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).

Requirements for the Minor

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Requirements for the Minor</td>
<td>18-19</td>
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</tbody>
</table>

Prescribed Courses

Prescribed Courses: Require a grade of C or better

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGBM 170</td>
<td>Investigating the U.S. Food System: How food moves from field to table</td>
<td>3</td>
</tr>
<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>
</tr>
</tbody>
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Additional Courses

Additional Courses: Require a grade of C or better

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

- Topic Area: Agricultural and Environmental Sciences:
  - AGECO 134N | Sustainable Agriculture Science and Policy |
  - AGECO/ENT 457 | Principles of Integrated Pest Management |
- Topic Area: Food, Nutrition and Health:
  - AGRO 28 | Principles of Crop Management |
  - ANSC 100 | Introduction to Animal Industries |
  - FDSC 200 | Introductory Food Science |
  - NUTR 100 | Nutrition Applications for a Healthy Lifestyle |
  - NUTR 175 | Healthy Food for All: Factors that Influence What we Eat in the US |
  - NUTR 251 | Introductory Principles of Nutrition |
HM/FDSYS 407  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  Honey Bees and Humans
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 - LINKED
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 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