

ENVIRONMENTAL ECONOMICS – CORE Program

Reviewed 8.15.14

UM Core: 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 C- grades or higher in all ENSP core courses and in all required courses and restricted electives of the selected area of concentration.

Required from ENSP Core:

Course	Title	Cr	Offered	Prerequisites	Grade	Completed	Notes
All three: ENSP 101 (PS) ENSP 102 ENSP 400 (AS)	Intro. to Environmental Science Intro. to Environmental Policy Capstone in Env. Sci & Policy	3 3 3	F Sp Sp, F	- - Senior year; ENSP 101 and 102	___ ___ ___	___ ___ ___	___ ___ ___
Calculus: MATH 140 (MS) <i>or</i> MATH 220 (MS)	Calculus I (<i>strongly recommended</i>) Elementary Calculus I	4 3	Sp, F, Su Sp, F, Su	dept. perm. or MATH 115 w/C or better dept. perm. or MATH 113, or 115	___ ___	___ ___	___ ___
Statistics (one): BIOM 301 ECON 321 GEOG 306 PSYC 200 SOCY 201 STAT 400	Introduction to Biometrics Econ Stats (<i>strongly recommended</i>) Introduction to Quant. Methods Statistical Methods in Psychology Intro. Statistics for Sociology Applied Prob and Statistics I	3 3 3 3 4 3	Sp, F Sp, F Sp Sp, F, Su Sp, F, Su Sp, F, Su	MATH 115 ECON 200, 201, MATH 220 PSYC 100, MATH 111 or 140 or 220 SOCY 100 and MATH 111 or equiv. MATH 141	___ ___ ___ ___ ___ ___	___ ___ ___ ___ ___ ___	___ ___ ___ ___ ___ ___
Economics (one): AREC 240 (SB) AREC 241 ECON 200 (SB)	Intro. to Economics and the Envir. Environment, Econ., and Policy Principles of Micro-Economics	4 4 4	Sp Fa Sp, F, Su	MATH 220 or higher recommended MATH 220 or higher recommended MATH 110 or higher	___ ___ ___	___ ___ ___	___ ___ ___
Geography (one): GEOG 100 (SB) GEOG 130 (SB/D) GEOG 140 (PS) GEOG 202 (SB)	Intro to Geography Developing Countries Natural Disasters World in Cultural Perspective	3 3 3 3	F F, Su F Sp	- - - -	___ ___ ___ ___	___ ___ ___ ___	___ ___ ___ ___
Govt & Politics (one): ENSP 330 ENSP 340 ENSP 342 GVPT 273	Introduction to Environmental Law Water: Science, Ethics, and Law Oceans: Integrated Policy Intro. to Environmental Politics	3 3 3 3	F, S F S Sp	Permission of dept; Junior standing. Permission of dept; Junior standing. Permission of dept; Junior standing. GVPT 170 or ENSP 102	___ ___ ___ ___	___ ___ ___ ___	___ ___ ___ ___

And: One (1) course from 2 of the next 3 categories

Biology: BSCI 106 (LL)	Princ of Biology II (<i>recommended</i>)	4	Sp, F, Su	placement in MATH 220 or higher			
Chemistry: CHEM 131/132 (PL)	General Chemistry I	3/1	Sp, F, Su	placement in MATH 220 or higher			
Earth Sciences (one): AOSC 200/201 (PL) ENST 200 (LL) GEOL 100/110 (PL) GEOL 120/110 (PS) GEOG 201/211 (PL)	Weather and Climate/Lab Fundamentals of Soil Science Physical Geology/Lab Environmental Geology/Lab Geog of Env Sys/Lab (<i>recommended</i>)	3/1 4 3/1 3/1 3/1	Sp, F F Sp, F, Su Sp, F, Su F, Sp, Su	MATH 110 or 115. CHEM 131/132 or dept. perm; - - -	___ ___ ___ ___ ___	___ ___ ___ ___ ___	___ ___ ___ ___ ___

REQUIRED for Environmental Economics:

Course	Description	Cr	Offered	Prerequisites	Grade	Completed	Notes
AREC 453	Natural Resources and Public Policy	3	F	ECON 326			
AREC 454	Economics of Climate Change	3	Sp	ECON 326. <i>If this course is not offered in Spring 2014, seniors should see advisor to discuss a course substitution.</i>			
AREC 455	Economics of Land Use	3	F	ECON 326			
ECON 201	Princ of Macro-Economics	4	F,Sp	ECON 200*			
ECON 300	Methods and Tools for Econ Analysis	3	Sp, F	ECON 200*, ECON 201, and MATH 220. <i>NOTE: ECON 300 is not open to students who have previously completed MATH240 or MATH241</i>			
ECON 326	Intermed. Microeconomic Theory	3	Sp, F	ECON 300 or MATH 240 or MATH 241			
Select one: ECON 481	Environmental Economics (<i>strongly recommended</i>)	3	rarely	ECON 326			
ECON 454	Theory of Publ. Fin. & Fiscal Federalism	3	Sp, F	ECON 326			
Select one: AREC 365	World Hunger, Pop, & Food Supplies	3	Fa, Sp	-	---	---	---
AREC 382	Intro to Information from Econ Data	3	Sp	Perm. of dept.	---	---	---
AREC 433	Food and Agricultural Policy	3	F	ECON 306 or ECON 326	---	---	---
AREC 445	Agric. Develop., Pop. Growth & Environ.	3	Sp	ECON 306 or ECON 326	---	---	---
ECON 413	Information and Markets **	3	F	ECON 326	---	---	---
ECON 422	Quantitative Methods in Econ I **	3	Sp, F, Su	ECON 200, 201, and 321	---	---	---
ECON 456	Law and Economics **	3	Sp	ECON 326	---	---	---

* *The Economics department has agreed to accept AREC 240 for ECON 200 where ECON 200 is a listed pre-requisite.*

** *Due to severe over- enrollment in Economics, ENSP students should prepare to enroll in AREC courses in this category.*

RESTRICTED ELECTIVES: At least 12 credits in one (1) supporting area below: Social Science, Earth Science, Life Science, or Graduate School preparation.

