Geology Department

Requirements of the Major

— *adopted Spring Semester 2022* —

GEOLOGY COURSES -- All Geology majors must complete the courses listed in categories A through E, below, and receive a grade of C–/S or higher in those courses.

A. Entry to the Geology Major: 1 unit at the introductory level

GY140 Introduction to Earth Systems - *or* - GY150 Environmental Geology

B. Breadth courses: 3 units at the 200 level

- GY211 Earth Materials
- GY212 Investigating Earth as a Physical System
- and one elective at the 200-level (GY207 excluded)

C. Earth Cycles and Earth Materials — 4 units at the 300 level, selected from:

- GY305 Stratigraphy and Sedimentation
- GY310 Origins & Petrology of Earth's Crust
- GY315 Rock Deformation and the Structure of Mountains
- GY320 Landscape Processes and Evolution
- GY335 Earth System Chemistry
- GY360 Resource Geology in the Age of Green Energy

D. Advanced Methods — 1 unit, selected from:

- GY316 Field Analysis of Geological Structures
- GY350 Analytical methods in Geochronology
- GY301 Numerical Modeling in Earth Science

E. Advanced Elective — 2 units, selected from:

- GY345 Regional Studies in Geology
- GY370 Advanced Studies in Geology [Topics vary]
- GY400 Collaborative Research Seminar (if not used to satisfy category F)
- Upper-level course(s) from another institution or from a Department in the Natural Sciences at CC, provided the course is directly related to geoscience skillset. A written request and rationale must be provided in order to receive consent of academic advisor or department Chair.
- Any 300 or 400 level course in the Geology Department (GY 405 excluded), provided it is not used to satisfy the Category C, D, or F requirement

F. Capstone Research — 1 unit of:

GY400 Collaborative Research Seminar — or —

GY405 Research Topics in Geology [Senior project or Senior thesis]

[Note: a single course may not be used to satisfy both D and E.]

G. Foundational courses in the Natural Sciences, one course from each of the following. AP test scores of 4 or 5 (if recorded on CC transcript) may be applied toward 2 of these 4 courses, with consent of Geology advisor or Chair. AP test score of 4 or 5 may be applied for only one of: Probability and Statistics OR Calculus 1 (not both). Students must receive a course grade of C–/S or above for each course taken at CC, in order for it to count toward the Geology major. (Courses at a higher level in Physics, Chemistry, and Mathematics may satisfy this requirement, with consent of advisor.)

- PC 141– Physics for the Life Sciences I or PC 241 – Physics for the Physical Sciences I
- CH 107 – General Chemistry I
- MA 117 or BE 220 or EV228 – Probability and Statistics
- MA 126 – Calculus I

12 GEOLOGY UNITS TOTAL

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Further specifications:

All majors must pass courses listed in categories A through G below with a grade of C–/S or above.

Students with AP credit or who tested out of foundational courses in PC, CH, BE or MA (over and above the two AP that may be accepted) may select the next higher course in the department's sequence.

Up to two courses taken off-campus may substitute for one required and one elective Colorado College units/courses that count toward completion of the requirements of the Geology major. Students must submit a written request and provide justification for the substitution(s) to the Department Chair. Requests for substitution are considered by the Geology Faculty and must be approved before the course substitution(s) will be accepted.

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Geology majors, and especially those intending to pursue a professional certification or graduate degree, are strongly urged to take additional courses in geology, environmental science, mathematics & computer science, chemistry, physics, and biology, and/or the GY 400 Collaborative Research Seminar in Geology. In summer, important academic and professional opportunities include a geology field camp offered by a university program, an internship that offers career and employment experiences, or/and field or laboratory research opportunity with a CC Geology professor or off-campus program.

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