**FOOD SYSTEMS, MINOR**

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

**Program Description**

The FDSYS minor will educate and prepare students for existing and emerging food systems careers by designing and delivering an integrative, interdisciplinary Food Systems minor that is learner-centered, experiential and stakeholder-responsive. The minor uses a competency-oriented approach to inform its curriculum, reflective interdisciplinary collaboration, and food systems stakeholder involvement.

**Competencies and Guiding Principles of the Food Systems Minor**

A comprehensive ecology of knowledge framework emphasizes both what is taught, and how it is taught as mutually supportive components of education. The competencies of the minor are the what: the student learning objectives that graduates of the Food Systems minor are expected to demonstrate proficiency in. The guiding principles of the Food Systems minor are the how: they serve as a roadmap for how the courses and experiences in the minor will support the learning objectives.

**Competencies**

Students who complete the Food Systems Minor will:

1. Solve complex problems: Analyze, plan, act on and evaluate solutions across multiple domains of the food system, including health, science, economics and business, community, agriculture, the food service industry, and policy.
2. Use evidence from multiple ways of knowing (epistemologies) to analyze, select and assess food systems problems and solutions. Different knowledge include scientific, social, cultural, historical, political, indigenous, and local perspectives.
3. Respect and critically reflect on one's own and others' perspectives and values to understand how these perspectives and values influence food systems decisions.
4. Be civically engaged both locally and globally to enable positive change in food and agricultural systems.

**Guiding Principles**

1. Experiential learning. Courses and related activities will offer students place-based, learning experiences in food systems beyond the classroom, thereby integrating theoretical and practical knowledge. Activities will include engaged scholarship, internships, service learning, research, and other creative and professional work experiences. For example, the required Supervised Field Engagement Experience will provide opportunity for personalized work on food systems related topics, practice in stakeholder engagement, and network-building for students with potential future employers.
2. Interdisciplinary problems and project-based learning. Problem-based learning, experiential and stakeholder-driven projects, and systems-oriented inquiry have been linked to positive student appraisal of competency development for individual courses (Galt et al. 2013). Courses and related experiences will incorporate pedagogies and curricula that emphasize students' engagement with interdisciplinary food system problem-posing (inquiry) and project-based learning, thereby placing students at the center of their learning.
3. Community partnerships and engagement. Courses and related experiences will advance students' and community partners' knowledge, skills, and dispositions toward forming and maintaining partnerships in service towards food systems security and mutually beneficial community, health, and environmental sustainability goals.
4. Personal transformation through reflection. Courses and related experiences will provide opportunities for students, instructors, and allied partners to reflect (individually and collectively) upon their learning about a wide range of issues associated with environmental sustainability, economic development and community prosperity, justice and well-being with an intention to articulate change in one's own understandings.
5. Collaboration and deliberation. Courses and related experiences will promote among students, instructors and allied partners opportunities to develop knowledge, skills and dispositions inherent to democratic/civic participation.
6. Career stakeholder engagement. Courses and related experiences will engage food systems stakeholders and prospective employers from government, industry and non-profit sectors. By assessing stakeholders' understandings of critical competencies for successful food systems work, Food Systems minor graduates will be better prepared to address current food system challenges and also achieve their personal and professional goals.

**Program Requirements**

**Requirements for the Minor**

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGBM 170</td>
<td>Investigating the U.S. Food System: How food moves from field to table</td>
<td>3</td>
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<tr>
<td>FDSYS 490</td>
<td>From Agriculture to Culture: Perspectives on your food from seed to plate</td>
<td>1</td>
</tr>
<tr>
<td>FDSYS 495</td>
<td>Internship</td>
<td>2-3</td>
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**Prescribed Courses: Require a grade of C or better**

**Additional Courses:**

Select 3 credits each from two of the three topic areas. At least one selected additional course should be at the 400-level:

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<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>AGCO 134N</td>
<td>Sustainable Agriculture Science and Policy</td>
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<tr>
<td>AGCO/ENT 457</td>
<td>Principles of Integrated Pest Management</td>
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<td>AGRO 28</td>
<td>Principles of Crop Management</td>
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<tr>
<td>ANSC 100</td>
<td>Introduction to Animal Industries</td>
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<tr>
<td>Topic Area: Food, Nutrition and Health:</td>
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<tr>
<td>FDSC 200</td>
<td>Introductory Food Science</td>
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<tr>
<td>NUTR 100</td>
<td>Nutrition Applications for a Healthy Lifestyle</td>
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<td>NUTR 175</td>
<td>Healthy Food for All: Factors that Influence What we Eat in the US</td>
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<tr>
<td>NUTR 251</td>
<td>Introductory Principles of Nutrition</td>
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</table>
The Sustainable Fork: Food Systems Decisions for Away-From-Home Eating

