

DEPT EARTH SCIENCES, MONTANA STATE UNIV., UNDERGRADUATE COURSE MATRIX

(Required Courses ONLY Offered in the Dept. of Earth Sciences, exclusive of Independent Study, Thesis, etc.)

	Earth History, Deep Time, Evolution	Earth Composition and Architecture	Surficial Processes, Water, Climate	
Unifying Themes:				Human Dimensions
Degree Option:	Paleontology Option	Geology Option	Hydrology, Snow Options	Geography Options, Including GIS Minor
Upper Division Electives (4xx)				
Capstone Courses	GEO 429 Field Geology			GPHY 425 Geog Thought
Major "Enrichment" Courses (4XX)	GEO 417 Taphonomy	GEO 433 Tectonics	Other electives from LRES, CE, Poli Sci....	GPHY 431 Historical Geog
<i>Cognitive Skill Level: Analysis and Synthesis</i>	GEO 411 Vert Paleo	GEO 440 Volcanology		GPHY 461 Tourism Plan
Mastery of content and concepts	GEO 413 Macroevol	GEO 408 Meta Pet		GPHY 441R Mountain Geog
	GEO 419 Field Paleo	GEO 406 Igneous Pet.		GPHY 445 Regional Geog
		GEO 480 Petroleum		GPHY 480 Water and Soc.
		GEO 480 Geophysics		GPHY 480: American West
	GEO 407 Sedimentary Petrology			GPHY 446 East Asia
		Geohydrology		GPHY 411 Biogeography
		GEO 445 Glaciology		
		ERTH 450R Snow Dynamics		
				GPHY 426 Remote Sensing
				GPHY484 Applied GIS
Major "Core" Courses by Option (3xx)	GEO 310 Invert Paleo	GEO 302R Mineralogy		GPHY 321 Urban Geog
<i>Cognitive Skill Level: Interpretation (process, history...)</i>	GEO 330 Paleo Lab Technique	GEO 309 Sed and Strat		GPHY 322 Economic Geog
Competence with content and concepts	GEO 316 Comp Vert Anatomy	GEO 315 Structural Geol		GPHY 325 Cultural Geog
	GEO 312 Dinosaur Paleo			GPHY 357 Fund App Map
				GPHY 365 Geog Planning
		GPHY 384 Advanced GIS		
		ERTH 303 Weather and Climate		
		ERTH 307 Geomorphology		
"Foundations" Courses (2xx)-- Concepts/Skills required of ALL E Sci Majors AND Allied Depts.	All Majors are expected to fulfill prerequisites in cognate courses: Chemistry 141, Chemistry 143, Physics 220, Physics 222, STAT 332, Math 171 Calc I, Math 172 Calc II, (Math 273, 274 Diff Equations)			Stat 216, 217;
<i>Cognitive Skill Level: Description</i>	GEO 211 Historical Geology			1 year foreign Language
Familiarization with content and concepts	GEO 205 Earth Materials			
	GPHY 284 Intro to GIS			
Introductory Courses (1xx)	ERTH 101 IN Earth System Science			GPHY 121D Human Geography
<i>Cognitive Skill Level: Observation, inquiry, discovery</i>	ERTH 102 CS Topics in Earth Science			GPHY 141D Geog of World Regions
Initial Exposure to content and concepts	GEO 103 CS Environmental Geology			
	GEO 111 IN Dinosaurs	GEO 140 IN Planetary Geology	GEO 105 IN Oceanography	
		ERTH 212R Yellowstone Scientific Lab		

