SUSTAINABLE AGRICULTURE AND FOOD SYSTEMS MAJOR (B.A.)

https://colsa.unh.edu/agriculture-nutrition-food-systems/program/ba/sustainable-agriculture-food-systems-major

Description

The Sustainable Agriculture & Food Systems B.A. provides students with a broad base of knowledge and experiences with modern agriculture and food systems. Sustainable Agriculture and Food Systems is an interdisciplinary field comprising the social, physical, and life sciences and beyond. Agriculture is key to solving many of the major challenges facing the world, such as producing food to meet the needs of an ever-growing population while conserving land, water, and soil resources.

Our students get hands-on experience in applied coursework, and we encourage our students to conduct research alongside faculty. Our students become practitioners and entrepreneurs of agricultural and food businesses, researchers and policy-makers at state/federal agencies and non-profit organizations, laboratory technicians, and agricultural educators. Some go on to obtain advanced degrees in the agricultural sciences.

Requirements

Degree Requirements

Minimum Credit Requirement: 128 credits

Minimum Residency Requirement: 32 credits must be taken at UNH

Minimum GPA: 2.0 required for conferral*

Core Curriculum Required: Discovery & Writing Program Requirements

Foreign Language Requirement: Yes

All Major, Option and Elective Requirements as indicated.

*Major GPA requirements as indicated.

Major Requirements

The SAFS B.A. program structure includes FOUR major components: foundation courses, courses in a student-designed emphasis area, program elective courses, and a capstone. You must earn a minimum grade of C- in all courses required for the major.

Foundation courses include 36 credits, which satisfy 5 of the University Discovery requirements.

Student-Designed Emphasis courses include 20 credits that make up a cohesive emphasis or focus area. Courses may be selected from the List of Approved Program Electives, but do not need to be on that list. Each student will define their emphasis area in consultation with their advisor and submit it to the SAFS program committee for approval prior to the start of their 6th semester.

Program Electives courses include 16 credits, chosen from the List of Approved Program Elective courses.

A Capstone experience must take place during the senior year. There are two capstone options: SAFS 733 Advanced Topics in Sustainable Agriculture or ANSC 750 Collaborative Farm Design and Development. Your capstone MAY NOT be counted towards elective or emphasis credits.

Of the Student-Designed Emphasis and Program Elective courses, at least 16 credits (not counting the capstone) must be earned at the 600-700 level.

Approved Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AAS 421</td>
<td>Large Animal Behavior and Handling Techniques</td>
<td>2</td>
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<tr>
<td>AAS 433</td>
<td>Dairy Selection</td>
<td>2</td>
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<tr>
<td>AAS 425</td>
<td>Introduction to Dairy Herd Management</td>
<td>4</td>
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<tr>
<td>AAS 432</td>
<td>Introduction to Forage and Grassland Management</td>
<td>3</td>
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<tr>
<td>AAS 434</td>
<td>Equipment and Facilities Management</td>
<td>3</td>
</tr>
<tr>
<td>AAS 439</td>
<td>Fundamentals of Animal Health</td>
<td>2</td>
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<tr>
<td>ANSC 546</td>
<td>Animal Business Applications</td>
<td>4</td>
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<tr>
<td>ANSC 548</td>
<td>Agricultural Business Management</td>
<td>4</td>
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<tr>
<td>ANSC 600</td>
<td>Field Experience</td>
<td>1-4</td>
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<tr>
<td>ANSC 602</td>
<td>Animal Rights and Societal Issues</td>
<td>4</td>
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<tr>
<td>ANSC 603</td>
<td>Introduction to Livestock Management</td>
<td>4</td>
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<tr>
<td>ANSC 605</td>
<td>Poultry Production and Health Management</td>
<td>4</td>
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<tr>
<td>ANSC 609</td>
<td>Principles of Animal Nutrition</td>
<td>4</td>
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<tr>
<td>ANSC 612</td>
<td>Genetics of Animals</td>
<td>4</td>
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<td>ANSC 625</td>
<td>Animal Diseases</td>
<td>4</td>
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<tr>
<td>ANSC 650</td>
<td>Dairy Industry Travel Course</td>
<td>1</td>
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<tr>
<td>ANSC 660</td>
<td>Livestock and Wildlife in Namibia: Challenges, Opportunities and Geography</td>
<td>4</td>
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<tr>
<td>ANSC 698</td>
<td>Cooperative for Real Education in Agricultural Management (CREAM)</td>
<td>4</td>
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<tr>
<td>ANSC 701</td>
<td>Physiology of Reproduction</td>
<td>4</td>
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<td>ANSC 708</td>
<td>Ruminant Nutritional Physiology</td>
<td>3</td>
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<tr>
<td>ANSC 710</td>
<td>Dairy Nutrition</td>
<td>4</td>
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<tr>
<td>ANSC 715</td>
<td>Physiology of Lactation</td>
<td>4</td>
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<tr>
<td>ANSC 724</td>
<td>Reproductive Management and Artificial Insemination</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 727</td>
<td>Advanced Dairy Management</td>
<td>4</td>
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1 Some courses (e.g. genetics, microbiology) require CHEM 403 and CHEM 404 as a prerequisite. If you intend to take these courses, you should take CHEM 403 rather than CHEM 411.
Sustainable Agriculture and Food Systems Major (B.A.)

