

Bachelor of Science, Biology: Molecular Biology Concentration (MBO): 2024-2025 Catalog

Course No.	Description	Cr.
First Year		
Fall		
<input type="checkbox"/> BIOL 110	Evolution, Ecol, & Plant Biol.	4
<input type="checkbox"/> CHEM 121	Chemistry Principles I	4
<input type="checkbox"/> MATH 121	Calculus/Geom I #QR	3
<input type="checkbox"/> WRIT 102	Research Writing	3
<input type="checkbox"/> HIST xxx	History	3
<input type="checkbox"/> CORE 103	Fall Comm. Enrich. Series	0
<input type="checkbox"/> BIOL 131	Biology First Year Seminar	0
Total Credits		17

Second Year		
Fall		
<input type="checkbox"/> BIOL 302	General Microbiology	4
<input type="checkbox"/> CHEM 221	Organic Chemistry I	4
<input type="checkbox"/> LIT xxx	Literature	3
<input type="checkbox"/> PHIL 105/...	Philosophy	3
<input type="checkbox"/> CORE II	Civic Responsibility & Citizenship	3
Total Credits		17

Third Year		
Fall		
<input type="checkbox"/> BIOL 405	Biochemistry w/ lab	4
<input type="checkbox"/> PHYS 104	Intro to Physics I	4
or 121	Gen. Physics I	
<input type="checkbox"/> ---- xxx	Language and Cultures	3
<input type="checkbox"/>	Free Elective	3
<input type="checkbox"/>	Free Elective	3
Total Credits		17

Fourth Year		
Fall		
<input type="checkbox"/> BIOL xxx	Biology Cluster Course	4
<input type="checkbox"/> BIOL/CHEM/ CPSC/NEUR	Molecular Biology Elective	4
<input type="checkbox"/>	Free Elective	3
<input type="checkbox"/>	Free Elective	3
<input type="checkbox"/>	Free Elective	1
Total Credits		15

128 Total Required Credits

Course No.	Description	Cr.
First Year		
Spring		
<input type="checkbox"/> BIOL 111	Mol., Cells, & Anim. Phys. #NS	4
<input type="checkbox"/> CHEM 122	Chemistry Principles II	4
<input type="checkbox"/> ---- xxx	Social Sciences	3
<input type="checkbox"/> FTAE 105	Intro to Franciscan Theology	3
<input type="checkbox"/> CORE I	Building a Foundation	3
<input type="checkbox"/> CORE 104	Spring Comm. Enrich. Series	0
Total Credits		17

Second Year		
Spring		
<input type="checkbox"/> BIOL 301	Genetics	4
<input type="checkbox"/> CHEM 222	Organic Chemistry II	4
<input type="checkbox"/>	Mathematics Elective (see note)	3
<input type="checkbox"/> FNAR/ART	Fine Arts and Creative Expression	3
<input type="checkbox"/>	Free Elective	3
<input type="checkbox"/> BIOL 231	Biology Sophomore Seminar	0
Total Credits		17

Third Year		
Spring		
<input type="checkbox"/> BIOL 401	Cell & Molecular Biology	4
<input type="checkbox"/> BIOL 383	Biol. Research Methods Sem.	2
<input type="checkbox"/> PHYS 105	Intro to Physics II	4
or 122	Gen. Physics II	
<input type="checkbox"/> FTAE/PHIL	Ethics	3
<input type="checkbox"/>	Free Elective	3
Total Credits		16

Fourth Year		
Spring		
<input type="checkbox"/> BIOL 402	Evolution	3
<input type="checkbox"/> BIOL xxx	Biology Cluster Course	4
<input type="checkbox"/> BIOL 430	Adv. Molecular Methods	2
<input type="checkbox"/> CORE III	Junior/Senior Capstone	3
<input type="checkbox"/> EXAM 401	Dept. Comp. Exam	0
Total Credits		12

***Sequence of courses may be altered with consent of advisor.

Updated 5/2024

Biology Clusters

F = Fall; S = Spring; Su = Summer; AN = As Needed

At least 1 course is required from each cluster.

Ecology Cluster

- BIOL 203 – Ecology (F)
- BIOL 208 – Animal Behavior (F)
- BIOL 220 – Conservation Biology (S)
- BIOL 322 – Field Biology (S)
- BIOL 326 – Freshwater Aquatic Biology (F)

Organismal Biology Cluster

- BIOL 204 – Invertebrate Zoology (F)
- BIOL 211 – Comparative Anatomy (S)
- BIOL 212 – Developmental Biology (S)
- BIOL 218 – Marine Biology (F)
- BIOL 306 – Animal Nutrition (F)
- BIOL 320 – Vertebrate Zoology (S)
- BIOL 345 - Environmental Animal Physiology (S)
- BIOL 403 – Advanced Botany (F)
- BIOL 406 – Vertebrate Physiology (F)

Molecular Biology Electives

- BIOL 212 – Developmental Bio. (if not taken above)
- BIOL 251 - Bioinformatics (AN)
- BIOL 305 – Immunology (F)
- BIOL 398-399 – Biology Internship
- BIOL x54 Special Topic. Biol. (with approval)
- BIOL x94 Biological Research
- NEUR 279 – Introduction to Neuroscience (S)
- CPSC 121 – Introduction to Programming
- CPSC 122 – Intermediate Programming
- CPSC 250 – Bioinformatics Programming
- CHEM 321 – Physical Chemistry I
- CHEM 322 – Physical Chemistry II
- CHEM 404 – Advanced Organic Chemistry

Mathematics Elective

- BIOL 315 – Biostatistics (S)
- MATH 130 – Discrete Mathematics (S)
- MATH 215 – Introductory Statistics (F,S)
- STAT 205 – Essentials of Statistics (F,S)

Consider undergraduate research
Upper-level CHEM classes may req. MATH 122.