College of Agriculture and Natural Resources

Kirklyn M. Kerr, B.S., D.V.M., M.S., Ph.D., Dean, College of Agriculture and Natural Resources
Suman Singha, Ph.D., Associate Dean, College of Agriculture and Natural Resources
Patricia Jepson, M.A., Academic Advisory Center Director

In 1862, Congress passed the Morrill Land Grant Act providing grants of federal land to each state. Funds from the sale of these lands were used in establishing a college teaching agriculture and related subjects in each state. Subsequent federal acts have enlarged the responsibilities of these colleges. Today they continue to serve agriculture and society in many ways through a variety of educational programs. The University of Connecticut is the land-grant university in Connecticut. The College of Agriculture and Natural Resources offers instruction at both undergraduate and graduate levels. Research and experimental work is carried on through the Storrs Agricultural Experiment Station. Educational and service programs are conducted throughout the State by the Cooperative Extension System. The College of Agriculture and Natural Resources is supported by both federal and state appropriations and contributions from the private sector.

The College maintains livestock, greenhouses, forested lands, gardens, orchards, and other related operations to supplement and enhance instruction, research, and service programs. The Northeastern Research Center for Wildlife Diseases, the Center for Environmental Health, the Water Resources Center, and the Food Marketing Policy Center are also integral parts of the College of Agriculture and Natural Resources.

The following departments offer undergraduate instruction in the College: Agricultural and Resource Economics, Animal Science, Natural Resources Management and Engineering, Nutritional Sciences, Pathobiology and Veterinary Science, and Plant Science. The Directory of Courses section of this Catalog describes the course offerings of these departments. Other courses are offered under the departmental listing Agriculture and Natural Resources.

The four-year curriculum leads to the Bachelor of Science degree.

Admission Requirements. See Admission to the University and New England Regional Student Program.

Scholarships. Over $250,000 in scholarships and awards are available to students in the College of Agriculture and Natural Resources.

Faculty Advisors. Faculty advisors are assigned to students upon entry into the College of Agriculture and Natural Resources according to a student’s major and area of special interest. Advisors assist students in the selection of appropriate courses and help them develop an individualized program of study that will meet educational and career goals.

Bachelor’s Degree Requirements

Upon recommendation of the faculty the degree of Bachelor of Science is awarded by vote of the Board of Trustees to students who have met the following requirements: (1) earned a total of 120 degree credits; (2) earned at least a 2.0 cumulative grade point average for the number of calculable credits for which they have been registered; (3) earned at least a 2.0 cumulative grade point average for all courses included in the 36 credit 200-level requirement for the major; (4) met all the requirements of the University of Connecticut and the College of Agriculture and Natural Resources.

Plan of Study

Students should work closely with their advisors to review requirements, recommended courses, and career goals. Each student should prepare a tentative plan of study, outlining all courses, with an academic advisor as early as possible, but in no case later than at the start of the junior year. A final plan of study, approved by the major advisor and the department head, must be filed with the Degree Auditor no later than the end of the fourth week of classes of the semester in which a student expects to graduate.

General Education Requirements

All students in the College of Agriculture and Natural Resources must meet the University-wide General Education Requirements (GER) as described in the “Academic Regulations” section of this Catalog. Students must select approved courses to meet requirements.

36 Credit 200-Level Requirement for All Majors

Students in all majors of the College of Agriculture and Natural Resources must successfully complete at least 36 credits of 200-level courses in or relating to their major. Courses for this 36 credit group may be taken from specific major requirements (as listed below for some majors), or may be selected according to a student’s individual educational and career goals. This group of courses must:

1. be numbered 200 or above
2. be approved by the student’s advisor and department head
3. be taken at the University of Connecticut
4. be taken in two or more departments
5. include at least 15 credits from departments in the College of Agriculture and Natural Resources
6. have a combined grade point average of at least 2.0
7. not include more than 6 credits (combined) of independent study, internship, or field studies
8. not be taken on Pass/Fail
9. not include more than 6 credits of S/U coursework

Specific Course Requirements for Individual Majors

Students must complete specific courses for individual majors as outlined below. Many courses may be used to meet more than one requirement.

Undergraduate Majors

Students in most majors have a great deal of latitude in the choice of courses and may emphasize a range of options to meet personal objectives. Students may prepare for career opportunities in such diverse activities as research, production, distribution, business and industry, public service, professional service, education, communications, product development, international development, environmental protection, and community resource development. Students interested in agricultural education should refer to the School of Education section of this Catalog. In addition to formal course work students may participate in independent study projects, field internships, cooperative education, and practicums. Students may also prepare for formal education beyond the Bachelor of Science degree.

