

ENVIRONMENTAL GEOSCIENCES AND RESTORATION – CORE Program

Reviewed: 8.1.13

UM Core (24-27 cr) ENGL 101 _____, HL _____, HA _____, HL/HA/HO/IE _____, SH _____, Diversity _____
 Adv Writing _____, Adv. Studies _____, SB _____, SB/IE _____.

Grading Policy: Environmental Science and Policy students must earn a C- grade or higher in all ENSP core courses and in all required courses and restricted electives of the selected area of concentration.

ENSP Core (39 credits)

Course	Title	Cr	Offered	Prerequisites	Grade	Comments
All three:						
ENSP 101	Intro. to Environmental Science	3	F	-	_____	
ENSP 102	Intro. to Environmental Policy	3	Sp	-	_____	
ENSP 400	Capstone in Env. Sci & Policy	3	Sp, F	Senior year; ENSP 101 and 102	_____	
Calculus:						
MATH 140	Calculus I	4	Sp, F, Su	dept. perm. or MATH 115 w/C or better	_____	
Statistics (one):						
BIOM 301	Introduction to Biometrics	3	Sp, F	MATH 115	_____	
GEOG306	Quant. Methods in Geog. Env. Sci.	3	Sp, F, Su		_____	
STAT 400	Applied Prob and Statistics I	3	Sp, F, Su	MATH 141	_____	
Chemistry (one):						
CHEM 131/132 <i>or</i>	General Chemistry I	3/1	Sp, F, Su	placement in MATH 220 or higher	_____	
CHEM 135/136	Chemistry for Engineers	3/1	Sp, F	coreq: MATH 115	_____	
Earth Sciences:						
ENST 200 <i>and</i>	Fundamentals of Soil Science <i>and</i>	4	Sp	CHEM 131/132 or dept. perm.	_____	
GEOL120/110 <i>or</i>	Environmental Geology/Lab <i>or</i>	3/1	Sp, F, Su	-	_____	
GEOL100/110	Physical Geology/Lab	3/1	Sp, F, Su		_____	
Biology:						
BSCI 106	Principles of Biology II	4	Sp, F, Su	placement in MATH 220 or higher	_____	

Choose one course from each category below:

Govt & Politics (one):						
AREC 332	Intro. to Natural Resource Policy	3	Sp	AREC 240 or ECON 200. Offered in Spr of "odd" years, e.g., 2015 etc.	_____	
ENSP 330	Intro. to Environmental Law	3	F	Permission of dept; Junior standing.	_____	
ENSP 340	Water: Sci., Ethics, and Law	3	Sp	Permission of dept; Junior standing.	_____	
ENSP 342	Oceans: Integrated Policy Response	3	F	Permission of dept; Junior standing.	_____	
GVPT 273	Intro. to Environmental Politics	3	Sp	GVPT 170 or ENSP 102	_____	
Economics (one):						
AREC 240	Intro. to Economics and the Envir	4	Sp, F	MATH 220 or higher recommended	_____	
ECON 200	Principles of Micro-Economics	4	Sp, F, Su	MATH 110 or higher	_____	

ENVIRONMENTAL GEOSCIENCES – Requirements

BASIC SCIENCES (12 credits)

Course	Description	Cr	Offered	Prerequisites	Grade	Comments/subs
CHEM 231/232	Organic Chemistry I	4	Sp,F,Su	CHEM 131/132		
MATH141	Calculus II	4	Sp,F,Su	MATH140		
PHYS141 <i>or</i> PHYS161/PHYS174	Principles of Physics Gen Physics: Mech and Part Dyn & Physics laboratory introduction	4 3/1		MATH141 MATH141		

UPPER LEVEL REQUIREMENTS (17 credits)

BSCI 361	Principles of Ecology	4	F,W,Sp	BSCI106		
GEOL 340	Geomorphology	4	Sp	GEOL 100/110 or GEOL120/110		
GEOL451 <i>or</i> GEOL452	Groundwater Watershed and Wetland Hydrology	3 3	Sp F	CHEM 131/132, GEOL100 or GEOL120, GEOL 110 Jr. standing		
GEOL453	Princ and Prac of Ecosys Rest	3	Fa	Jr. standing		
ENSP 386	Internship	3	Fa,Sp,Su	Approved internship proposal		

AREAS OF DEPTH - at least **5** classes and **15** credits, including [a minimum of **6** credits from each of **two** areas] *or* [a minimum of **9** credits in **one** area]

Techniques and Application: GEOG372 GEOG373	Remote Sensing Geographic Info Systems	3 3	Sp,W,Su,F Fa,W,Su		_____ _____	
Environmental Restoration: ENST 414 ENST 421 ENST 422 ENST 423 ENST 430 ENST 450 ENST452 PLSC471	Soil Morph Genesis and Classif. Soil Chemistry Soil Biochem & Microbial Ecol. Soil-Water Pollution Wetland Soils Wetland Ecology Wetland Creation and Restoration Forest Ecology	4 4 3 3 3 3 3 3	F Sp Sp F Sp F Sp Sp	ENST 200 ENST 200 ENST 200 ENST 200 ENST 200 BIOM301 BSCI106, one of: BSCI362, ENST360, ENST450 BSCI106	_____ _____ _____ _____ _____ _____ _____ _____	
Surficial Geology: GEOL 322 GEOL 342 GEOL 436 GEOL 437 GEOL 444 GEOL451* GEOL452* * If not taken to satisfy upper level requirement above	Mineralogy Sedimentation and Stratigraphy Biogeochemistry Global Climate Change Past/Pres. Low-Temperature Geochemistry Groundwater* Watershed and Wetland Hydrology*	4 4 3 3 4 3 3	Sp Sp F Sp F Sp F	GEOL100/110 or GEOL120/110, CHEM 131/132 GEOL 322 GEOL 100/110, CHEM 131/132, and MATH 140 or 220 CHEM131/132, GEOL100 or GEOL120, MATH115 GEOL 100/110, GEOL 322, CHEM 131/132, MATH115 CHEM 131/132, GEOL100 or GEOL120, GEOL 110 Jr. standing	_____ _____ _____ _____ _____ _____ _____	

Deep-Earth Geology:						
GEOL102	Historical Geology	4	Sp	GEOL100 or GEOL120	_____	
GEOL341	Structural Geology	4	F	GEOL102	_____	
GEOL423	Optical Mineralogy	3	F	GEOL100 or GEOL120, GEOL322, CHEM131/132	_____	
GEOL443	Petrology	4	Sp	GEOL100 or GEOL120, GEOL322, GEOL423, CHEM131/132	_____	
GEOL445	High-Temperature Geochemistry	4	F	MATH115; GEOL100; GEOL322; CHEM131 and CHEM132	_____	
GEOL446	Geophysics	3	F	MATH140, MATH141	_____	
GEOL455	Marine Geophysics	3	F	GEOL100 or GEOL120, MATH141, PHYS141 or PHYS161	_____	
GEOL456	Engineering Geology	3	Sp	GEOL100 or GEOL120, MATH141, PHYS141 or PHYS161	_____	
GEOL457	Seismology	3	Sp	GEOL100 or GEOL120, MATH141	_____	