

Applied Geology B.S.

Department of Earth & Atmospheric Sciences, 303-615-1177, Science Room 2028
College of Letters, Arts, and Sciences

Catalog
2021-2022

This sheet applies to the 2021-22 catalog *only*. It does not replace the full catalog as an official statement of requirements. Students with declared majors *must* work with an advisor on course selection and sequencing to ensure a timely graduation.

General Studies	33 min
Required Pre-Requisites	20
Major courses	60
Unrestrictive Electives	<u>7</u>
Total to graduate (min. 40 hrs. upper-division)	120 min

General Studies Course Requirements

Written Communication (min. 6 credits)

- ___ ENG 1010 Composing Arguments
- ___ ENG 1020 Freshman Comp: Analysis, Research, & Doc.

Oral Communication (min. 3 credits)

Quantitative Literacy

See Required Pre-requisites for recommendations*

Arts and Humanities (min. 6 credits)

Historical (min. 3 credits)

Natural and Physical Sciences (min. 6 credits)

See Required Pre-requisites for recommendations*

Social and Behavioral Sciences I (min. 3 credits)

Social and Behavioral Sciences II (min. 3 credits)

Global Diversity

___ may be satisfied within General Studies (GD code)

Multicultural Requirement

___ may be satisfied within General Studies (MC code)

Applied Geology Required Pre-Requisites*

___ MTH 1110 College Algebra for Calculus	4
___ MTH 1120 College Trigonometry (Preq. MTH 1110) ___	3
MTH 1210 Introduction to Statistics	4
___ PHY 2010 College Physics I (Preq. MTH 1120)	4
___ CHE 1800 General Chemistry I (Preq. MTH 1110)	4
___ CHE 1801 General Chemistry Lab I (Co-Req. CHE 1800)	1

Applied Geology Major Required Core Courses

___ GEL 1010 Physical Geology	4
___ GEL 1030 Historical Geology (Preq. GEL 1010 or GEG 1100 or permission of instructor)	4
___ GEL 3050 Intro to Mineralogy and Optical Mineralogy (Preq. GEL 1010 & CHE 1800)	4
___ GEL 3120 Geomorphology (Preq. GEL 1010 or GEG 1100)	4
___ GEL 2530 Introduction to Field Methods (Preq. GEL 1010 recommended)	2
___ GEL 3530 Adv. Geology of the Colorado Plateau (Preq. GEL 1010, additional 4 credits of GEL)	2
___ GEL 4450 Sedimentary Geology and Stratigraphy (Preq. GEL 1030 or permission of instructor)	4
___ GEL 4460 Structural Geology and Mapping (Preq. GEL 4450)	4
___ GIS 1220 Introduction to Geospatial Sciences (MTH 1110 Recommended)	3
___ GIS 2250 Geographic Information Systems (Preq. GIS 1220)	3
___ GEL 4950 Internship in Geology (min. 3 credits) (Preq. Permission of EAS Dept.)	3

Senior Experience Requirement (min. 4 credits)

___ GEL 4970 Undergraduate Research in Geology (Preq. MTH 1210, GEL 3050, Sr. Status)	4
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Complete year of CHE or PHY series (min. 5 credits)

___ CHE 1810 General Chemistry II (Preq. CHE 1800)	4
___ CHE 1811 General Chemistry II Laboratory (Co-Req. CHE 1810)	1
___ PHY 2030 College Physics I Laboratory (Preq. MTH 1120)	1
___ PHY 2020 College Physics II (Preq. PHY 2010)	4
___ PHY 2040 College Physics II Laboratory (Preq. PHY 2030)	1

Applied Geology Elective Courses**(min. 11 credits must be with the GEL prefix)**

___ GEL 1020 Geology of Colorado	3
___ GEL 3420 Soil Resources (Preq. ENV 1200 or GEL 1010 or GEG 1100) (Co-Req ENV 3422 or GEL 3422 or GEG 3422)	4
___ GEL 3422 Methods of Soil Analysis & Sampling (Preq. ENV 1200 or GEG 1100 or GEL 1010) (Co-Req GEL 3420 or GEG 3420 or ENV 3420)	1
___ GEL 3440 Energy and Mineral Resources (Preq. GEL 1010, GEG 1100, ENV 1200, or permission of instructor)	4
___ GEL 3510 Adv. Geology of Red Rocks Park and Vicinity (Preq. 9 credits GEL coursework)	1
___ GEL 3520 Adv. Garden of the Gods – Front Range (Preq. 9 credits GEL coursework)	2
___ GEL 3550 Adv. Geology of the Great Sand Dunes (Preq. 9 credits GEL coursework)	2
___ GEL 3920 Directed Study in Geology (Preq. Permission of EAS Dept.)	2-6
___ GEL 4050 Igneous and Metamorphic Petrology	4
___ GEL 4150 Hydrology (Preq. GEG 1100 or GEG 1910 or ENV 1200 or GEL 1010 & Gen Studies Quant Literacy Complete; Pre/Coreq. MTH 1210)	4
___ GEL 4250 Hydrogeology (Preq. GEL 1010, CHE 1800, MTH 1110, Pre/Coreq GEL 3420)	4

Credits**Additional Major Electives (min. 3 credits)**

___ ENV 3540 Adv. Geologic and Env. Hazards – Denver (Preq. 9 credits GEG or GEL)	2
___ ENV 3700 Mountain Environments (Preq. ENV 1200, 9 credits ENV, GEL, GEG, BIO, CHE or MTR & Jr. Status)	3
___ GEL/ENV 4000 Geologic Hazards (Preq. GEL 1010 or GEG 1100 or ENV 1200 or permission of instructor)	3
___ ENV 4010 Environmental Hazards and GIS (Preq. ENV 4000 & GEG 3610 recommended)	3
___ GIS 3250 Cartography (Preq. GIS 2250 & MTH 1210)	3
___ GIS 4840 Remote Sensing (Preq. GIS 2250 & MTH 1110)	3
___ GIS 4860 GIS Applications (Preq. GIS 2250; Pre or Co: GIS 3250)	4
___ CET 3320 Environmental Impact Statements (Preq. Jr. Status)	3

Credits**Unrestricted Electives**

Need to total a minimum of 120 credits for a bachelor's degree

Students must complete each course with a grade of "C-" or better.

The degree is an extended major that does not require a minor.