

Anticipated course offerings in the School of Earth Sciences 2010-2012.
X = course will be offered, A = anticipated course offering, blank = course not offered, AU = Autumn, WI = Winter, SP = Spring, SU = Summer

Course Number	Course Title	Course Description	AU10	WI11	SP11	SU11	AU11	WI12	SP12	SU12
EARTHSCI 100	Planet Earth: How It Works	The materials of the Earth's crust, the processes that produce and modify them, and the development of the Earth and its life forms through time. Weekly lectures and a 2-hr lab. Not open to students with credit for Geol Sci 100. Not intended for ASC BS students. This course is available for EM credit. GEC B.A. phys sci course, B.A. phys sci sequence with 108, 110, 203, 204, 205, 206, 210 or ENR 101 or Geog 120. NS Adms Cond course.	X	X	X	A	X	X	X	A
EARTHSCI 105	Geology and the National Parks	Geologic processes, materials, and history revealed in geologic settings of the National Parks. Weekly lectures and a 1-hr recitation. Not open to students with credit for 100, or Geol Sci 100. Not intended for ASC BS students. GEC B.A. phys sci course, B.A. phys sci sequence with 108, 110, 203, 205, 206, 210. NS Adms Cond course.	X	A	A	A	A	A	A	A
EARTHSCI 107	Field-based Introduction to Oceanography	Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance. Su. 1 week, full-time at Stone Lab. Prereq: Permission of instructor. Not open to students with credit for Geol Sci 107.				A				A
EARTHSCI 108	Gems and Precious Stones	General introduction to gems and precious stones, including the origin of gems, identification techniques, and the history of important gems. Weekly lectures and a 1-hr recitation. Not open to students with credit for Geol Sci 108. Not intended for ASC BS students. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105.	X	A	A		A	A	A	
EARTHSCI 108H	Honors Gems and Precious Stones	General introduction to gems and precious stones, including the origin of gems, identification techniques, and the history of important gems. Weekly lectures and a 1-hr recitation. Available to students enrolled in an honors program or by permission of department or instructor. Not open to students with credit for Geol Sci 108. Not intended for ASC BS students. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105.		X						
EARTHSCI 110	History of Life on Earth-Global Change in the Biosphere	3.5 billion years of biosphere global change; introduction to major evolutionary and extinction events; processes responsible for change; and biosphere, atmosphere, and lithosphere interrelationships. Weekly lectures and a lab/discussion. Prereq: 100 or 105 or Biology 102 or 114 or Astron 143. Not open to students with credit for Geol Sci 110. This course is available for EM credit. NS Adms Cond course. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105 or Astron 143.			X				X	
EARTHSCI 110H	Honors History of Life on Earth-Global Change in the Biosphere	3.5 billion years of biosphere global change; introduction to major evolutionary and extinction events; processes responsible for change; and biosphere, atmosphere, and lithosphere interrelationships. Weekly lectures and a lab/discussion. Available to students enrolled in an honors program or by permission of department or instructor. Prereq: 100 or 105 or Biology 102 or 114 or Astron 143. Not open to students with credit for Geol Sci 110. This course is available for EM credit. NS Adms Cond course. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105 or Astron 143.			X				X	
EARTHSCI 121	The Dynamic Earth	Minerals, rocks, and their origin; land forms and how they are produced; structural features of the Earth's crust. Weekly lectures and a 2-hr lab. Prereq: Math 104. Not open to students with credit for Geol Sci 121. This course is available for EM credit. GEC B.A. and B.S. phys sci course, B.A. phys sci sequence with 122, 203, 204, 205, 206, 210; B.S. phys sci sequence with 122. NS Adms Cond course.	X	X	X	A	X	X	X	A
EARTHSCI 121H	Honors The Dynamic Earth	Minerals, rocks, and their origin; land forms and how they are produced; structural features of the Earth's crust. Weekly lectures and a 2-hr lab. Prereq: Math 104. Not open to students with credit for Geol Sci 121. This course is available for EM credit. GEC B.A. and B.S. phys sci course, B.A. phys sci sequence with 122, 203, 204, 205, 206, 210; B.S. phys sci sequence with 122. NS Adms Cond course.	X	X			X	X		
