

# ENSP – Land Use

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

<b>ENSP Core</b>				<b>General Education</b>		
Course	Title	Offered	Grade	<b>Fundamental Studies (15 credits)</b>		
<b>All three:</b>				<b>Requirements</b>	<b>Course</b>	<b>Cr</b>
ENSP101 (NS)	Intro to Env Science	Fa		Academic Writing (AW)		3
ENSP102 (HS)	Intro to Env Policy	Sp		Professional Writing (PW)		3
ENSP400 (SP)	Senior Capstone	Fa,Sp		Oral Communication (OC)		3
<b>Applied Science and Policy (one)</b>				Math (MA)	Calculus	3-4
ENSP305	Applied Spatial Methods	Sp		Analytical Reasoning (AR)	GEOG306	
ENSP306	Qual Research/Env Sci	Fa		<b>Distributive Studies (25 credits)</b>		
ENSP330	Environmental Law	Fa, Sp		<b>Requirements</b>	<b>Course</b>	<b>Cr</b>
ENSP340	Sci, Ethics, Law: Water	Fa		Natural Sciences w/Lab (NL)	ENSP Lab Sci	4
ENSP342	Oceans: Integ. Policy	Sp		Natural Science (NS)	ENSP 101	3
ENSP350	Energy: Science & Policy	TBA		History and/or Social Sci (HS1)	ENSP 102	3
ENSP370	Environmental Justice	Sp		History and/or Social Sci (HS2)		4
<b>Calculus (pick one)</b>				Humanities (HU1)		3
MATH120 (MA) or	Elementary Calculus	Fa,Sp,Su	<b>Grade</b>	Humanities (HU2)		3
MATH140 (MA)	Calculus I ( <i>recommended</i> )	Fa,Sp,Su		Scholarship in Practice (SP, major)	ENSP 400	3
<b>Statistics (pick one)</b>				Scholarship in Practice (SP, non-major)		3
BIOM301 (AR)	Intro to Biometrics	Fa,W,Sp	<b>Grade</b>	<b>I-Series (6 credits)*</b>		
GEOG306 (AR)**	Intro to Quant Methods	Sp,Su,W		* May double-count with Distributive Studies		
PSYC200 (AR)	Stat Methods in Psyc	Fa,Sp,Su		<b>Requirements</b>	<b>Course</b>	<b>Cr</b>
<i>** strongly recommended</i>				I- Series (IS)		3
<b>Four (4) courses from the 5 groups below:</b>				I- Series (IS)		3
<b>Biology (req'd)</b>				<b>Diversity (4-6 credits)*</b>		
BSCI160/161 (NL)	Ecology & Evolution/Lab	Fa,Sp,Su	<b>Grade</b>	* May double-count with Distributive Studies		
<b>Chemistry</b>				<b>Requirements</b>	<b>Course</b>	<b>Cr</b>
CHEM131/132 (NL)	Gen Chemistry I/Lab	Fa,Sp,Su	<b>Grade</b>	Understanding Plural Societies (UP)		3-6
<b>Earth Sci (req'd)</b>				Understanding Plural Societies (UP) <i>or</i>	GEOG202	0-3
GEOG201/211 (NL)	Geog Environ Sys/Lab	Fa,Sp,Su	<b>Grade</b>	Cultural Competency (CC)		0-3
<b>Economics (pick one)</b>				<b>Experiential Learning (0-3 credits)*</b>		
AREC240 (HS)	Intro to Econ and Env	Sp		* May overlap with major requirements		
AREC241 (HS, IS)	Env, Econ, and Policy	Fa		<b>Requirements</b>	<b>Course</b>	<b>Cr</b>
ECON200	Princ of Microeconomics	Fa,Sp,Su		Practical experience is <i>required</i> in this concentration		
<b>Geography (req'd)</b>				<b>Graduation Requirements</b>		
GEOG202 (CC)	Intro to Human Geog	Sp		Up to 6 AP courses <b>may</b> be used for Gen Ed		
<b>ENSP Graduation Requirements</b>				No more than 60 credits earned from Community College		
_____ Students must earn <u>C-</u> or <u>higher</u> in all courses used for ENSP Core and Concentration requirements.				_____ Last 30 credits must be earned at Maryland		
_____ Students' major GPA must be 2.0 or higher.				_____ 120+ cumulative credits <i>and</i> 2.0+ cum GPA		

## ENSP – Land Use (p. 2 of 3)

### REQUIREMENTS:

#### >>> LOWER LEVEL FOCUS – 1 course, 3-4 credits:

Course	Title	Cr	Offered	Prerequisites	Grade
<b>One of:</b>					
GEOG 130	Developmental Geography	3	Fa, Su		—
GEOG 140 (IS)	Natural Disasters	3	F, Sp		—
ENST 200	Fundamentals of Soil Science	4	Fa, Sp	CHEM 131/132	—

#### >>> TECHNIQUES AND METHODS (2 courses, 6 credits):

Course	Title	Cr	Offered	Prerequisites	Grade
GEOG 272	Intro. to Earth Observation Science	3	Fa, Su, W	<i>(Formerly GEOG372)</i>	
GEOG 373	Geographic Information Systems	3	Fa, Sp, Su, W		

#### >>> APPLICATION & SYNTHESIS (2 courses, 6 credits) :

Course	Title	Cr	Offered	Prerequisites	Grade
ENSP 386	Internship	3	Fa, Sp, Su	Dept. permission	
GEOG 431	Culture & Natural Resource Mgmt	3	Fa		

### RESTRICTED ELECTIVES (22-24 credits). Students must take at least 8 courses, including at least one course and 3 credits from each of the five (5) areas below.