Topic Area: Human and Social Dimensions:
- CED/FDSYS 442 Changing Food Systems: Comparative Perspectives
- CI 304N Food, Farms & Justice: What’s Education Got To Do With Them?
- GEOG 3N Food and the Future Environment
- HIST 111 Introduction to U.S. Food History

Supporting Courses and Related Areas

Supporting Courses and Related Areas: Require a grade of C or better
Select 6 credits from approved list in consultation with the minor adviser. At least 3 of the credits must be from the topic area not selected under Additional Courses. The following courses are recommended for meeting the requirements of the minor. Students may substitute courses to meet this requirement in consultation with the minor adviser.

Agricultural and Environmental Sciences:
- AGECO 134N Sustainable Agriculture Science and Policy
- AGECO 144 Principles and Practices of Organic Agriculture
- AGECO 201 Introductory Agroecology
- AGECO/ANSC/SOILS 418 Nutrient Management in Agricultural Systems
- AGECO/ENT 457 Principles of Integrated Pest Management
- AGRO 28 Principles of Crop Management
- AGRO 423 Forage Crop Management
- AGRO 425 Field Crop Management
- ANSC 100 Introduction to Animal Industries
- ANSC 201 Animal Science
- ANSC/FDSC 207 Animal Products Technology
- ANSC/FDSC 208 Animal Products Technology Laboratory
- ENT 222
- ERM 210 Environmental Factors and their Effect on Your Food Supply
- HORT 101 Horticultural Science
- HORT 431 Small Fruit Culture
- HORT 432 Deciduous Tree Fruits
- HORT 433 Vegetable Crops
- INTAG 300 Agricultural Production and Farming Systems in the Tropics
- PLANT 220 Gardening for Fun and Profit
- PPEM 120 The Fungal Jungle: A Mycological Safari From Truffles to Slime Molds
- PPEM 225 Mushroom Cultivation
- PPEM 300 Horticultural Crop Diseases
- SOILS 101 Introductory Soil Science
- SOILS 402 Soil Nutrient Behavior and Management
- SOILS 412W Soil Ecology
- SOILS 422 Natural Resources Conservation and Community Sustainability

Food, Nutrition, and Health:
- BBH 130 Strategies for Addressing the Obesity and Diabetes Epidemics
- FDSC/STS 105 Food Facts and Fads
- FDSC 200 Introductory Food Science
- FDSC 406W Physiology of Nutrition
- FDSC 460 International Food Production
- HM 304 Institutional Food Service Management
- HM 329 Introduction to Food Production and Service
- HM 330 Food Production and Service Management
- HM/FDSYS 407 The Sustainable Fork: Food Systems Decisions for Away-From-Home Eating
- HM 413 New Product Development for Commercial Foodservice
- HM 430 Advanced Food Production and Service Management
- NUTR 100 Nutrition Applications for a Healthy Lifestyle
- NUTR 119 Elementary Foods
- NUTR 175Z Healthy Food for All: Factors that Influence What we Eat in the US
- NUTR 361 Community and Public Health Nutrition
- NUTR 421 Biocultural Perspectives on Public Health Nutrition
- NUTR 425 Global Nutrition Problems: Health, Science, and Ethics

Human and Social Dimensions:
- AG/CE D 160 Introduction into Ethics and Issues in Agriculture
- AGBM 102 Economics of the Food System
- AGBM 302 Food Product Marketing
- AGBM 460 Managing the Food System
- ANTH 120 First Farmers
- ANTH 140 Anthropology of Alcohol
- ANTH 152 Hunters and Gatherers
- ANTH 375Q Anthropology of Food Honors
- CI 304N Food, Farms & Justice: What’s Education Got To Do With Them?
- CED 155 Science, Technology and Public Policy
- CED/FDSYS 442 Changing Food Systems: Comparative Perspectives
- ENGL 179 Exploring the Literature of Food: Current Trends in American Food Writing and Environmentalism
- GEOG 3N Food and the Future Environment
- HIST 111 Introduction to U.S. Food History
- HIST 451 The Consumer Revolution
- HORT 150N Plants in the Human Context
- INTAG 100 Introduction to International Agriculture
- JST/RLST 405 Jews and Food