

MOLECULAR AND CELLULAR BIOLOGY CONCENTRATION

BIO 452	Cell Biology	4
BIO/CHEM 475	Molecular Biology Laboratory	3
CHEM 217	Organic Chemistry II	3
CHEM 220	Organic Chemistry Laboratory For Life Sciences II	1
CHEM 371	Biochemical Principles	5
CHEM 372	Metabolism	4
MCRO 224	General Microbiology I	5
Advanced Cell and Molecular Applications ¹		
Select from the following:		9
ASCI 403	Applied Biotechnology in Animal Science	
BIO 405	Developmental Biology	
BIO 426	Immunology	
BIO 428	Hematology	
BIO/CHEM 441	Bioinformatics Applications	
BIO/CHEM 476	Gene Expression Laboratory	
CHEM 474	Protein Techniques Laboratory	
MCRO 402	General Virology	
MCRO 433	Microbial Biotechnology	
Approved Electives ^{1,2,3,4}		
Select from any 300-400 level BIO/BOT/MCRO/MSCI courses or select from the following:		9
ASCI 403	Applied Biotechnology in Animal Science	
ASCI 406	Applied Animal Embryology and Assisted Reproduction	
ASCI 503	Advanced Molecular Techniques in Animal Science	
BIO/CHEM 202	Orientation to Biotechnology	
CHEM 218	Organic Chemistry III	
CHEM 223	Organic Chemistry Laboratory for Life Sciences III	
CHEM 331	Quantitative Analysis	
CHEM 377	Chemistry of Drugs and Poisons	
CHEM 418	Neurochemistry	
CHEM 474	Protein Techniques Laboratory	
CHEM 528	Nutritional Biochemistry	
ENGR 322/ SCM 302	The Learn By Doing Lab Teaching Practicum	
ES/WGS 350	Gender, Race, Culture, Science and Technology	
PHIL 339 or PHIL 341 or SCM 451	Biomedical Ethics Professional Ethics Ethics in the Sciences	
STAT 313	Applied Experimental Design and Regression Models	
Total units		43

¹ Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

² Consult with your faculty advisor for approval to use other relevant upper-division coursework in other departments.

³ Courses taken to meet a major or support requirement cannot be double-counted as an elective.

⁴ Maximum of 6 units may be applied toward Approved Electives from "by arrangement" courses: BIO 330, BIO 400, BIO 450, BIO 461, BIO 462, BIO 463, BIO 471, BIO 472, BIO 485, BIO 495, ENGR 322/SCM 302.