Faculty are available to discuss with prospective students the requirements, recommended courses, and career opportunities of the various majors.

Agriculture and Natural Resources

This interdisciplinary major is designed for students who want broad training in agriculture and natural resources. Students work with their advisors to develop a personalized program of study.

Agronomy

This major offers two areas of concentration. Turfgrass Science includes the management of lawns, golf courses, athletic fields, roadsides, erosion control sites, and other areas where grasses are grown. The Soil Science option prepares students for professional certification. Courses focus on soil identification and suitability for different uses. (For detailed information, please refer to: www.canr.uconn.edu/plsc1)

Agronomy majors must pass the following courses:

- BIOL 110
- CHEM 122 or 127Q
- PLSC 213 or MCB 259
- PLSC 250

In addition, agronomy majors must earn a minimum of 9 credits from courses in Biology, Chemistry, Computer Science, Geology and Geophysics, Mathematics, Physics, or Statistics.

Animal Science

This major provides seven options leading to the B.S. degree: Pre-professional (veterinary medicine or graduate training), Biotechnology, Business/Service, Equine Sciences, Food Science, Environmental Health, and Production Management. Minors in Dairy Management and in Food Science are also

1 Transfer students should refer to the “Transfer Students” statement included in this section.
2 Students may not receive more than 12 credits for courses in Biology at the 100’s level.
3 Math 101 cannot be used to meet this requirement.
4 See Statistics section for credit restrictions.
Environmental Science majors must pass all courses from Group A, at least one course from Group B, at least two courses from Group C, and one additional course from either Group B or C.

Group A: (All of the following): ANSC 120, 216, 217, 219, 295, PVSC 200, BIOL 107, CHEM 122 or 127Q

Group B: ANSC 235, 254, 269, 273, 275

Group C: ANSC 222 or ANSC 223W, 224, 226, 229, 253 or 255W. Either MCB 203, 204 or 229 can fulfill one of the Group C requirements.

The Department of Animal Science offers a minor in Dairy Management and in Food Science. These are described in the “Minors” section of this Catalog.

Environmental Science

The Environmental Science major emphasizes physical and biological sciences and also includes selected areas of social sciences. The major leads to a Bachelor of Science degree, and may be adopted by students in either the College of Agriculture and Natural Resources or the College of Liberal Arts and Sciences. This curriculum offers a comprehensive approach to the study of environmental problems, including not only a rigorous scientific background, but also detailed analyses of the social and economic implications of environmental issues. The complexity and interdisciplinary nature of environmental science is reflected in the core requirements of the major. These courses, assembled from several different academic departments representing two colleges, provide both breadth and depth, preparing students for careers that deal with environmental issues, and for graduate study in environmental science and related fields.

Environmental Science majors must pass the following core requirements:

A. 100's Level Course Work (49-52 credits)
   - BIOL 107
   - BIOL 108 or 110
   - CHEM 127, 128
   - ECON 112 or ARE 150
   - GEOL 102
   - MARN 170
   - MATH 112, 113, 114, or 115, 116
   - PHYS 121, 122, 123, or 131, 132
   - STAT 100 or 110 or 220

B. 200's Level Course Work (30-31 credits)
   - BIOL 205, 210, 214, 217, 237, 239W, 242, 260P, 287
   - CHEM 122 or 127Q

Environmental Policy and Law

Select one course from:
   - ARE 234(W) - Environmental and Resource Policy
   - NRME 240 - Environmental Law

Environmental Economics

- Students must pass courses in the categories listed:
  - Environmental Chemistry (Chemistry)
  - Environmental Biology (Ecology and Evolutionary Biology)
  - Environmental Geoscience (Geology)
  - Marine Science (Marine Science)

Hydroglacial Dynamics

Select one course from:
   - GEOL 251 - Earth Surface Processes
   - PLSC 250 - Soils

Ecological Interactions

- Students must pass courses in the categories listed:
  - Environmental Chemistry (Chemistry)
  - Environmental Biology (Ecology and Evolutionary Biology)
  - Environmental Geoscience (Geology)
  - Marine Science (Marine Science)

