

## **Sustainable Food and Farming**

### **Bachelor of Science Degree Requirements**

The Bachelor of Sciences degree in Sustainable Food and Farming requires students to take courses in four categories:

- a. University General Education Requirements (39 credits)
- b. Core Required Classes (26-31 credits)
- c. Agricultural Science and Practice Classes (24 credits)
- d. Professional Electives (18 credits)

#### **1. University General Education Requirements**

The General Education Program at the University of Massachusetts Amherst offers students a unique opportunity to develop critical thinking, communication, and learning skills that will benefit them for a lifetime. University GenEd requirements are:

- College Writing (CW) 3 credits
- General Mathematics (R1) 3 credits
- Analytical Reasoning (R2) 3 credits
- Biological Science (BS) 4 credits
- Physical Sciences (PS) 4 credits
- Arts or Literature (AT or AL) 4 credits
- Historical Studies (HS) 4 credits
- Social & Behav. Sci. (SB) 4 credits
- Social World (AT, AL, I, SI) 4 credits
- U.S. Diversity (DU) 3 credits (may be combined with another GenED)
- Global Diversity (DG) 3 credits (may be combined with another GenED)

Two additional General Education classes are taken within the Sustainable Food and Farming major:

- Junior Writing  
STOCKSCH 382 – Professional Development in Sustainable Food and Farming (3)  
or NATSCI 397A - CNS Junior Writing (3)
- Integrative Experience  
STOCKSCH 379 - Ag Systems Thinking (3)  
or NATSCI 494I - Global Issues in Applied Biology (3)

Other Junior Writing or Integrative Experience classes may be taken with permission. Students taking Sustainable Food and Farming as a second major should take their Junior Writing and Integrative Experience requirements within their primary major.

## **2. Core Required Classes**

These classes are required of students earning a Bachelor of Sciences degree in the Stockbridge School of Agriculture. There is some flexibility depending on a student's career goals and previous course work. Be sure to talk with your adviser about your options.

### **1. Botany**

STOCKSCH 108 - Intro to Botany (4)  
(BIOLOGY 151 or the equivalent may satisfy this requirement)

### **2. Soil Science**

STOCKSCH 105 - Soil Science (4)

### **3. Ecosystem Course - Choose one**

BIOLOGY 287 - Ecology (3)  
STOCKSCH 186 - Introduction to Permaculture (3)  
STOCKSCH 297 B – Forest Gardens: Perennial Ag for Ecological Regeneration (3)  
STOCKSCH 378 - Agroecology (3)  
STOCKSCH 390 N – Ecosystem Processes (3)  
STOCKSCH 510 – Management and Ecology of Plant Diseases (3)  
(other courses with permission of the adviser)

### **4. Mathematics Requirements**

MATH 104 - Alg/Anal Geo/Trig (3)  
or MATH 101 (2)      and      MATH 102 (2)  
or advanced Math depending on Math Placement Test

### **5. Analytical Reasoning** – University approved R2 - Analytical Reasoning Class (3)

### **6. Chemistry Requirement**

STOCKSCH 117 - Agricultural Chemistry (3) - does not fulfill the PS GenEd requirement  
or CHEM 110 (4) – Fall (includes Saturday labs on alternate weeks)  
or CHEM 111 (4) – Fall or Spring

### **7. Take one course in food/land policy or one course in agricultural education**

STOCKSCH 297 AL – Agricultural Leadership and Education I (3)  
or STOCKSCH 397 AL - Agricultural Leadership and Education II (3)  
or STOCKSCH 355 - Community Food Systems (3)  
or STOCKSCH 356 - Food Justice and Policy (3)  
or STOCKSCH 387 – Global Food Systems (3)  
or STOCKSCH 397R – Social Permaculture: Building Resilient Communities (3)  
or ...other courses with permission

### **3. Agricultural Science and Practice Classes**

These courses comprise the “heart” of the major and make the Stockbridge School of Agriculture unique in the nation. They consist of both traditional agricultural science courses which are offered at most major agricultural universities, as well as practical hands-on classes that make UMass the place to study sustainable agriculture!

**Students must take 24 credits in agricultural science and practice.** These include:

- 6 credits at 100 level or above
  - 12 credits at 200 level or above
1. At least 12 credits - 200 level or higher from this list or with approval of adviser

