

NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

Water Economics Option

UNL College of Agricultural Sciences and Natural Resources

2016-2017 UNL Undergraduate Bulletin (120 hours)

College Integrative Courses 3 Hours

REQUIREMENT	Hrs
<i>SCIL 101</i> Science and Decision-Making for a Complex World	3

Communication - ACE 1 and 2 6 Hours

ACE 1: <i>JGEN 120</i> Basic Business Communication, <i>JGEN 200</i> Technical Communication I; <i>JGEN 300</i> Technical Comm. II; <i>ENGL 150</i> Writing: Rhetoric as Inquiry, <i>ENGL 151</i> Writing: Rhetoric as Argument, or <i>ENGL 254</i> Writing and Communities	3
ACE 2: <i>ALEC 102</i> Interpersonal Skills for Leadership, <i>COMM 101</i> Communication in the 21 st Century, <i>COMM 109</i> Fundamentals of Human Communication, <i>COMM 209</i> Public Speaking, <i>COMM 210</i> Communicating in Small Groups, <i>COMM 215</i> Visual Communication, <i>COMM 283</i> Interpersonal Communications, <i>COMM 286</i> Business & Professional Communication, <i>JGEN 300</i> Technical Comm. II, <i>MRKT 257</i> Sales Communication, <i>NRES 260</i> Environmental Communication Skills, or <i>TMFD 121</i> Visual Communication and Presentation	3

Mathematics and Analytical Skills - ACE 3 6-8 Hours

<i>MATH 104</i> Calculus for Managerial and Social Sciences (3cr) or <i>MATH 106</i> or <i>106B</i> Analytical Geometry & Calculus I (5cr)	3-5
<i>STAT 218</i> Intro to Statistics or <i>ECON 215</i> Statistics	3

Natural Sciences – ACE 4 16-17 Hours

<i>Select one from:</i> <i>AGRO 131</i> & <i>AGRO 132</i> Plant Science & Lab (4cr) <i>BIOS 101</i> & <i>BIOS 101L</i> General Biology & Lab (4cr) <i>BIOS 109</i> General Botany (4cr) <i>BIOS 112</i> & <i>BIOS 112L</i> Intro to Zoology & Lab (4cr) <i>ENTO 115</i> Insect Biology & <i>ENTO 116</i> Insect Id (4cr) <i>HORT 131</i> & <i>HORT 133</i> Plant Science & Lab (4cr) <i>LIFE 120</i> & <i>LIFE 120L</i> Fundamentals of Biology I & Lab (4cr)	4
<i>Biological Sciences</i> (other than <i>NRES 220</i>)	4
<i>Select one from:</i> <i>CHEM 105</i> Chemistry in Context I or <i>CHEM 109</i> General Chemistry	4
<i>Select one from:</i> <i>MSYM 109</i> Physical Principles in Agriculture & Life Sciences (4cr) or <i>PHYS 141</i> Elementary General Physics I (5cr) or <i>PHYS 151</i> Elements of Physics (4cr) or <i>PHYS 211</i> General Physics I (4cr)	4-5

Arts, Humanities and Social Sciences 18 Hours

<i>ECON 211</i> Principles of Macroeconomics	3
ACE 6: <i>AECN 141</i> Intro to Economics of Agriculture or <i>ECON 212</i> Principles of Microeconomics	3
<i>Select one course each from ACE outcomes 5, 7, 8 and 9</i>	
ACE 5 –Study of Humanities	3
ACE 7 –Study of Arts	3
ACE 8 –Ethical Principles, Civics, Stewardship	3
ACE 9 –Global Awareness/Human Diversity	3

Natural Resources 12-14 Hours

<i>NRES 220</i> Principles of Ecology	3
<i>NRES 312</i> , or <i>NRES 412</i> Introduction to Geographic Information Systems, or <i>NRES 418</i> Introduction to Remote Sensing	3-4
<i>NRES 323</i> Natural Resource Policy	3
<i>GEOL 100</i> Introduction to Geology, <i>GEOL 101</i> Physical Geology, <i>GEOL 106</i> Environmental Geology, <i>SOIL 153</i> Soil Resources, <i>WATS 281</i> Introduction to Water Science, or <i>METR 200</i> Weather & Climate	3-4

Water Science 9-11 Hours

<i>NRES 353</i> Hydrology	3
<i>Select two from:</i> <i>NRES 488</i> Groundwater Geology, <i>WATS 361</i> Soils, Environment and Water Quality, <i>WATS 418</i> Chemistry of Natural Waters, <i>WATS 452</i> Irrigation, <i>WATS 459</i> Limnology, <i>WATS 468</i> Wetlands	3-4
	3-4

