Who can take the NRES secondary major?
This secondary major is open to all degree-seeking undergraduate or graduate students in all colleges. Courses required for the NRES secondary major can be taken concurrently with your major.

Does the NRES secondary major add more hours?
Most programs of study will allow completion of this secondary major within the normal time required by the primary major. All NRES students must complete BAE/DAS/GENAG 582 NRES Capstone during their senior year. Whether or not additional hours are required depends on individual programs and use of electives.

Is this secondary major like a minor?
Minors are typically based within an existing discipline. Because resource and environmental issues are so broad and complex, they exceed the scope of any one discipline and are best addressed through an interdisciplinary (multiple colleges and departments) secondary major.

What will I learn in this secondary major?
The NRES program provides an interdisciplinary overlay for your primary major. Its focus is to broaden students’ perspectives, in part through course offerings and in part through interactions with students from other disciplines. The educational goal of the NRES secondary major is to prepare undergraduate students to apply broadly-based scientific knowledge to the use, management, sustainability, and quality of soil, air, water, mineral, biological, and energy resources.

What are the academic requirements in the NRES secondary major?
All NRES students must meet the entry, capstone, and block electives course requirements shown in this guide. In addition, at least one life science course must be completed as part of either the primary major or this secondary major.

How do I participate in the NRES secondary major?
Either make an appointment to meet with the Director, Dr. Shawn Hutchinson in 3018 Seaton Hall (Phone: 785-532-6727 or e-mail: shutch@ksu.edu) or apply online from the NRES website (http://www.ksu.edu/nres). An academic advisor will be available to assist in meeting NRES requirements.

How does the NRES secondary major function?
The program is administered by a Director and through an interdisciplinary Governing Board elected from the faculty teaching NRES courses. Currently, the NRES Director is Shawn Hutchinson (Geography). Others serving on the Board are: Colby Moorberg (Agronomy), Nathan Nelson (Agronomy), Abigail Langston (Geography), Stacy Hutchinson (Biological and Agricultural Engineering), Trisha Moore (Biological and Agricultural Engineering), Matthew Sanderson (Sociology), Lauren Ritterbush (Anthropology), and Joel Spencer (Geology).


Natural Resources and Environmental Sciences

What is the NRES secondary major?
The NRES secondary major is an academic program consisting of an array of courses taken by students interested in adding academic breadth in natural resource and environmental concepts to the depth provided in their primary major.

Why take the NRES secondary major?
Increasing government, public, and corporate concerns about environmental affairs are producing career opportunities for individuals capable of dealing with the broad scope of natural resource and environmental problems. The NRES secondary major provides extra qualifications for employment by enhancing the knowledge base of the primary major. Participation and completion of the NRES secondary major will be noted on your KSU transcript and graduates will receive a secondary major diploma.

NRES Academic Requirements

BASIC REQUIREMENTS: Students must successfully complete Parts A, B, and C of the basic entry courses to fulfill the NRES secondary major requirements.

○ = K-State 8 Courses
A. Four basic science courses (or their more advanced equivalent).
○ MATH 100 College Algebra (3)
○ CHM 110 General Chemistry (3) and ○ CHM 111 General Chemistry Lab (1)
or ○ CHM 210 Chemistry I (4)
○ PHYS 101 The Physical World (3) and ○ PHYS 103 The Physical World and Lab (1)
or ○ PHYS 113 General Physics I (4) or ○ PHYS 115 Descriptive Physics (5)
○ ECON 110 Prin. Macroeconomics (3) or ○ ECON 120 Prin. Microeconomics (3) or ○ AGEC 120 Agricultural Economics & Agribusiness (3)

B. Two of the following basic resource courses. These courses must be from different departments and total a minimum of 6 credits. Courses used to meet this requirement may not be used again as block electives.
○ AGRON 305 Soils (4)
○ AGRON 335 Environmental Quality (3)
○ BIOL 198 Principles of Biology (4)
○ GEOG 221 Intro Physical Geog (4)
○ GEOG 340 Geog Nat Resources (3)
○ BAE 270 Life Cycle Assessment (3)

C. One life science course. This course may also be used to meet another requirement.
○ AGRON 220 Crop Science (3)
○ ANTH 230 Intro to Biol Anthro (3)
○ BIOCH 265 Intro Organic Biochem (5)
○ BIOCH 521 General Biochemistry (3)

