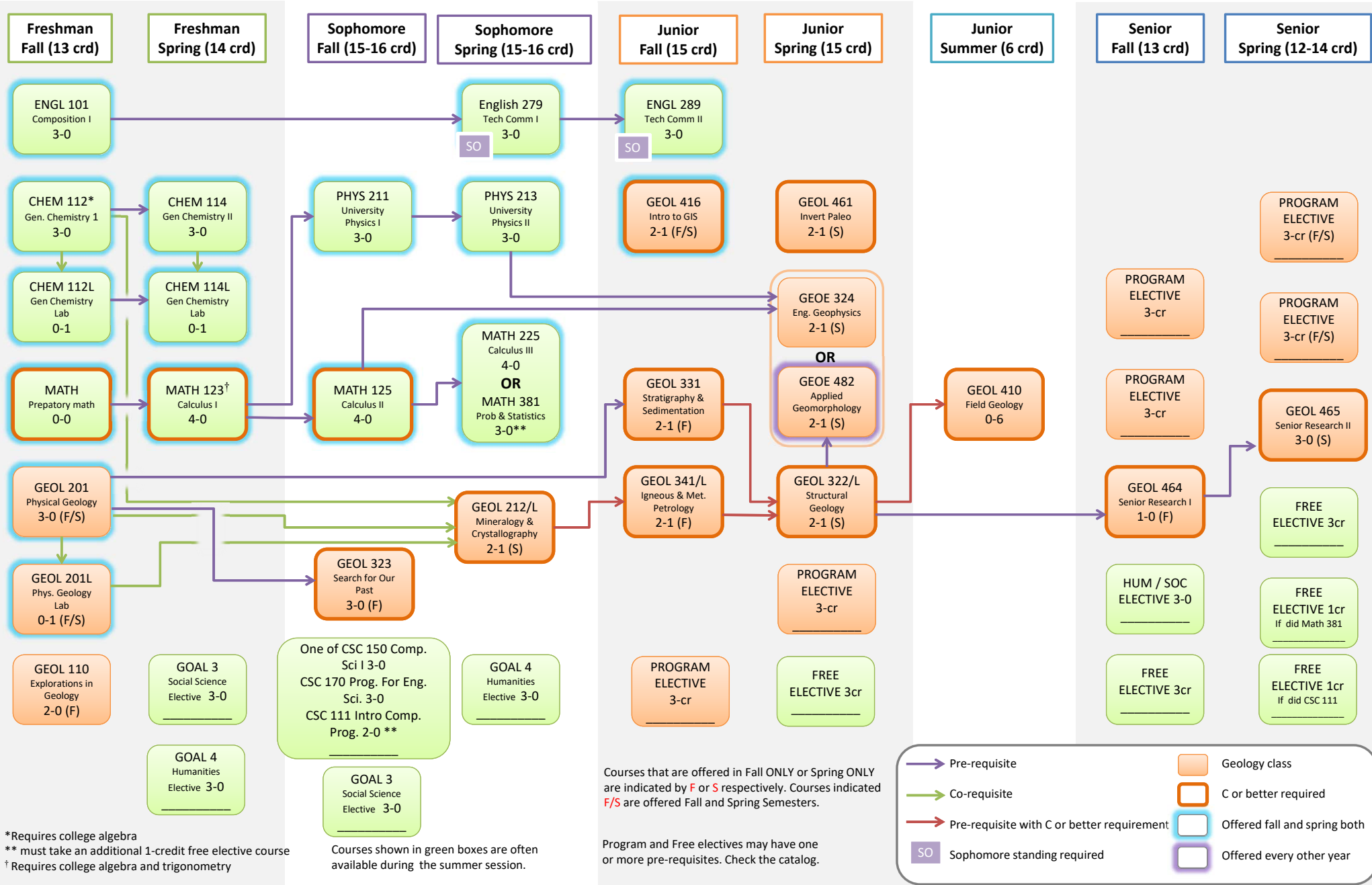


# BS in Geology Curriculum Flowchart

Fall 2018
















## Recommended electives by focus area

### Energy and Mineral Resources

#### Free electives

MEM 120 Introduction to Mining  
MEM 204 Surface Mining  
MEM 301 Computer Applications in Mining  
MEM 307 Mineral Exploration and Geostatistics  
MET 220 Mineral Processing  
POLS 407 Environmental Law & Policy

#### Program electives

 GEOE 201L Surveying for Mining and Geological Eng.  
 GEOE 461 Petroleum drilling and Production  
 GEOE 462/L Well Log Analysis\*\*  
 GEOE 466/L Engineering/Environmental Geology  
 GEOE 467 Introduction to Geomechanics\*\*  
 GEOL 351 Earth Resources and the Environment\*\*  
 GEOL 403 Regional Field Geology (when offered)  
 GEOL 420 Introduction to Remote Sensing  
 GEOL 422/L Tectonics and Sed. Basin Analysis\*\*  
 GEOL 442/L Optical Petrology\*\*  
 GEOL 450 Fluid and Thermal Diffusion\*\*  
 GEOL 451/L Economic Geology\*\*  
 GEOL 476 Petroleum Geology\*\*

Note: A Minor in Petroleum Systems is also offered; consult the requirements in the catalog.