Economics, Law and Policy 31 Hours

<i>AECN 100</i> New Student Career Orientation	1
<i>AECN 265</i> Resource and Environmental Economics I	3
<i>AECN 357</i> Natural Resource and Environmental Law	3
ACE 10 Capstone: <i>AECN 445</i> Agricultural and Natural Resource Policy Analysis	3
<i>AECN 465</i> Resource and Environmental Economics II	3
<i>ECON 311</i> Intermediate Macroeconomics	3
<i>ECON 312</i> Intermediate Microeconomics	3
<i>ECON 417</i> Introductory Econometrics or <i>AECN 401</i> Advanced Farm Management & Linear Programming	3
<i>Select two major electives from:</i> <i>AECN 376</i> Rural Community Economics, <i>AGRO 489</i> Urbanization of Rural Landscapes, <i>ECON 340</i> Urban/Regional Economics, <i>ECON 371</i> Public Finance, <i>ECON 472</i> Efficiency in Government, <i>MNGT 300</i> Management Essentials for Contemporary Organizations, <i>MNGT 301</i> Introduction to Management, <i>MNGT 360</i> Managing Behavior in Organizations, <i>MNGT 361</i> Human Resource Management, <i>NRES 423</i> Integrated Resource Management, <i>SOCI 446</i> Environmental Sociology,	3
	3

Free Electives 12-19 Hours

Completion of a professional internship (1-3 hr) in environmental economics is recommended.

International Block. Nine hours of coursework with an international focus are required as part of the 120 hours required for a degree. Course options include *AGRI 282*, *310*; *NRES 492*; *AECN 346*, *367*, *420*, *425*; or those listed in the UNL Global Studies degree program in the 2016-2017 UNL Undergraduate Bulletin.

ACADEMIC PROGRAM:**Natural Resource/Environmental Economics****First Year – Fall Semester** (13-14 hours)

AECN 100-New Student Career Orientation	1
Natural Resource Elective	3-4
ACE 1 -Written Communications	3
ACE 5 -Humanities	3
ACE 3 -Math*	3

Second Year - Fall Semester (16 hours)

AECN 265-Resource/Environmental Economics I	3
ACE 2 -Oral Communications	3
CHEM 105 or 109 Chemistry	4
ACE 9 -Global Awareness/Human Diversity	3
Free Elective	3

Third Year - Fall Semester (15 hours)

AECN 357-Nat Resource/Environmental Law Economics, Law and Policy Elective	3
ECON 312-Intermediate Microeconomics	3
NRES 323-Natural Resource Policy	3
Free Elective	3

Fourth Year – Fall Semester (12-14 hours)

Water Science Elective	3-4
SCMS 331-Operations/Supply Chain Mngt or ECON 417-Introductory Econometrics	3
Economics, Law and Policy Elective	3
Free Elective	3-4

OPTION:**Water Economics****First Year – Spring Semester** (16 hours)

ACE 6 -Microeconomics	3
SCIL 101 Science & Decision-Making/Complex World	3
STAT 218-Intro to Statistics	3
ACE 4 -BIOS 101/101L-Biology/Lab or AGRO 131/132-Plant Science/Lab	4
ACE 7 -Arts	3

Second Year - Spring Semester (16 hours)

NRES 220-Principles of Ecology	3
MSYM 109 or PHYS 151-Physics	4
Free Elective	3
ACE 8 -Ethics/Civics/Stewardship	3
ECON 211-Principles of Macroeconomics	3

Third Year - Spring Semester (16 hours)

Free Elective	3
Biological Sciences Elective	4
ECON 311-Intermediate Macroeconomics	3
NRES 312-Intro to Geographic Info Systems	3
CIVE 353 Hydrology	3

Fourth Year – Spring Semester (15-16 hours)

ACE 10 -AECN 445-Ag/Nat Res Policy Analysis	3
AECN 465-Resource/Environmental Econ II	3
Water Science elective	3-4
Free Electives	6

Elective hours are required in four areas:

- Natural Resources Elective (3-4 hours; from a block of 100- and 200-level courses)
- Economics, Law and Policy Electives (6 hrs: from a block of 300- and 400-level courses)
- Free Electives (12-19 hours; no level restrictions)

Electives can be used to explore interests in the first couple of years, complete a minor or two, complete a dual major, or take fun/interesting classes. Academic advisors help to determine how to best use elective hours.

*MATH 104, Applied Calculus (3 hr) or MATH 106 Analytic Geometry and Calculus (5 hr) is required. Depending on UNL Math Placement Exam results (required prior to enrollment in the first math course at UNL), students may need to take additional courses to prepare for calculus. For instance, MATH 101, College Algebra, is commonly taken before MATH 104 or 106 and counts as 3 credit hours of free electives.