EARTHSCI 122	Earth Through Time	Origin and evolution of Earth, including its physical, chemical and biological components; principles of geologic inference and their application to interpreting Earth. Au. Weekly lectures and a 2-hr lab. 122H (honors) may be available to students enrolled in an honors program or by permission of department or instructor. Prereq: 121 or Geol Sci 121. Not open to students with credit for Geol Sci 122. Recommended second course in geol sci for science majors. GEC B.A. and B.S. phys sci course, B.A. and B.S. phys sci sequence with 121. NS Adms Cond course.	X	X	X		X	X	X	
EARTHSCI 122H	Honors Earth Through Time	Origin and evolution of Earth, including its physical, chemical and biological components; principles of geologic inference and their application to interpreting Earth. Weekly lectures and a 2-hr lab. 122H (honors) may be available to students enrolled in an honors program or by permission of department or instructor. Prereq: 121 or Geol Sci 121. Not open to students with credit for Geol Sci 122. Recommended second course in geol sci for science majors. GEC B.A. and B.S. phys sci course, B.A. and B.S. phys sci sequence with 121. NS Adms Cond course.		X	A			X	A	
EARTHSCI 151	Natural Hazards	Occurrence and causes of earthquakes, volcanoes and related hazards, and impact on climate, society, and history. Weekly lectures and recitation. GEC B.A. phys sci course, B.A. phys sci sequence	X	X	X		X	X	X	
EARTHSCI 155	Energy and Environment	Introduces and examines the fundamentals of energy sources, energy use, energy efficiency and resulting environmental implications of the various energy supplies. Weekly lectures. Not open to students with credit for Enr 155. Cross-listed with Enr 155. GEC B.A. phys sci course, B.A. phys sci sequence with 203 and 210.			X				X	
EARTHSCI 203	Environmental Geoscience	Concepts and challenges of geological hazards and resources, environmental pollution and health, regional and long-range planning, and global change and sustainability. Weekly lectures and a 2-hr lab. Prereq: 100 or 105 or 121 or 155 or Geol Sci 100 or 105 or 121 or 155. Not open to students with credit for Geol Sci 203. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105, 121 and 155. NS Adms Cond course.	X	X	A		A	A	A	
EARTHSCI 204	Exploring Water Issues	Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation. Weekly lectures. Prereq: 100 or 105 or 121 or Geol Sci 100, 105, 121; or Chem 101; or permission of instructor. Not open to students with credit for Geol Sci 204. GEC B.A. phys sci course, B.A. phys sci sequence with 100 and 121. NS Adms Cond course.	X	X			X	X		
EARTHSCI 205	The Planets	Comparison of the geological processes of Earth to the planets and moons in the solar system with particular attention to surface environments. Weekly lectures. Prereq: 100 or 105 or 121 or 151 or Geol Sci 100, 105, 121 or permission of instructor. Not open to students with credit for Geol Sci 205. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105, 121 or 151.			X				X	
EARTHSCI 206	Principles of Oceanography	The origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance. Weekly lectures and a 2-hr lab. Prereq: 100 or 105 or 121 or Geol Sci 100 or 105 or 121. Not open to students with credit for Geol Sci 206. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105, or 121. NS Adms Cond course.	X	X	X		X	X	X	
EARTHSCI 210	Energy, Mineral Resources and Society	Geologic origin, world distribution, and uses of mineral resources critical to society; topics include mineral and fossil fuels, metallic ores, and industrial minerals. Weekly lectures. Prereq: 100 or 105 or 121 or 155 or Geol Sci 100 or 105 or 121 or 155. GEC B.A. phys sci course, B.A. phys sci sequence with 100, 105, 121, or 155. NS Adms Cond course.		X				A		
EARTHSCI 245	Introductory Data Analysis for Earth and Environmental Sciences	Data analysis using cooperative learning environment; topics include data visualization, error analysis, error propagation, probability distributions, hypothesis testing, ANOVA, linear regression, and spatial statistics. Weekly lectures and a 2-hr lab. Prereq: Math 152, or written permission of instructor. Not open to students with credit for Geol Sci 245. GEC data analysis course.		X				X		

