Colorado State University Geosciences Department
Hydrogeology 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	CHEM 113: General Chemistry II	3
MATH 124: Logarithmic & Exponential Functions	1	CHEM 114: General Chemistry II lab	1
MATH 125: Numerical Trigonometry	1	MATH 161: Calculus for Physical Sciences II	4
MATH 126: Analytical Trigonometry	1	AUCC 3B: Arts and Humanities	3
AUCC 3C: Social/Behavioral Sciences	3	*Spring Semester*	
AUCC 3D: Historical Perspectives	3	GEOL 364: Igneous and Metamorphic Petrology	4
Spring Semester		PH 141: Physics for Scientists and Engineers I	5
GEOL 154: Historical and Analytical Geology	4	CO 300 or JTC 300 or CO 301B	3
MATH 160: Calculus for Physical Sciences I	4	MATH 261: Calculus for Physical Sciences III	4
CHEM 111: General Chemistry I	4		
CHEM 112: General Chemistry I lab	1		

Junior Year	Credits	Senior Year	Credits
Fall Semester		*Fall Semester*	
GEOL 344: Sedimentation and Stratigraphy	4	GEOL 452: Hydrogeology	4
WR 416: Land Use Hydrology	3	GEOL 366: Sedimentary Petrology and Geochemistry	4
PH 142 or SOCR 470	3-5	Directed Technical Elective	3-4
MATH 340: Intro to Ordinary Differential Equations	4	NR 319 or NR 322	4
Spring Semester		*Spring Semester*	
GEOL 372: Structural Geology	4	AUCC 3B: Arts and Humanities	3
GEOL 376: Geologic Field Methods	3	GEOL 454: Geomorphology	4
STAT 301 or STAT 315	3	Directed Technical Elective	3-4
AUCC 3E: Global and Cultural Awareness	3	Elective	3
Summer Semester		*Additional courses may be required to fulfill prerequisite requirements.	
GEOL 436: Summer Field Course	6	**Program total**	**120**

Effective Fall 2015

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Directed Technical Elective List*

Course Subject Code and Number	**Title**	**Credits**
GEOL 424[P]	Modern Gas and Oil	3
GEOL 442[P]	Applied Geophysics	4
GEOL 446[P]	Environmental Geology	3
GEOL 447[P]	Mineral Deposits	3
GEOL 498[P]	Undergraduate Research (up to 1 hour may be counted toward directed electives)	V1-6
GEOL 546[P]	Sedimentary Basin Analysis	4
GEOL 551[P]	Groundwater Modeling	3
GEOL 552[P]	Advanced Topics in Hydrogeology	V2-3
CIVE 423[P]	Groundwater Engineering	3
CIVE 440[P]	Nonpoint Source Pollution	3
CIVE 532[P]	Wells and Pumps	3
MATH 332[P]	Partial Differential Equations	3
MATH 369[P]	Linear Algebra	3
MATH 450[P]	Introduction to Numerical Analysis I	3
SOCR 470[P]	Soil Physics (if not used to fulfill physics II requirement)	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.
*Must select at least one course with GEOL prefix in this category.

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