CAPSTONE COURSE REQUIREMENT. All students must successfully complete the NRES capstone course. This course should be scheduled during the student’s senior year.
○ BAE/DAS/GENAG 582 Natural Resources/Environmental Sciences Project (3)

Natural Resources and Environmental Sciences

BLOCK ELECTIVE REQUIREMENTS: From this list, students must successfully complete a minimum of 5 courses (15 hours minimum) from at least 4 departments. One course must come from each area (natural, applied, and social sciences/humanities), two courses must be numbered 500 or greater, and three courses must have a prerequisite (courses without a prerequisite are underlined). Check with the NRES Director or access the NRES site (http://www.ksu.edu/nres) for the most recent curriculum requirements.

Natural Science Courses

○ AGRON 305 Soils (4)
○ AGRON 515 Soil Genesis & Classification (3)
○ BIOL 433 Intro Fish Wildlife Consor Bio (3)
○ BIOL 529 Fundamentals of Ecology (3)
○ BIL 612 Freshwater Ecology (4)
○ BIL 642 Prin. of Conservation Biology (3)
○ BIL 687 Microbial Ecology (3)
○ CHM 315 Environmental Science (3)
○ CHM 316 Environmental Science Lab (1)
○ ENTR 301 Insects and People (2)
○ ENTR 312 General Entomology (3)
○ ENTR 492 Insect Ecology (3)
○ GEOG 235 Atmospheric Science (4)

Applied Science & Technology Courses

○ AGRON 330 Weed Science (3)
○ AGRON 335 Environmental Quality (3)
○ AGRON 375 Soil Fertility (3)
○ AGRON 501 Range Management (3)
○ AGRON 635 Soil Conservation & Mgmt (3)
○ AGRON 645 Soil Microbiology (3)
○ AGRON 646 Soil Microbiology (1)
○ CHM 210 Chemistry I (4)
○ PHYS 101 The Physical World (3) and ○ PHYS 103 The Physical World and Lab (1)

Social Science/Humanities Courses

○ AGRON 330 Weed Science (3)
○ AGRON 335 Environmental Quality (3)
○ AGRON 375 Soil Fertility (3)
○ AGRON 501 Range Management (3)
○ AGRON 635 Soil Conservation & Mgmt (3)
○ AGRON 645 Soil Microbiology (3)
○ AGRON 646 Soil Microbiology (1)
○ CHM 210 Chemistry I (4)
○ PHYS 101 The Physical World (3) and ○ PHYS 103 The Physical World and Lab (1)

○ AGEC 350 Water Resource Geochemistry (3)
○ AGEC 600 Mountain Geography (3)
○ GEOG 718 Geography of Public Lands (3)
○ GEOG 720 Geography of Land Use (3)
○ GEOG 553 Fund. of Climatology (4)
○ GEOG 740 Fluvial Geomorphology (3)
○ GEOG 305 Earth Resources (3)
○ GEOG 315 Geology of National Parks (3)
○ GEOG 399 Honors Seminar in Geology (Var)
○ CHEM 352 Environmental Chemistry (3)
○ GEOG 500 Geomorphology (3)
○ GEOG 540 Geol. Rec of Climate Change (3)

○ BIO 303 Ecology of Environ. Problems (3)
○ BIOL 360 Water & Wastewater Engg (3)
○ BIOL 433 Intro Fish Wildlife Consor Bio (3)

○ BIOL 501 Range Management (3)
○ BIOL 645 Soil Microbiology (3)
○ AGEC 350 Water Resource Geochemistry (3)

○ BIOL 687 Microbial Ecology (3)
○ BIL 612 Freshwater Ecology (4)

○ CHM 315 Environmental Science (3)
○ CHM 316 Environmental Science Lab (1)
○ ENTR 301 Insects and People (2)

○ ENTR 312 General Entomology (3)
○ ENTR 492 Insect Ecology (3)
○ GEOG 235 Atmospheric Science (4)

○ GEOG 100 Earth in Action (3)
○ GEOG 105 Oceanography (3)

○ GEOG 105 Oceanography (3)

○ AGRON 515 Soil Genesis & Classification (3)
○ BIL 612 Freshwater Ecology (4)

○ AGEC 350 Water Resource Geochemistry (3)
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