

## Earth / Space Science Major for Secondary Education

FOR EDUCATION COURSES, Please refer carefully to the current *Teacher Education Program Guidebook* which can be viewed at <http://www.calvin.edu/academic/education/programs/guidebook/guidebook.pdf>

Required Courses:		Credits	Course Title	Requirements / Notes
	GEO 120	4	Earth Systems	
	or GEO 151	4	Introduction to Geology	
	or GEO 153	4	Big Sky Geology: Montana Field Experience	May Interim
	GEO 212	4	Structural Geology	GEO 152
	GEO 215	4	Mineralogy	GEO 151 and CHEM 101
	GEO 251	4	Oceanography	High school chemistry
	GEO 250	4	Meteorology	
	ASTR 211	4	Planetary and Stellar Astronomy	MATH 132 and one course in high school or college physics, or permission
	ASTR 212	4	Galactic Astronomy and Cosmology	MATH 132 and one course in high school or college physics, or permission
	SCES 214	3	Communication and Learning in the Natural Sciences	3 courses in natural sciences
	SCES 314	2	Integration Methods & Pedagogies for Sec. Science Teachers	SCES 214
	SCES 359	3	Seminar in Secondary Teaching of Integrated Science	
<b>One advisor-approved elective from:</b>				
	ENST 210	3	Human Impacts on the Environment	
	GEO 252	4	Geomorphology	GEO 120 or 151 or 153
	GEO 260	4	GIS and Cartography	
	GEO 304	3	Geochemistry	GEO 151 plus CHEM 102 or permission
	GEO 313	4	Paleontology	GEO 152 or BIOL 242 and 243
	GEO 316	4	Igneous and Metamorphic Petrology	GEO 215
	GEO 317	4	Sedimentation and Stratigraphy	GEO 215
	STATS 143	4	Probability and Statistics	
	An approved elective			
<b>Required Cognates:</b>				
	CHEM 101	4	General Chemistry I	
	MATH 132	4	Calculus for Management, Life & Social Sciences	STAT 143 or permission
	or MATH 171	4	Calculus I	*see catalog
	One course in college or high school physics			