#### >>> Area 1 – Social/Cultural Dimensions – choose at least 1 course and 3 credits

Course	Title	Cr	Offered	Prerequisites	Grade
ANTH 450	Environmental Anthropology	3	Sp	Junior standing	
ENST 440	Crops, Soils, and Civilization	3	Sp		
GEOG 212	Career Planning for Geog.	1	Fa, Sp		
GEOG 332	Economic Geography	3	Fa		
GEOG 415	Land Use, Climate Chg and Sust	3	Sp	GEOG 201/211, GEOG 306 or equiv.	
GEOG 430	Climate, Energy and Policy	3	Fa	GEOG201 or GEOG202; and (GEOG306 & GEOG301) or perm.	
GVPT 461	Metropolitan Government	3	Sp		
SOCY 405	Scarcity in Modern Society	3	Sp	6 credits in SOY	

#### >>> Area 2 – Technical Skills – choose at least 1 course and 3 credits.

Course	Title	Cr	Offered	Prerequisites	Grade
GEOG276	Principles of Python & Geocomputing	3	F, Su		
GEOG371	Programming for Image Analysis	3	F	GEOG276, GEOG306, and GEOG272.	
GEOG376	Programming for Geospatial Analysis	3	Sp	GEOG276 and GEOG373, Calc	
GEOG398E	Spatial Artificial Intelligence	3	Sp		
GEOG 416	Concept/Modeling Hum-Env Interac	3	Sp	Corequisite: MATH130, 140, or 120	
GEOG 418	Field and Lab Tech. in Env Science	3	Fa	<i>Field component takes place in the summer; check Sched of Classes.</i>	
GEOG470 <i>or</i> GEOG461	Algorithms for Geospatial Comp. <i>or</i> Machine Learning for Comp. Earth Observation Science	3 3	Sp F	GEOG276 GEOG371	
GEOG 472	Rem. Sensing Digital Proc & Analy.	3	Sp	GEOG 272, GEOG306 or equiv.	
GEOG 473	GIS and Spatial Analysis	3	Fa, Sp	GEOG 272 ,GEOG306 or equiv	
GEOG 475	Adv Cartography	3	Sp	GEOG 373	

## ENSP – Land Use (p. 3 of 3)

>>> **Area 3 – Regional Dimensions** – choose at least 1 course and 3 credits.

Course	Title	Cr	Offered	Prerequisites	Grade
AREC 455	Economics of Land Use	3	Fa	AREC240, ECON201, and AREC326	
ENST 373	Nat History of the Chesapeake Bay	3	Fa	A course in Biology or dept perm	
GEOG421	Geog of China	3	Sp		
GEOG422	Sub-Saharan Africa	3	Fa		

>>> **Area 4 – Ecological Dimensions** – choose at least 1 course and 3 credits.

Course	Title	Cr	Offered	Prerequisites	Grade
BSCI 361 <i>or</i>	Ecology <i>or</i>	4	Sp	BSCI 160/161 and Calculus	
BSCI 460	Plant Ecology	3	Fa	BSCI 160/161	
BSCI 462	Population Ecology	3	Fa	BSCI 160/161 and MATH 220	
GEOG 301	Adv Geography of Environmental Sys	3	Sp	GEOG201/211	
GEOG 442	Biogeography and Env Change	3	Fa	GEOG 342 or BSCI361	
ENST 430	Wetland Soils	3	Sp	ENST 200	
ENST 450	Wetland Ecology	3	Fa	BIOM 301 or permission – Fall of “even” years.	
ENST 460	Wildlife Management	3	Fa	Two semesters of BSCI lab & BSCI361	
ENST 461	Urban Wildlife Management	3	Fa		
GEOL453	Ecosystem Restoration	3	F	CHEM131/132; MATH 220; ENST200.	
PLSC 471	Forest Ecology	3	Sp	BSCI 160/161 or PLSC 201	

>>> **Area 5 – International Dimensions** – choose at least 1 course and 3 credits.

Course	Title	Cr	Offered	Prerequisites	Grade
AREC 365	World Hunger, Pop, and Food Supply	3	Fa, Sp		
GEOG 331	Hum Dimensions of Global Chng	3	Sp	GEOG 201 or 202 or permission	
GEOG 333 <i>or</i>	Social Geog Metro... in Global Persp	3	Fa		
GEOG 456	Social Geog Metro... in Global Persp	3			
ENST 479	Tropical Ecol and Resource Mgmt	3	TBD	BSCI 160/161. <i>Course has a required study abroad component. Dept. permission required.</i>	

Students may suggest additions to the Restricted Elective list by bringing a course syllabus to the faculty advisor and explaining how the course relates to their long-term academic or career interests.