Human Impact

- Students must pass courses in the categories listed:
  - Environmental Chemistry (Chemistry)
  - Environmental Biology (Ecology and Evolutionary Biology)
  - Environmental Geoscience (Geology)
  - Marine Science (Marine Science)

Environmental Health

- Students must pass courses in the categories listed:
  - Environmental Chemistry (Chemistry)
  - Environmental Biology (Ecology and Evolutionary Biology)
  - Environmental Geoscience (Geology)
  - Marine Science (Marine Science)

Soil Science (Plant Science)

- Students must pass the following courses:
  - PLSC 205, 250, 259C

Horticulture

The Horticulture major offers courses in the commercial production of vegetables and fruits, propagation and production of woody and herbaceous ornamental plants, and the identification, uses, and maintenance of plants in landscapes and gardens. The Plant Biotechnology option includes micropropagation and the application of molecular methods to genetic improvement of plants. (For detailed information, please refer to: www.canr.uconn.edu/plsci)
Natural Resources

This major, offered by the Department of Natural Resources Management and Engineering is concerned with the application of scientific principles and modern technology to the understanding and management of natural resources and the systems of which they are a part. Students can pursue a general interdisciplinary set of courses, or concentrate in a specific discipline. Areas of emphasis may include fisheries, wildlife, forestry, air quality, water resources, geographical information science, remote sensing and other aspects of natural resources management and environmental science. (For detailed information, please refer to: www.canr.uconn.edu/nrme)

Natural Resources majors must pass the following courses:
- NRME 100, 239W, 242, 252, 256, 295
- PLSC 250
- EEB 244 or 244W
- MATH 113 or 115
- One course in Chemistry (except CHEM 101)
- One course in Statistics
- One course in Physics or Geology

Students must also earn an additional 12 credits in NRME courses, numbered 200 or above.

Nutritional Sciences

Nutritional Sciences majors may select options in Dietetics, Nutritional Biochemistry (pre-professional, pre-medical, etc.), Nutrition for Exercise and Sport, Food Science, or Fundamentals of Nutrition. Nutritional Science majors preparing to become registered dietitians follow the Didactic Program in Dietetics as approved by the American Dietetic Association (ADA). The Didactic Program at the University of Connecticut is currently granted accreditation by the Commission on Accreditation for Dietetic Education of the American Dietetic Association, 216 W. Jackson Blvd., Chicago, IL 60606-6695, (312) 899-5400. Nutritional Sciences graduates also pursue employment in community nutrition, sports and fitness, cooperative extension, food science, and other related areas of nutrition and health. (For detailed information, please refer to: www.canr.uconn.edu/nusc)

Nutritional Sciences majors must successfully pass the following courses:
- NUSC 165
- NUSC 200
- CHEM 127 and 128, or CHEM 122
- CHEM 141, or 243 and 244
- PNB 264 and 265, or BIOL 107, 108 and PNB 250
- MCB 203 or 204 or 229

In addition to the courses listed above, a minimum of 8 credits, numbered 200 or above, must be earned from courses in the Department of Nutritional Sciences. Credits earned in field experiences and independent studies cannot be used to meet this 8-credit requirement. Specific course recommendations are listed in the Programs Available brochure in the department.

A minor in Nutrition for Exercise and Sport and a minor in Sport Nutrition are described in the “Minors” section.

Pathobiology

Students majoring in Pathobiology focus on animal health and diseases and their relationship to people and the environment. Students can prepare to enter veterinary medical schools or medical schools. Pathobiology majors also pursue careers in biotechnology, biomedical sciences, para-veterinary medicine, and many diverse laboratory and research positions in health fields and agriculture and natural resources. (For detailed information, please refer to: www.canr.uconn.edu/path)

Pathobiology majors must pass the following courses:
- PVS 297
- One course in Microbiology: MCB 229
- One course in Biochemistry: MCB 203 or MCB 204
- One course in Genetics: MCB 200, MCB 213, or ANSC 217
- One course in Nutrition, Immunology, or Cell Biology: ANSC 216, NUSC 165, MCB 210, MCB 211, or MLS 208W

Three of the following courses: PVS 200, 202, 235, 248 or 248W, 252, 256, 296

Resource Economics

This major in the Department of Agricultural and Resource Economics applies analytical and decision-making skills to problems of production and distribution of food products and the management of natural resources and the environment. Students may select the Agribusiness Management or Environmental Economics and Policy options. These prepare students for a wide variety of careers in the business and government sectors, or to pursue graduate studies. (For detailed information, please refer to: www.are.uconn.edu)

Minors in Agribusiness Management and Environmental Economics and Policy are described in the “Minors” section.

