Colorado State University Geosciences Department
Geology Concentration: 120 Credit Minimum

| Freshman Year | Credits | Sophomore Year | Credits |
|---|---|---|---|
| *Fall Semester* | | *Fall Semester* | |
| CO 150: College Composition | 3 | GEOL 232: Mineralogy | 3 |
| GEOL 150: Physical Geology for Scientists | 4 | GEOL 332: Optical Mineraology | 2 |
| MATH124: Logarithmic and Exponential Functions | 1 | CHEM 113: General Chemistry II | 3 |
| MATH 125: Numerical Trigonometry | 1 | CHEM 114: General Chemistry II lab | 1 |
| MATH 126: Analytical Trigonometry | 1 | AUCC 3C: Social/Behavioral Sciences | 3 |
| AUCC 3B: Arts and Humanities | 3 | PH 121 or PH 141 | 5 |
| *Spring Semester* | | *Spring Semester* | |
| GEOL 154: Historical and Analytical Geology | 4 | GEOL 364: Igneous and Metamorphic Petrology | 4 |
| MATH 160: Calculus for Physical Sciences I | 4 | GEOL 250: The Solid Earth | 3 |
| CHEM 111: General Chemistry I | 4 | MATH 161: Calculus for Physical Sciences II | 4 |
| CHEM 112: General Chemistry I lab | 1 | CO 300 or JTC 300 or CO 301B | 3 |
| AUCC 3E: Global and Cultural Awareness | 3 | | |

| Junior Year | Credits | Senior Year | Credits |
|---|---|---|---|
| *Fall Semester* | | *Fall Semester* | |
| GEOL 344: Sedimentation and Stratigraphy | 4 | GEOL 366: Sedimentary Petrology and Geochemistry | 4 |
| PH 122 or PH 142 | 5 | Technical Elective | 3 |
| STAT 301 or STAT 315 or MATH 340 | 3-4 | Upper Division Geology Course | 4 |
| AUCC 3B: Arts and Humanities | 3 | Elective | 1 |
| *Spring Semester* | | *Spring Semester* | |
| GEOL 372: Structural Geology | 4 | GEOL 454: Geomorphology | 4 |
| GEOL 376: Geologic Field Methods | 3 | Upper Division Geology Course | 3-4 |
| NR 319 or NR 322: Geospatial Applications | 4 | Electives | 5-7 |
| AUCC 3D: Historical Perspectives | 3 | | |
| *Summer Semester* | | | |
| GEOL 436: Summer Field Course | 6 | *Additional courses may be required to fulfill prerequisite requirements. | |
| | | **Program total** | **120** |

Effective Fall 2018

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## Technical Elective List

| Course Subject Code and Number | Title | Credits |
|---|---|---|
| CHEM 245[P] | Fundamentals of Organic Chemistry | 4 |
| CHEM 261[P] | Fundamentals of Inorganic Chemistry | 3 |
| CHEM 334[P] | Quantitative Analysis Laboratory (must be taken with CHEM 335) | 1 |
| CHEM 335[P] | Introduction to Analytical Chemistry (must be taken with CHEM 334) | 3 |
| CHEM 341[P] | Modern Organic Chemistry I | 3 |
| CHEM 473[P] | Foundations of Physical Chemistry | 4 |
| CHEM 474[P] | Physical Chemistry I (must be taken with CHEM 475) | 3 |
| CHEM 475[P] | Physical Chemistry Laboratory I (must be taken with CHEM 474) | 1 |
| CIVE/ENVE 322[P] | Basic Hydrology | 3 |
| CIVE 440[P] | Non Point Source Pollution | 3 |
| MATH 261[P] | Calculus for Physical Scientists III | 4 |
| MATH 340[P] | Introduction to Ordinary Differential Equations | 4 |
| MATH 369[P] | Linear Algebra | 3 |
| NR 300[P] | Biological Diversity | 3 |
| NR 322 | Introduction to Geographic Information Systems (if not used to fulfill GIS requirement) | 4 |
| NR 323/GR 323[P] | Remote Sensing and Image Interpretation | 3 |
| NR 422[P] | GIS Applications in Resource Management | 4 |
| PH 314[P] | Introduction to Modern Physics | 4 |
| PH 361[P] | Physical Thermodynamics | 3 |
| SOCR 440 | Pedology | 4 |
| SOCR 455[P] | Soil Microbiology | 3 |
| SOCR 470[P] | Soil Physics | 3 |
| STAT 315 [P] | Statistics for Engineers and Scientists (if not used to fulfill statistics requirement) | 3 |
| STAT 340[P] | Multiple Regression Analysis | 3 |
| STAT 350[P] | Design of Experiments | 3 |
| WR 406[P] | Seasonal Snow Environments | 3 |
| WR 416[P] | Land Use Hydrology | 3 |
| WR 418[P] | Land Use and Water Quality | 3 |

[P] This course has at least one prerequisite. Check the Courses of Instruction of the catalog at *http://catalog.colostate.edu* to see the course prerequisites.

**Classes outside of this list may be taken with approval of the department advisor and department head.**

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