

COLLEGE OF SCIENCE
Bachelor of Science; Geosciences
Geochemistry Option
Students graduating in 2009

FRESHMAN (32)

___*GEOS 1004 Physical Geology (Area 4)	3	___*GEOS 1014 The Earth & Life Through Time (Area 4)	4
___*GEOS 1104 Physical Geology Lab (Area 4)	1	___ GEOS 2444 Geoscience Field Observations ¹	2
___*CHEM 1035 General Chemistry	3	___*CHEM 1036 General Chemistry	3
___*CHEM 1045 General Chemistry Lab	1	___*CHEM 1046 General Chemistry Lab	1
___*ENGL 1105 Freshman English (Area 1)	3	___*ENGL 1106 Freshman English (Area 1)	3
___*MATH 1114 Elementary Linear Algebra	2	___*MATH 1206 Calculus (Area 5)	3
___*MATH 1205 Calculus (Area 5)	3		
Semester Total	16	Semester Total	16

SOPHOMORE (32)

___*GEOS 1005 Geoscience Fundamentals ¹	1	___ GEOS 3704 Igneous & Metamorphic Rocks ¹	3
___ GEOS 1024 Resources Geology (Area 7)	3	___*MATH 2224 Multivariable Calculus	3
___ GEOS 1124 Resources Geology Lab	1	___*Chemistry Elective	3
___*GEOS 3504 Mineralogy ¹	3	___Area 2 Elective	3
___*MATH 1224 Vector Geometry	2	___Area 6 Elective	3
___*MATH 2214 Differential Equations	3		
___*Chemistry Elective	4		
Semester Total	17	Semester Total	15

JUNIOR (29)

___ GEOS 3404 Elements of Structural Geology ¹	3	___ GEOS 3104 Elementary Geophysics ¹	3
___ PHYS 2305 Foundations of Physics	4	___ GEOS 3604 Paleontology ¹	3
___ STAT 3005 Statistical Methods	3	___ GEOS 4634 Environmental Geochemistry	3
___ Chemistry Elective	3	___ PHYS 2306 Foundations of Physics	4
___ Science Elective	3		
Semester Total	16	Semester Total	13

SENIOR (27)

___ GEOS 3204 Sedimentology-Stratigraphy (WI)(Area 1)	3	___ GEOS 4024 Senior Seminar (WI) (Area 1) ¹	3
___ Science Elective	4	___ GEOS 4974 Independent Study	4
___ Area 3 Elective	3	___ Area 2 Elective	3
___ Free Elective	4	___ Area 3 Elective	3
Semester Total	14	Semester Total	13

Total Credits

120

*Courses required for satisfactory progress by the time the student reaches 72 hours.

** The 12 credit GEOS 4000 electives may include up to 3 credits at the 3000 level.

¹Required components of Communication Across the Major program for students entering Fall 2005 and after (VIEWS)

²Elective component of Communication Across the Major program for students entering Fall 2005 and after (VIEWS)

An in-major GPA of 2.0 or above must be maintained at all times.

**B.S. in GEOSCIENCES
Geochemistry Option
Students graduating in 2009**

UNIVERSITY REQUIREMENTS

A minimum of 120 semester credits are required for graduation. Of these, not more than 60 credits can have a GEOS prefix including cross listed and substituted courses; there must be 60 credits outside GEOS.

COLLEGE OF SCIENCE REQUIREMENTS

1. **Area 1--Writing and Discourse** (12 credits) ENGL 1105 (3), 1106 (3), 6 hours writing intensive, satisfied by GEOS 3204 (3), GEOS 4024 (3).
 - 1a (For students entering Fall 2005 and after) Area 1—Communications Across the Curriculum: ENGL 1105, 1106, completion of communications-intensive (CAC) program satisfied by GEOS 1005, 3104, 3204, 3404, 3504, 3604, 3704, 4024, plus two 4000-level GEOS free electives.
2. **Area 2--Ideas, Cultural Traditions and Values** (6 credits) Courses approved for the University Core Curriculum
3. **Area 3--Society and Human Behavior** (6 credits) Courses approved for the University Core Curriculum.
4. **Area 4--Scientific Reasoning and Discovery** (8 credits) Satisfied by Geosciences courses
5. **Area 5--Quantitative and Symbolic Reasoning** (6 credits) Satisfied by Mathematics courses required for major
6. **Area 6--Creativity and Aesthetic Experience** (3 credits) Courses approved for the University Core Curriculum. One 3 credit course only.
7. **Area 7--Critical Issues in a Global Context** (3 credits) Satisfied by GEOS 1024.
8. **Foreign Language** (6 credits or equivalent)¹. Requirement can be satisfied by 3 years of a single language in High School, or two years in High School and a 2nd semester course at Virginia Tech i.e., (1106 course number) in the language² or 2 years in High School and a score of 3 on the AP exam², or a two-course (6 credit) first-year sequence.¹
9. **In major GPA** is calculated on GEOS courses only.

DEPARTMENT OF GEOSCIENCES REQUIREMENTS

1. Mathematical Sciences (19 credits)
 - a. Math 1114 (2), 1205 (3), 1206 (3), 1224 (2), 2214 (3), 2224 (3).
 - b. Statistics 3005 (3)
2. Natural Sciences other than Geosciences (33 credits)
 - a. Chemistry 1035 (3), 1036 (3), 1045 (1), 1046 (1) plus 10 additional hours selected from 2114, 2124, 2514, 2535, 2536, 2545, 2546, 3114, 3124, 3615, 3625, 4615, 4616, or 4424.
 - b. Physics 2305 (4), 2306 (4).
 - c. Science electives 7 additional hours 3000 or 4000 level selected from Biochemistry, Biology, Chemical Engineering, Chemistry, Civil Engineering, Computer Science, Crop and Soil Environmental Sciences, Engineering Science and Mechanics, Geosciences; Materials Science and Engineering, Mathematics, Mining and Minerals Engineering, Physics, or Statistics.
3. Geosciences (43 credits) 1004 (3), 1005 (1), 1014 (4), 1024 (3), 1104 (1), 1124 (1), 2444 (2) 3104 (3), 3204 (3), 3404 (3), 3504 (3), 3604 (3), 3704 (3), 4024 (3). 4634 (3), 4974 (4). Maximum of 4 credits combined from GEOS 4974, 4994.
4. Free Elective 4 credits for a total of 120.

¹In general, these 6 credits cannot be counted toward the 120 credits required for graduation.

²These 3 credits count toward the 120 required minimum.