ENSP – Soil, Water, and Land Resources

NOTE: always refer to the Schedule of Classes for the most up-to-date information regarding course offerings, prerequisites & restrictions.

ENSP Core

Course	Title	Grade
All		
ENSP101 (NS)	Intro to Env Science	
ENSP102 (HS)	Intro to Env Policy	
ENSP400 (SP)	Senior Capstone	
Applied Science and Policy (one)		
ENSP305	Applied Spatial Methods	
ENSP306	Qual Research/Env Sci	
ENSP330	Environmental Law	
ENSP340	Sci, Ethics, Law: Water	
ENSP342	Oceans: Integ. Policy	
ENSP350	Energy: Science & Policy	
ENSP370	Environmental Justice	
Calculus (one)		
MATH120 (MA) ***or***	Elementary Calculus	
MATH140 (MA)	Calculus I *(recommended)*	
Statistics (one)		
BIOM301 (AR)	Intro to Biometrics	
GEOG306 (AR)	Intro to Quant Methods	
PSYC200 (AR)	Stat Methods in Psyc	

Five (5) courses from the 5 groups below:

	Course	Title	Grade
1	**Biology (req'd)**		
	BSCI160 &	Ecology & Evolution	
	BSCI161 or BSCII80	Evolution lab or Principles Bio. Lab	
2	**Chemistry (req'd)**		
	CHEM131/132 (NL)	Gen Chemistry I/Lab	
3	**Earth Science (both req'd)**		
	ENST200 (NL) ***and***	Princ of Soil Science	
	GEOG201/211 (NL) *or*	Geog of Env Systems	_____
	GEOL100/110 (NL)	Physical Geology	
4	**Economics (one)**		
	AREC240 (HS)	Intro to Econ and Env	
	AREC241 (HS, IS)	Env, Econ, and Policy	
	ECON200 (HS)	Princ of Microeconomics	
5	**Geography (one)**		
	GEOG130 (HS)	Development Geography	
	GEOG140 (IS)	Natural Disasters	
	GEOG170 (NS)	Meth of Geospatial Anal	
	GEOG202 (CC)	Intro to Human Geog	

ENSP Graduation Requirements

_____ Students must earn C- or higher in all courses used for ENSP Core and Concentration requirements.
_____ Students' major GPA must be 2.0 or higher.

General Education

Fundamental Studies (15 credits)

Requirements	Course	Cr
Academic Writing (AW)		3
Professional Writing (PW)		3
Oral Communication (OC)		3
Math (MA)	Calculus	3-4
Analytical Reasoning (AR)	Statistics	

Distributive Studies (25 credits)

Requirements	Course	Cr
Natural Sciences w/Lab (NL)	ENSP Lab Sci	4
Natural Science (NS)	ENSP 101	3
History and/or Social Sci (HS1)	ENSP 102	3
History and/or Social Sci (HS2)		4
Humanities (HU1)		3
Humanities (HU2)		3
Scholarship in Practice (SP, major)	ENSP 400	3
Scholarship in Practice (SP, non-major)		3

I-Series (6 credits)*

* May double-count with Distributive Studies

Requirements	Course	Cr
I- Series (IS)		3
I- Series (IS)		3

Diversity (4-6 credits)*

* May double-count with Distributive Studies

Requirements	Course	Cr
Understanding Plural Societies (UP)		3-6
Understanding Plural Societies (UP) *or* Cultural Competency (CC)		0-3

Experiential Learning (0-3 credits)*

* May overlap with major requirements

Requirements	Course	Cr
Practical experience is *strongly recommended* in this concentration		

ENSP – Soil, Water, and Land Resources (cont'd)

REQUIREMENTS (18-22 credits):

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
GEOG272	Introduction to Earth Observation Science	3	F,Su,W	*Formerly GEOG372: Remote Sensing*	_____
Select one:					
GEOL340	Geomorphology	4	Sp	GEOL100	_____
GEOG340	Geomorphology	3	TBA	Offered Summer or Winter, if offered.	_____
Select one:					
GEOL451	Groundwater Geology	3	F	GEOL100/110, MATH140, CHEM131/132 or perm	_____
GEOL452	Watershed and Wetland Hydrology	3	F	Junior Standing	_____
ENST417*	Soil Hydrology and Physics	3	F	ENST200 & course in physics; check w/prof.	_____
Select two:	**Skill development:**				
ENST301,	Field Soil Morph 1	1	Sp	Permission of dept	_____
ENST302,	Field Soil Morph II	1	Sp	Permission of dept	
& ENST303	Field Soil Morph II	1	Sp	Permission of dept	
	soil judging or intensive field course; ck with advisor.	1			_____
					_____
					_____
ENST415	Renewable Energy	3	F	CHEM131, PHYS121 & MATH113; perm of dept.	_____
ENST423	Soil and Water Pollution	3	Sp	ENST200 and CHEM231/232 or perm of dept	
Select two:	**Depth:**				
ENST411	Principles of Soil Fertility	3	F	ENST200 or equivalent.	_____
ENST414	Soil Morphology Genesis & Class.	4	F	ENST200	_____
ENST417*	Soil Hydrology and Physics	3	F	ENST200 & course in physics; or dept. perm.	_____
ENST421	Soil Chemistry	4	Sp	ENST200	_____
ENST422	Soil Biochem & Microbial Ecology	3	F	ENST200 or dept. perm	_____

RESTRICTED ELECTIVES: At least 3 courses and 9 credits. Students may suggest additions to this list by providing a course syllabus to the faculty advisor and explaining how the course relates to their long-term academic or career interests

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
ENCE310	Introduction to Env. Engineering	3	Fa, Sp	PHYS260 and ENCE215; and perm. of dept.	
ENST430	Wetland Soils	3	Sp	ENST200	
ENST440	Crops, Soils and Civilization	3	Sp	-	
ENST450	Wetland Ecology	3	F	Meets in even years, e.g., 2016, 2018, etc.	
GEOG345	Introduction to Climatology	3	F		
GEOG373	Geographic Information Systems	3	Sp,F,W,Su	**recommended*	
GEOG475	Advanced Computer Cartography	3	Sp	GEOG 373	
GEOG472	Remote Sensing	3	Fa	GEOG 372	
GEOG473	Geog. Info. Sys. and Spatial Anal.	3	Sp	GEOG 373 and GEOG306 or equivalent.	
ENSP386	Internship	3	Sp,F,Su	Internship proposal approved	

Recommended preparation for GRADUATE SCHOOL in Soil and Water Sciences: MATH 141 *or* MATH 121; PHYS 121 *and* 122; CHEM 231/232 *and* 241/242.