Area 1. Social Science

Course	Description	Cr	Offered	Prerequisites	Grade	Completed	Notes
ANTH 450	Theory & Practice of Environ Anthro	3	F				
GEOG 342	Introduction to Biogeography	3	Sp	GEOG 201. Recommended: GEOG 211			
GEOG 331	Intro to Human Dimen of Global Change	3	F	GEOG 201 or 202; or ANTH 220 or 260			
GEOG 372	Remote Sensing	3	Sp, Su, W	-			
GEOG 373	Geographic Information Systems	3	F, Su,W	-			
GEOG 431	Culture and Natural Resource Mgt	3	F				
GEOG 435	Population Geography	3	Sp ,Su,W	-			
GEOG 437	Political Geography	3	F	-			
GEOG 442	Biogeography	3	F	GEOG 342 or BSCI361			
GVPT 200	International Political Relations	3	Sp,Su,F,W	GVPT 100 or ENSP102			
GVPT 306	Global Ecopolitics	3	Sp	GVPT 200			
GVPT 406	International Political Economy	3		GVPT 200			
HIST 405	Environmental History	3	varies				
SOCY 305	Scarcity and Modern Society	3	Sp,F	3 credits of sociology			
SOCY 333	Technology and Society	3	Sp	3 credits of sociology			
SOCY 410	Social Demography	3	Sp, F	6 credits of sociology or dept perm			

Area 2. Earth Science

Course	Description	Cr	Offered	Prerequisites	Grade	Completed	Notes
CHEM 104	Fundamentals of Organic and Biochem	3	Sp	No longer offered			
CHEM231/231	Organic Chemistry I	3/1	Sp, F	CHEM131/132			
ENCE 315	Introduction to Environmental Eng.	3	Sp, F	No longer offered			
ENST 413	Soil and Water Conservation	3	Sp	ENST 200			
ENST 423	Soil-Water Pollution	3	Sp	ENST 200 and CHEM 231/232 or dept. perm.			
ENST 440	Crops, Soils, and Civilization	3	Sp				
ENST 441	Sustainable Agriculture	3	Fa				
ENST 451	Water Quality: Field and Lab Analysis	3	Sp	CHEM 105/232 or CHEM 231/232			
ENST 454	Env. Issues in Plant and Soil Sci	3					
GEOL 340	Geomorphology	4	Sp	GEOL 100/110			
GEOL 341	Structural Geology	4	F	GEOL 102 or permission of dept.			
GEOL 452	Watershed and Wetland Hydrology	3	F	CHEM 131/132 and GEOL 100/110 or perm.			
LARC 450	Environmental Resources	3	F	ENST 200 or permission of dept.			

Area 3. Life Science

Course	Description	Cr	Offered	Prerequisites	Grade	Completed	Notes
BSCI 207	Organismal Biology	4	Sp,Su,F	BSCI 105, BSCI 106 and CHEM 131/132			
BSCI 361	Principles of Ecology	4	Sp	BSCI 106 and (MATH 140 or MATH 220)			
BSCI 363	Biology of Conservation and Extinction	3	Sp	BSCI 106			
BSCI 366	Biodiversity Issues in Conserv. Mgmt.	3	F	BSCI 207 or dept. permission			
BSCI 370	Principles of Evolution	3	F	BSCI 106			
BSCI 374	Chesapeake Bay Lab	2	F	Pre- or corequisite: BSCI 373			
BSCI 460	Plant Ecology	3	Sp	BSCI 106			
BSCI 461	Plant Ecology lab	2	Sp	Pre- or corequisite: BSCI 460			
BSCI 462	Population Ecology	3	F	BSCI 106 and MATH 220			
BSCI 463	Laboratory and Field Ecology	2	F	Pre- or coreq.: BSCI 462 & a statistics course			
BSCI 473	Marine Ecology	3	F	BSCI 207			
ENST 373	Natural History of the Chesapeake Bay	3	F	course in biological sciences or dept. perm.			
ENST 450	Wetland Ecology	3	F	BIOM 301 or permission of dept.			
ENST 460	Principles of Wildlife Management	3	Sp	-			
ENST 461	Urban Wildlife Management	3	F	-			
ENST 479	Tropical Ecology and Resource Mgmt.	1-6	Sp				

Area 4. Preparation for Graduate Work in Environmental Economics: Mathematics, Theory, Econometrics

Course	Description	Cr	Offered	Prerequisites	Grade	Completed	Notes
MATH 141	Calculus II	4	Sp, Su, F	MATH 140 or equivalent			
MATH 240	Introduction to Linear Algebra	4	Sp, Su, F	MATH 141 or equivalent			
MATH 241	Calculus III	4	Sp, Su, F	MATH 141 and MATH 240			
ECON 321	Economic Statistics	3	Sp, Su, F	ECON 200 and 201, MATH 220 or MATH 140			
ECON 414	Game Theory	3	Sp, F	ECON 306 and (MATH 220 or 140)			
ECON 415	Strategic behavior and Incentives	3	Sp	ECON 414 or permission of dept.			
ECON 422	Quantitative Methods in Economics I	3	Sp,F	ECON 200, 201 and ECON 321 or perm			
ECON 425	Mathematical Economics	3	Su	ECON 305 or 405; ECON 306 or 406; and MATH 220 or 140.			