

**BS Cellular and Molecular Biology
Suggested Course Sequence (2023-2024)**

- Students should take the Chemistry Placement test (available in Canvas) prior to New Student Advising.
- A Chemistry Placement score ≥ 35 is a pre-requisite for BIO 2101 and CHM 1211.
- Students who score < 35 on the Chemistry Placement test, or who would benefit from an introduction to Chemistry, should take CHM 1310 in Autumn quarter, then take BIO 2101 and CHM 1211 in Winter quarter.

Students interested in careers in the health sciences should take PPHS 1200, PPHS 1800 and PPHS 3400. BIO 3896 (Medical Terminology) may also be beneficial. See the [Pre-Professional Health Sciences program](#) website for more information.

This Suggested Course Sequence is a potential plan for how to complete the major within four years. Please consult with a departmental faculty advisor for course advisement

Four-Year Plan (>35 on Chemistry Placement Test)

YEAR 1			
Autumn	Winter	Spring	Notes
BIO 1859 (1) CHM 1211 (5) UCOL 1000 (1)	BIO 2101 (5) * CHM 1212 (5) PPHS 1200 (1)	BIO 2102 (5) CHM 1213 (3) ** CHM 2213 (2) **	Take Math Placement Test (in Canvas) if you are at Math Level 0 or A at time of admission; Math Level B is a pre-requisite for BIO 2102, BIO 2103, CHM 1212 and MAT 2360. Students who test into Level 0 or A should plan to take MAT 0144 and/or MAT 0145 to achieve Math Level B. * Students who test at Math Placement Level B and who either score ≥ 45 on the Chemistry Placement Test or transfer in the complete General Chemistry sequence may take BIO 2103 in Autumn 2023. ** CHM 1213/2213 are recommended for many graduate programs.
Any quarter: First-year general education courses (WRI 1000, WRI 1100, UFDN 1000)			
YEAR 2			
Autumn	Winter	Spring	Notes
BIO 2103 (5) CHM 3371 (5) PHY 1101 / 1121 (5)	CHM 3372 (5) PHY 1102 / 1122 (5)	CHM 3373 (5) PHY 1103 / 1123 (5)	MAT 2360 is a pre-requisite for BIO 3325 and BIO 4360. * Take Calculus Placement Test in Canvas first. MAT 1235 may be required by some graduate programs. Physics (either 110x series or 112x series) is recommended for most graduate programs.
Any quarter: <ul style="list-style-type: none"> • MAT 2360 (5) • Either MAT 1221 (5) or MAT 1234 (5) * • 3 credits of research: BIO 4978 (1) and 4979 (2) in years 2 – 4. 			
YEAR 3			
Autumn	Winter	Spring	Notes
BIO 3325 (5) CHM 4361 (5)	CHM 4362 (5)	BIO 3351 (5) <i>Apply to graduate!</i>	BIO 3325 is offered both Autumn and Winter. It is a pre-requisite for BIO 4325 (only offered in Winter) and BIO 4352 (only offered in Spring). * BIO 4415, 4418 and 4419 may not count for both the Physiology and Electives categories.
Any quarter: <ul style="list-style-type: none"> • BIO 3899 (1) • 5 credits of Physiology selected from: BIO 4256, 4410, 4413, 4415, 4418 or 4419 in years 3 – 4.* • 10 credits of elective courses selected from: BIO 3350, 3615, 4320, 4330, 4360, 4415, 4418, 4419, 4420, 4435 or 4744 in years 3 – 4. 			
YEAR 4			
Autumn	Winter	Spring	Notes
CHM 3225 (5)	BIO 4325 (5)	BIO 4352 (5)	Check the time schedule, as most courses are offered only in certain quarters.
Any quarter: <ul style="list-style-type: none"> • BIO 4899 (take twice, for a total of 2 credits) 			

Four-Year Plan (<35 on Chemistry Placement Test)

YEAR 1			
Autumn	Winter	Spring	Notes
BIO 1859 (1) CHM 1310 (5) UCOL 1000 (1)	BIO 2101 (5) CHM 1211 (5) PPHS 1200 (1)	BIO 2102 (5) CHM 1212 (5)	Take Math Placement Test (in Canvas) if you are at Math Level 0 or A at time of admission; Math Level B is a pre-requisite for BIO 2102, BIO 2103, CHM 1212 and MAT 2360. Students who test into Level 0 or A should plan to take MAT 0144 and/or MAT 0145 to achieve Math Level B. BIO 2102 and BIO 2103 can be taken in either order.
Any quarter: First-year general education courses (WRI 1000, WRI 1100, UFDN 1000)			
YEAR 2			
Autumn	Winter	Spring	Notes
BIO 2103 (5) PHY 1101 / 1121 (5)	PHY 1102 / 1122 (5)	CHM 1213 (3) * CHM 2213 (2) * PHY 1103 / 1123 (5)	MAT 2360 is a pre-requisite for BIO 3325 and BIO 4360. Physics (either 110x series or 112x series) is recommended for most graduate programs. * CHM 1213/2213 are recommended for most graduate programs. ** Take Calculus Placement Test in Canvas first. MAT 1235 may be required by some graduate programs.
Any quarter: <ul style="list-style-type: none"> MAT 2360 (5) Either MAT 1221 (5) or MAT 1234 (5) ** 3 credits of research: BIO 4978 (1) and 4979 (2) in years 2 – 4. 			
YEAR 3			
Autumn	Winter	Spring	Notes
CHM 3371 (5) BIO 3325 (5)	CHM 3372 (5)	CHM 3373 (5) <i>Apply to graduate!</i>	BIO 3325 is offered both Autumn and Winter. It is a pre-requisite for BIO 4325 (only offered in Winter) and BIO 4352 (only offered in Spring). * BIO 4415, 4418 and 4419 may not count for both the Physiology and Electives categories. Check the time schedule, as most courses are offered only in certain quarters.
Any quarter: <ul style="list-style-type: none"> BIO 3899 (1) 5 credits of Physiology selected from: BIO 4256, 4410, 4413, 4415, 4418 or 4419 in years 3 – 4.* 10 credits of elective courses selected from: BIO 3320, 3350, 3615, 4330, 4360, 4415, 4418, 4419, 4420, 4435 or 4744 in years 3 – 4. 			
YEAR 4			
Autumn	Winter	Spring	Notes
CHM 3225 (5) CHM 4361 (5)	BIO 4325 (5) CHM 4362 (5)	BIO 4352 (5)	
Any quarter: <ul style="list-style-type: none"> BIO 4899 (take twice, for a total of 2 credits) 			