### Paleontology

#### Free electives

AES 403 Biogeochemistry\*\*  
AES 406 Global Environmental Change\*\*  
BIOL 121/L Anatomy  
BIOL 151 General Biology I  
BIOL 123 Physiology  
BIOL 153 General Biology II  
BIOL 311 Principles of Ecology

#### Program electives

 GEOE 482/L Applied Geomorphology\*\*  
 GEOL 372 Dinosaurs  
 GEOL 403 Regional Field Geology (when offered)  
 GEOL 471 Field Paleontology  
 GEOL 472/L Museum Collections Management\*\*  
 GEOL 473/L Museum Exhibit Design\*\*  
 GEOL 474 Paleontological Resource Management\*\*  
 GEOL 475/L Vertebrate Fossil Prep./Conservation

\*\* Offered alternate years.











#Students must take at least one of these courses.  
If both are taken, the second may serve as a geology elective.

### Environmental Geology

#### Free electives

AES 301 Introduction to Atmospheric Sciences  
AES 403 Biogeochemistry  
AES/BIOL 406 Global Environmental Change\*\*  
BIOL 311 Principles of Ecology  
BIOL 331 Microbiology  
POLS 407 Environmental Law & Policy

#### Program electives






 GEOE 201L Surveying for Mining and Geological Eng.  
 GEOE 324/L Engineering Geophysics I#  
 GEOE 466/L Engineering/Environmental Geology  
 GEOE 467 Introduction to Geomechanics\*\*  
 GEOE 475/L Ground Water  
 GEOE 482/L Applied Geomorphology\*\*#  
 GEOL 351 Earth Resources and the Environment\*\*  
 GEOL 403 Regional Field Geology (when offered)  
 GEOL 420 Introduction to Remote Sensing  
 GEOL 450 Fluid and Thermal Diffusion\*\*

### Geospatial Technology

#### Free electives

CSC 111 Introduction to Computer Programming  
CSC 150 Computer Science I  
CSC 250 Computer Science II  
CEE 437 Watershed and Floodplain Modeling  
MEM 301/301L Computer Applications in Mining

#### Program electives






 GEOE 201L Surveying for Mining and Geological Eng.  
 GEOE 482/L Applied Geomorphology\*\*\*  
 GEOL 417 Geospatial Databases  
 GEOL 419 Advanced Geospatial Analysis  
 GEOL 420 Introduction to Remote Sensing

### Geomathematics

#### Free electives

MATH 321 Differential Equations  
MATH 315 Linear Algebra  
MATH 353 Linear Optimization  
MATH 382 Probability Theory and Statistics II  
MATH 451 Math Modeling

#### Program electives

 GEOE 324/L Engineering Geophysics I#  
 GEOE 467 Introduction to Geomechanics\*\*  
 GEOE 475/L Groundwater  
 GEOL 419 Advanced Geospatial Analysis  
 GEOL 450 Fluid and Thermal Diffusion\*\*

## Program electives by semester

### Every Fall and Spring

GEOE 475/L Ground Water

### Every Fall Semester

GEOE 201L Surveying for Mining and Geological Eng.  
GEOE 466/L Engineering/Environmental Geology  
GEOL 419 Advanced Geospatial Analysis  
GEOL 420 Introduction to Remote Sensing

### Fall- Odd years only

GEOL 472/L Museum Collections Management  
GEOL 450 Fluid and Thermal Diffusion

### Fall –Even Years only

GEOE 462/L Well Log Analysis  
GEOL 422/L Tectonics and Sed. Basin Analysis

### Every Summer

GEOL 410 Field Geology  
GEOL 471 Field Paleontology

### Every Spring Semester

GEOE 201L Surveying for Mining and Geological Eng  
GEOE 324/L Engineering Geophysics I  
GEOE 461 Petroleum Drilling and Production Eng.  
GEOL 372 Dinosaurs  
GEOL 417 Geospatial Databases  
GEOE 475/L Vertebrate Fossil Prep./Conservation  
GEOL 476 Petroleum Geology

### Spring –Odd years only

GEOE 482/L Applied Geomorphology  
GEOL 351 Earth Resources and the Environment  
GEOL 474 Paleontological Res. Management

### Spring- Even years only

GEOE 467 Introduction to Geomechanics  
GEOL 442/L Optical Petrology  
GEOL 451/L Economic Geology  
GEOL 473/L Museum Exhibit Design

Electives may be spread across several focus areas or concentrated in one area. Free electives may include additional geology courses if desired.