

Bachelor of Science, Major in Biology, Major in Geoscience Program Grid

Note: This program grid is provided for guidance only. Degree completion is based on courses completed successfully and is subject to all applicable requirements and procedures in effect. Students should consult the B.Sc. Degree Advisor to confirm program requirements for their chosen degree.

Course Number	Course Name	Credits	Upper- Level Credits	Notes
English 1	100-level English	3		1
English 2	100-level English	3		1
MATH 121	Calculus I	3		
MATH 122	Calculus II	3		
Non-Science 100-499	Non-Science Elective I	3		2
BIOL 121	Introductory Zoology	4		
BIOL 123	Intro. Cellular & Molecular Biology	4		
CHEM 140	Chemistry Fundamentals I	4		
CHEM 141 or 142	Chemistry Fundamentals II	4		
PHYS 111	Physics for the Life Sciences I	4		
PHYS 112	Physics for the Life Sciences II	4		
BIOL 200	Introduction to Cell Biology	3		
BIOL 201	Principles of Biochemistry I	3		
BIOL 202	Ecology	3		
BIOL 210	Microbiology I	3		
BIOL 212	Genetics	3		
BIOL 223	Botany	3		
CHEM 231	Organic Chemistry I	3		
CHEM 232	Organic Chemistry II	3		
MATH 203 or 211	Biometrics	3		
BIOL 305	Animal Physiology	3	3	
BIOL 402	Evolution	3	3	
BIOL 403	Current Topics in Biology	3	3	
BIOL 300-499 Option	Specialization Course I	3	3	3
BIOL 300-499 Option	Specialization Course II	3	3	3
BIOL 300-499 Option	Specialization Course III	3	3	3
BIOL 300-499	Upper-Level Biology Elective I	3	3	4
BIOL 300-499	Upper-Level Biology Elective II	3	3	4
BIOL 300-499	Upper-Level Biology Elective III	3	3	4
GEOG 101	Environmental Geography	3		5
GEOL 111	Discovering Planet Earth	4		
GEOL 112	Understanding Earth's History	4		
GEOL 115	Lab & Field Studies in Earth Science	3		
GEOG 211	Atmospheric Environments	3		
GEOG 212	Earth Environments	3		
GEOG 228	Spatial Analysis	3		
GEOL 200	Mineralogy and Petrology	3		
GEOL 201	Sedimentology and Stratigraphy	3		
GEOL 202	Earth Structures	3		
GEOL 206	Field Geology and Geol. Mapping	3		
GEOG 328	Geographic Information Systems	3	3	
GEOL 300	Igneous and Metamorphic Petrology	3	3	
GEOL 300-499	Upper-Level Geology Elective I	3	3	6
GEOL 300-499	Upper-Level Geology Elective II	3	3	6
GEOL 300-499	Upper-Level Geology Elective III	3	3	6
GEOG 373	Biogeography	3	3	7
GEOG 300-499	Upper-Level Geography Elective II	3	3	8
GEOG 300-499	Upper-Level Geography Elective III	3	3	8
GEOL or GEOG 300-499	Upper-Level Geoscience Elective I	3	3	9
GEOL or GEOG 300-499	Upper-Level Geoscience Elective II	3	3	9
	TOTAL:	158	57	

See notes on the next page /...

NOTES:

- 1. The Degree English Requirement can be met as follows:
 - Two of ENGL 115 (or 117), 125 (or 127), 135, 204, or an INTR course that includes ENGL course exemption; or,
 - LBST 111 and 112.
- Non-Science Electives can be any courses outside of the Science discipline numbered 100-499. The following courses may not be counted to meet this requirement, although they may be counted as general electives:
 - Any course beginning with the following discipline identifiers: AQUA, ASTR, BIOL, CHEM, CSCI, ENGC, ENGE, ENGM, ENGR, FISH, FRST, GEOL, MATH, PHYS, RMOT, QUME, and SCIE.
 - Anthropology: ANTH 111, 213, 214, 341B, 342, 343, 344, 350, 351, 352, 353 361, 401, 430, 449, 460.
 - Geography: GEOG 211, 212, 221, 226, 228, 326, 328, 372, 373, 374, 376, 428.
 - Psychology: PSYC 204, 205, 300A, 300B, 301, 302, 305, 315, 316, 318, 319, 323, 324, 345, 365, 400, 415, 419, 445, 490, 491, 498A.
 - Kinesiology: KIN 201, 220, 301, 302, 400, 401.
- The Biological Specialization consists of 9 credits (3 courses) chosen from <u>one</u> of the following options:
 - Microbial Biology: BIOL 332, 334, 336, 337, 432 or 436.
 - Molecular and Cellular Biology: BIOL 341, 342, 435, 443, 445 or 465.
 - Aquatic and Terrestrial Ecology: BIOL 310, 315, 320, 322, 351 or 360.
- 4. Upper-Level Biology Electives can be any BIOL course numbered 300-499.
 - The following courses may be counted towards this requirement: FISH 322, FISH 324, FRST 328, FRST 351, FRST 352, GEOG 373, RMOT 306, RMOT 357, RMOT 400, and RMOT 401.
 - Students have the option to complete a research project in their final year: BIOL 490 (3 credits) or 491 (6 credits).
 - Students interested in taking BIOL 490 or 491 should consult the Chair of the Biology Department.
- GEOG 101 will be applied towards the Non-Science Elective Requirement (6 credits) for the Bachelor of Science degree and therefore 3 more credits (i.e., Non-Science Elective I) are required to meet this requirement.
- 6. Upper-Level Geology Electives can be any GEOL course numbered 300-499. GEOL 480, 490 and 491 cannot be used to meet the Upper-Level Geology Electives requirement.
- 7. GEOG 373 (Biogeography) counts as an Upper-level course in both Majors.
- Upper-Level Geography Electives must be chosen among GEOG 326, 372, 373, 374, 376 or 428. Only one of GEOG 326 or 428 can be used to meet the Upper-Level Geography Electives requirement.
- Upper-Level Geoscience Electives can be any eligible courses listed in notes 5 and 6 (above), including GEOL 390, 480, 490 or 491, which have not been used as Upper-Level Geology or Upper-Level Geography Electives.