Individualized Major

The Individualized Major program allows students to create a major that is not otherwise offered at the University of Connecticut. Students pursuing an Individualized Major must meet all university-level and college-level requirements for graduation and complete at least 36 credits of approved 200 level courses. Requirements for declaring and completing an Individualized Major are listed below:
- Students must be in good academic standing with a minimum GPA of 2.5 to declare an Individualized Major.
- Students must submit a proposed statement of purpose and identify three faculty members who are willing to serve as an advisory committee.
- An Individualized Major has a minimum of 36 credits from 200 level courses which must:
  - be from two or more departments
  - include at least 18 credits from departments in the College of Agriculture and Natural Resources
  - be approved by the student’s advisory committee
  - be taken at the University of Connecticut
  - have a combined Grade Point Average of at least 2.5
  - include no more than 6 credits of Independent Study and Internship
  - not to be taken on Pass/Fail
  - meet all requirements of the “36 Credit Group” of the College of Agriculture and Natural Resources

Double Major Option. Students may elect to complete requirements for two major fields of study offered by the College of Agriculture and Natural Resources. A student selecting this option must submit a Double Major Declaration indicating primary and secondary majors. This declaration must include a tentative plan of study and requires approval by the advisors and department heads for both respective major areas of study and the Associate Dean. Once an approved declaration has been submitted to the Degree Auditor, the student must complete the requirements for both majors in order to graduate. Withdrawal of the Double Major Declaration requires the approval of the Associate Dean. The student’s final plan of study will include a double major attachment to verify that the requirements have been met for both the primary and secondary majors. The transcript will identify both majors.

Primary Major: Students must meet all requirements as listed under “Requirements for a Major” (36 credit group) and all individual major requirements as listed above.
Secondary Major. Students must meet all individual major requirements as listed above and successfully complete additional 200-level course work not used as part of the 36 credit group for the primary major. This group of courses must:

1. total at least 24 credits
2. be numbered 200 or above
3. be approved by student's advisor and department head
4. be taken at the University of Connecticut
5. include at least 15 credits of College of Agriculture and Natural Resources courses
6. average at least a 2.0 Grade Point Average
7. not include more than six credits of Independent Study and Internship
8. not be taken on Pass/Fail
9. not include more than 6 credits of S/U coursework

The College of Agriculture and Natural Resources offers minors in Agribusiness Management, Aquaculture, Dairy Management, Environmental Economics and Policy, Food Science, Landscape Design, Nutrition for Exercise and Sport, and Sport Nutrition. All of these are described in the “Minors” section of this Catalog.

Pre-Veterinary Medicine Programs. Prerequisites for entry into a professional curriculum in veterinary medicine may be obtained by majoring in Animal Science or Pathobiology. The Animal Science major is most appropriate for students interested in biotechnology, physiology, nutrition, genetics, behavior, or production and management. Pathobiology is appropriate for students interested in biomedical science, medical biotechnology, ecology of diseases, anatomy, microbiology, or diseases of wildlife.

Honors Programs. University honors programs are available to qualified students in the College. Please refer to the section of this Catalog designated “Honors Programs” for further information.

Transfer Students. Transfer students can use transfer credits to meet General Education requirements and 100-level course requirements in a specific major. Transfer students may apply a maximum of six credits of 200-level work toward the 36 credit requirement for a major. These credits must be identified as courses comparable to specific University of Connecticut courses and cannot include internships, special topics, or non-specific discipline credits. Transfer students must complete at least 30 credits of 200-level course work at the University of Connecticut, including at least 15 credits in College of Agriculture and Natural Resources courses.

Exemptions and Substitutions. Students requesting an exemption from any University and/or College requirement, or a substitution for a course or requirement, should consult their advisors. Such exemptions or substitutions must be approved by the Department Head and the Associate Dean of the College and may require approval of the Vice Provost for Undergraduate Education and Instruction.

Field Trips and Transportation Costs. Many courses require off-campus field trips. Students should budget money for participation.

Graduate Programs. Most departments provide graduate programs for students interested in greater specialization beyond the baccalaureate. The study may lead to a Master of Science or Doctor of Philosophy degree. Students planning for a graduate program should secure a comprehensive background in the basic sciences. For further information see the announcement of the Graduate School.