Sustainable Food & Farming

I. Core Requirements

A. Biological Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany or Plant Biology</td>
<td>4 cr.</td>
</tr>
<tr>
<td>Soil Science</td>
<td>4 cr.</td>
</tr>
</tbody>
</table>

B. Ecosystems Studies

Select one of the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Intro Environmental Biology (BS)</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Plants, Soils and the Environment</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Principles of Environmental Biology</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Society and Environment (SI)</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Introductory Ecology</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Agroecology</td>
<td>3 cr.</td>
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</table>

C. Math, Statistics and Reasoning

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algebra/Anal. Geom/Trig or Pre-CalcAlgebra/Anal. Geom/Trig</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Analytical Reasoning (approval of advisor)</td>
<td>3 cr.</td>
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</tbody>
</table>

D. Chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Chemistry</td>
<td>4 cr.</td>
</tr>
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</table>

E. Junior Writing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>3 cr.</td>
</tr>
</tbody>
</table>

TOTAL CORE 24 - 25 cr.

II. Concentration Specific Requirements

A. Food Systems

Select one

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLSOILIN 390G</td>
<td></td>
</tr>
<tr>
<td>PLSOILIN 397C</td>
<td></td>
</tr>
</tbody>
</table>

Total credits for Food Systems course (3 cr.)
**B. Crop Production and Pest Management**

Students must select six courses in this area, with at least five at or above the 300 level. At least two courses must come from the Pest Management area.

**Crop Science**
- Organic Farming and Gardening (BS) \(\text{PLSOILIN 120}\)
- Plant Propagation \(\text{PLSOILIN 200}\)
- Sustainable Agriculture \(\text{PLSOILIN 265}\)
- Herbs, Spices, and Medicinal Plants (BS) \(\text{PLSOILIN 280}\)
- Deciduous Orchard Science \(\text{PLSOILIN 300}\)
- Small Fruit Production \(\text{PLSOILIN 305}\)
- Greenhouse Management \(\text{PLSOILIN 315}\)
- Vegetable Crop Production \(\text{PLSOILIN 325}\)
- Soil and Crop Management \(\text{PLSOILIN 350}\)
- Hydroponics \(\text{PLSOILIN 365}\)
- Tropical Agriculture \(\text{PLSOILIN 370}\)
- Intro Plant Physiology \(\text{PLSOILIN 397P}\)
- Plant Nutrition \(\text{PLNSOIL 530}\)
- Soil Fertility \(\text{PLNTSOIL 580}\)

**Pest Management**
- Weed Management \(\text{PLSOILIN 310}\)
- Insect Biology \(\text{PLSOILIN 326}\)
- Pesticides, Environment & Public Policy \(\text{PLSOILIN 342}\)
- Insect Ecology & Management \(\text{PLSOILIN 397K}\)
- Disease Ecology & Management \(\text{PLSOILIN 510}\)
- General Plant Pathology \(\text{PLNSOIL 505}\)
- Biological Control \(\text{ENTOMOL 523}\)
- Insect-Plant Interactions \(\text{ENTOMOL 597A}\)

(18 cr.+)

**C. Restricted Electives**

Students in Sustainable Food and Farming must select at least 24 credits across three categories: Biophysical Systems, Economic Systems and Social Systems. Select at least one course from each category, and a minimum of 18 credits from courses at or above the 300-level. Courses may also be used to meet a General Education requirement. Up to 12 credits of these requirements may be satisfied by an internship or independent study (such as PLSOILIN 396/496 or 398/498) with approval of the Academic Advisor and the Undergraduate Coordinator. Courses may be selected from other academic departments at the University of Massachusetts or from one of the other Five Colleges when they add value to the area of study. Courses for the Distribution Electives should be selected with approval of the Academic Advisor. Examples of courses are listed below.

Restricted electives (24 cr.)

**Examples of Restricted Electives for Sustainable Food and Farming**

Students may use other courses with advisor’s approval.

**1. Biophysical Systems**

Additional courses in PLSOILIN/PLNTSOIL/ENTOMOL

- Plant Ecology \(\text{BIOLOGY 421}\)
- Sustainable Cities \(\text{ENVIRDES 591B}\)
- Economic Geography \(\text{GEO-SCI 360}\)
- Land Use and Society \(\text{GEO-SCI 362}\)
- Human Impact on the Natural Env. \(\text{GEO-SCI 420}\)
- Sense of Place and Environ. Perception \(\text{GEO-SCI 444}\)
- Human Dimensions in Natural Res. Mgmt. \(\text{NRC 382}\)
2. Economic Systems
Political Economy of the Environment ECON 308
Economic Development ECON 366
Economic Geography GEO-SCI 360
Principles of Management MANAGT 301
Human Resource Management MANAGTMT 314
Fundamentals of Marketing MARKETING 301
Environmental Economics RESECON 262
Non-profit and Social Marketing MKTG 460
Intro Statistics RESECON 211 or 212
Natural Resource Economics RESECON 263
Small Business Finance RESECON 324
Food Marketing RESECON 241

3. Social Systems;
Farm Animal Care and Welfare ANIMLSCI 360
Political Anthropology ANTHRO 336
Grassroots Community Development ANTHRO 397H
Introduction to Multicultural Education EDUCATION 377
Education for Community Development EDUCATION 556
Ecological Cities GEO-SCI 697P
American Environmental History HISTORY 383
Sustainable Living PLSOILIN 285
Pesticides, the Environment & Public Policy PLSOILIN 342
Environmental Policy POLISCI 382
Land and Resource Policy POLISCI 383
Community Development PUBHLTH 602
Principles of Group Dynamics PUBHLTH 603
Social Change SOCIOLO 327
Social Movements SOCIOLO 329
Sociology and Ecology of Community SOCIOLO 565
Natural Resource Policy & Administration NRC 409

D. Advanced Courses in Plant, Soil and Insect Sciences
Students must select any two additional courses at the 500-level or higher adding up to six (6) credits from PLSOILIN or ENTOMOL course listing that are not being used to satisfy a previously listed requirement. (6 cr.)

Total for Concentration Specific Requirements 51 cr.

E. Minimum Required Credits in the Department
Note that students must take a minimum of 30 credits from within the Department of Plant, Soil and Insect Sciences.

Total for the Sustainable Food and Farming Concentration 75-76 cr.