

CROSS DISCIPLINARY STUDIES MINOR IN BIOINFORMATICS

Biology/Biochemistry

BIO 161	Introduction to Cell and Molecular Biology	4
BIO 351 or CHEM 373	Principles of Genetics Molecular Biology	5
CHEM 124 or CHEM 127	General Chemistry for Physical Science and Engineering I General Chemistry for Agriculture and Life Science I	4
CHEM 125 or CHEM 128	General Chemistry for Physical Science and Engineering II General Chemistry for Agriculture and Life Science II	4
CHEM 216 or CHEM 312	Organic Chemistry I Survey of Organic Chemistry	5
BIO/CHEM 475	Molecular Biology Laboratory	3
BIO 305 or AEPS 329 or BIO 327 or BIO 361 or BIO 413 or BIO 414 or BIO 415 or BIO 419 or BIO 442 or BIO 444 or BIO 446 or BOT 326 or CHEM 313 or CHEM 371 or MCRO 320 or MCRO 342 or MCRO 421 or MCRO 433	Biology of Cancer ^{1, 2, 3} Plants, Food, and Biotechnology Wildlife Ecology Principles of Animal Physiology Evolutionary Medicine Evolution Biogeography Analytical Methods in Ecology Behavioral Ecology Population Ecology Ecosystem Ecology Plant Ecology Survey of Biochemistry and Biotechnology Biochemical Principles Emerging Infectious Diseases Public Health Microbiology Food Microbiology Microbial Biotechnology	3-5

Bioinformatics

BIO/CHEM 441 or CSC 448	Bioinformatics Applications Bioinformatics Algorithms	4
DATA 441	Bioinformatics Capstone I	2
DATA 442	Bioinformatics Capstone II	2

Computer Science

CSC 101	Fundamentals of Computer Science	4
CSC 202	Data Structures	4
CSC 203	Project-Based Object-Oriented Programming and Design	4

Statistics

DATA 301	Introduction to Data Science	4
STAT 302 or STAT 312	Statistics II Statistical Methods for Engineers	4

or STAT 313 Applied Experimental Design and Regression Models

STAT 331	Statistical Computing with R	4
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Total units **60-62**

¹ BIO/CHEM 308, AEPS 329, CHEM 313 prerequisites are fulfilled by required courses in the minor. All other courses include additional prerequisites that do not count toward minor degree credit.

² If CHEM 216 is used to fulfill a minor requirement MCRO 320 and MCRO 433 should not be used to fulfill this requirement to ensure that half minor units are upper division.