EARTHSCI 699	Undergraduate Research in Earth Sciences	Undergraduate research or creative activities in variable topics. Arr. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs for the combination of Geol Sci 699 and Earth Sci 699. This course is graded S/U.	X	X	X	X	X	X	X	X
EARTHSCI 717	Critical Issues in World Freshwater Resources	Examination of major issues relating to the world's freshwater resources; consideration of increasing water needs with a diminishing supply. Weekly lectures and 2 labs. Prereq: 651 or Geol Sci 651; 752 or Geol Sci 752 recommended. Not open to students with credit for Geol Sci 717.			X					A
EARTHSCI 718	Aquatic Geochemistry	Examination of the processes that control chemical equilibria in natural waters: acid/base reactions, metal complexation/precipitation and oxidation-reduction processes. Weekly lectures and recitation. Prereq: Chem 122 and Math 152; or equivs. Not open to students with credit for Geol Sci 718.	X							A
EARTHSCI 719	Environmental Organic Geochemistry	Fate and distribution of organic pollutants in the environment including aqueous solubility, vapor pressure, air/water, air/solvent/water and soil/water partition coefficients. Weekly lectures. Prereq: 718 or Geol Sci 718, and Chem 520 or permission of instructor. Intended for students in Geol. Sci., Earth Sci, Civil En, and the Grad Environmental Sci Program. Not open to students with credit for Geol Sci 719.						A		
EARTHSCI 750	Paleoclimatology	Paleoclimatology is a major and increasingly important discipline within the Geological and Earth System Sciences and is essential in understanding global environmental change.		A						
EARTHSCI 781	Gravimetry	Analytical treatment of concepts and methods of gravimetry; introductory theory of gravitational potential; geological interpretation of gravity data. Weekly lectures. Prereq: 680 or Geol Sci 680 or written permission of instructor. Not open to students with credit for 643, Geol Sci 643, or Geol Sci 781.						A		
EARTHSCI 782	Magnetometry	Advanced magnetic theory and practice applied to investigations of the subsurface, including interpretation of surface, airborne, and satellite magnetic measurements. Weekly lectures. Prereq: 680 or Geol Sci 68	X							
EARTHSCI 783H	Honors Research	A program of individual study arranged for students enrolled in the Honors Program with individual conferences and reports; requires presentation and oral defense of an Honors Thesis.								
EARTHSCI 800	Seminar in Stratigraphy and Basin Analysis	Consideration of current and classical problems and procedures in biostratigraphic and lithostratigraphic analysis and synthesis. Weekly lectures. Prereq: Permission of instructor.		A						
EARTHSCI 801	Seminar in Sedimentology	Consideration of sedimentation, and the structures, petrography, depositional environments, and paleontologic interpretation of sedimentary rocks. Weekly lectures. Prereq: Permission of instructor.	X							
EARTHSCI 821	Seminar in Isotope Geology and Geochemistry	The course will review the primary literature on the distribution, behavior and biogeochemistry of trace elements, especially trace metals, in natural waters.	X							
EARTHSCI 850	Seminar in Geomorphology and Quaternary Geology	Topics on formation of fluvial, desert, coastal volcanic, mass wasting, weathering, periglacial and glacial landforms; interpretation of Quaternary processes and history in field and classroom. Weekly lectures/ discussions. Prereq: Permission of instructor.			A					
EARTHSCI 851	Seminar in Hydrogeology and Oceanography	Topics in hydrogeology and oceanography, such as ground-water hydrology and hydraulics, basin management, reef and atoll development, or paleo-oceanography.		X					X	
EARTHSCI 880	Seminar in Geophysics	Investigation and discussion of recent developments in geophysics, including exploration geophysics, glaciology, solid-earth geophysics, paleomagnetism, tectonics, or engineering evaluation. Weekly lectures/ discussions.			A					
EARTHSCI 888	Colloquium in the Earth Sciences	Presentations and discussions of current research in the geological sciences provided by visitors, faculty and students; approximate program available at the beginning of the quarter.	X	X	X		X	X	X	
EARTHSCI 999	Research in the Earth Sciences	Research for thesis and dissertation purposes only. Repeatable. This course is graded S/U.	X	X	X	X	X	X	X	X