ANSC 728   Advanced Dairy Management II 4
ANSC 750   Collaborative Farm Design and Development 4
ANSC 795   Investigations 1-4
Biol 409   Green Life: Introducing the Botanical Sciences 0 or 4
Biol 510   Mushrooms, Molds, and Mildews: Introduction to the Fungal Kingdom 4
Biol 541W  Ecology 0 or 4
Biol 566   Systematic Botany 4
Biol 701   Plant Physiology 4
Biol 704   Plant-Microbe Interactions 3
Biol 709   Plant Stress Physiology 3
Biol 720   Plant-Animal Interactions 4
Biol 752   New England Mushrooms: a Field and Lab Exploration 4
BMS 503   General Microbiology 3
BMS 504   General Microbiology Laboratory 2
Cep 415   Community Development Perspectives 4
Chbe 410   Energy and Environment 4
Ecoo 401   Introduction to Ecogastronomy 4
Erec 661   Agribusiness Economics and Management 4
Erec 680   Agricultural and Food Policy 4
Fort 564   Arboriculture 3
Fort 576   Forest Products and Wood Science 4
Fort 577   Forest Harvesting Systems 4
Fort 579   Wildland Fire Ecology and Management 4
Gen 604   Principles of Genetics 0 or 4
Gen 772   Evolutionary Genetics of Plants 4
Gen 774   Techniques in Plant Genetic Engineering and Biotechnology 4
Geog 670   Climate and Society 4
Hmkt 570   International Food and Culture 4
Mitc 520   Topics in Management 4
Mkts 530   Survey of Marketing 4
Nr 425   Field Dendrology 4
Nr 435   Contemporary Conservation Issues and Environmental Awareness 4
Nr 504   Freshwater Resources 4
Nr 506   Forest Entomology 4
Nr 527   Forest Ecology 4
Nr 602   Natural Resources and Environmental Policy 4
Nr 543   Economics of Forestry 4
Nr 650   Principles of Conservation Biology 4
Nr 704   Soil Ecology 4
Nr 729   Silviculture 4
Nr 749   Forest Inventory and Modeling 4
Nr 760   Geographic Information Systems in Natural Resources 4
Nr 761   Environmental Soil Chemistry 4
Nr 765   Community Ecology 4
Nr 782   Forest Health in a Changing World 4
Nr 785   Systems Thinking for Sustainable Solutions 4
Nutr 400   Nutrition in Health and Well Being 4
Nutr 405   Food and Society 4
Nutr 550   Food Science: Principle and Practice 4
Nutr 600   Field Experience in Nutrition 1-4
Nutr 720   Community Nutrition 4
Nutr 730   From Seed to Seal: Examining Sustainable Food Systems 4
Nutr 795   Investigations 1-4
Rmp 724   Research, Evaluation, and Data Driven Decisions 4
Safs 410   A Taste of the Tropics 4
Safs 415   Introduction to Brewing Art and Science 4
Safs #510   Agriculture and Development in the Neotropics 4
Safs 515   Technical Brewing 4
Safs 517   Advanced Aspects of Brewing 4
Safs #600   Field Experience 0
Safs 601   Fruit Crop Production 4
Safs 632   Urban Agriculture 4
Safs 661   Plant Pathology 4
Safs 670   Systems Thinking: Land Use Capability and Sustainability in Aotearoa New Zealand 4
Safs 671   Agroecology and Sustainable Land Management in Aotearoa New Zealand 4
Safs 672   Pathways to Sustainable Agriculture and Food Systems in Aotearoa New Zealand 4
Safs 673   Agricultural Production and Business Practice in Aotearoa New Zealand 4
Safs 679   Food Production Field Experience I 4
Safs 680   Food Production Field Experience II 4
Safs 689   Greenhouse Management and Operation 4
Safs 733   Advanced Topics in Sustainable Agriculture 4
Safs 760   Insect Pest Management 4
Safs 795   Investigations 1-4
Safs 799   Honors Senior Thesis 1-4
Meib 772   Fisheries Biology Conservation and Management 4
Zool 555   Introduction to Entomology 4
Zool 610   Principles of Aquaculture 4

University Requirements

In addition to meeting the SAFS major requirements, students must satisfy all University requirements including those that pertain to the minimum number of credits, grade-point average, writing-intensive courses, the Discovery Program, and foreign language (only for B.A. students).

Student Learning Outcomes

- Students will demonstrate a working understanding of the interdisciplinary nature of agriculture and food systems and the basic principles underpinning sustainability including: economic viability, environmental stewardship, social responsibility, and the trade-offs between competing metrics of sustainability.
- Students will demonstrate in-depth knowledge, critical thinking and analysis, and effective written communication in a self-declared area of emphasis within the program.
- Students will gain an applied understanding of agriculture and food system sustainability by engaging in an experiential education opportunity.
- Students will be able to independently interpret, evaluate, and engage with research in the agricultural sciences, including its biological, physical, social, and/or economic aspects.