STOCKSCH 200 – Plant Propagation (3)  
STOCKSCH 201 – Equipment Operations (2)  
STOCKSCH 211 – Pasture Management (3)  
STOCKSCH 235 – Pruning Fruit Crops (2)  
STOCKSCH 258 – Urban Agriculture (3)  
STOCKSCH 260 – Growing Plants Indoors (2)  
STOCKSCH 266 – Farm Management, Planning and Marketing (3)  
STOCKSCH 268 - Small Farm Husbandry I - Raising Meat Animals (3)  
STOCKSCH 269 - Small Farm Husbandry II - Raising Poultry and Pigs (3)  
STOCKSCH 286 – Permaculture Design and Practice (3)  
STOCKSCH 297 AL – Agricultural Leadership and Education I (3)  
STOCKSCH 297B – Forest Gardens: Perennial Agriculture for Ecological Regeneration (3)  
STOCKSCH 300 – Deciduous Orchard Science (3)  
STOCKSCH 305 – Small Fruit Production (3)  
STOCKSCH 320 – Organic Vegetable Production (3)  
STOCKSCH 326 – Insect Biology (3)  
STOCKSCH 350 – Sustainable Crop and Soil Management (3)  
STOCKSCH 355 – Community Food Systems (3)  
STOCKSCH 356 – Food Justice and Policy (3)  
STOCKSCH 370 – Tropical Agriculture (3)  
STOCKSCH 376 – Student Farm Management I: Planning for Production (3)  
STOCKSCH 378 – Agroecology (3)  
STOCKSCH 379 – Agricultural Systems Thinking (3)  
STOCKSCH 384 - Plant Physiology (3)  
STOCKSCH 387 – Global Food Systems (3)  
STOCKSCH 390G – Sustainable Grape Production (3)  
STOCKSCH 390N – Ecosystem Processes (3)  
STOCKSCH 391A – Dialogue on Agricultural Issues (1)  
STOCKSCH 396 – Independent Study (must be graded) (1-6)  
STOCKSCH 397 AL – Agricultural Leadership & Community Education (3)  
STOCKSCH 397 GB – Grapevine Biology (3)

STOCKSCH 397R – Social Permaculture: Building Resilient Communities (3)  
STOCKSCH 397 VP – Sustainable Grape Production (3)  
STOCKSCH 398B – Agricultural Practicum (must be graded) (1-18)  
STOCKSCH 476 – Student Farm Mgt. II: Harvest, Marketing & Finance (3)  
STOCKSCH 485 - Sustainable Food & Farming Senior Capstone (3)  
STOCKSCH 497 P – Pharmacognocoy (3)

2. At least 6 credits - 100 level or higher from this list or with approval of adviser

STOCKSCH 101 – Insects and Related Forms (2)  
STOCKSCH 111 – Intro Plant Pathology (2)  
STOCKSCH 166 – Practical Beekeeping (3)  
STOCKSCH 171 – Plagues Food and People (4)  
STOCKSCH 186 - Introduction to Permaculture (3)  
STOCKSCH 190 PW - Personal Wellness for Farmers and Gardeners (3)

3. At least 6 credits at the 500 level (from this list or other departments with approval)

STOCKSCH 505 – General Plant Pathology (4)  
STOCKSCH 510 – Management and Ecology of Plant Disease (3)  
STOCKSCH 515 – Microbiology of the Soil (3)  
STOCKSCH 520 – Physiology of Crop Yield (3)  
STOCKSCH 525 – Mycology (3)  
STOCKSCH 530 – Plant Nutrition (3)  
STOCKSCH 535 – Diagnostic Plant Pathology (3)  
STOCKSCH 545 – Postharvest Biology (4)  
STOCKSCH 550 – Plant Hormones and Applied Plant Physiology (3)  
STOCKSCH 580 – Soil Fertility (3)  
STOCKSCH 597 A – Phyto/Bioremediation (3)

Non-Stockbridge Courses that may count toward Ag Science & Practice with permission of the adviser & Instructor

ANIMLSCI 103 - Introduction to Animal Management (3)  
ANIMLSCI 220 - Anatomy & Physiology of Domestic Animals (3)  
ANIMLSCI 232 – Belted Galloway Management I  
ANIMLSCI 234 - Poultry Management I  
ANIMLSCI 252 – Belted Galloway Management II  
ANIMLSCI 254 - Poultry Management II  
ANIMLSCI 297D – Dairy Calf Management  
ANIMLSCI 297E – Dorset Sheep Management II  
ANIMLSCI 297S – Boer Goat Management II  
ANIMLSCI 260 - Animal Care and Welfare (3)  
ANIMLSCI 297DC – Dairy Calf Management

ANIMLSCI 298S – Boer Goat Management I  
 ANIMLSCI 332 - Basic Animal Nutrition & Feeding (3)  
 ANIMLSCI 390B - Animal Business Management (3)  
 ANIMLSCI 421 - Fundamentals of Reproduction (3)  
 ANTHRO 397 FD - Food and Culture (3)  
 FOOD-SCI 101 - Food and Health (3)  
 FOOD-SCI 120 - Food Preservation: Why and How (4 PS GenEd)  
 FOOD-SCI 160 - The Nature of Food (3)  
 ITALIAN 397K - Food, History and Culture of Italy (3)  
 NATSCI 494I - Global Issues in Applied Biology (3) (satisfies IE requirement)  
 NRC 225 - Forests and People (3)  
 NRC 310 - Community Forestry (3)  
 NRC 566 – Restoration Ecology (3)  
 NUTRITN 572 - Community Nutrition (3)  
 NUTRITN 597K - Culture, Nutrition and Health (3)  
 REGIONPL 545 – Introduction to Land Use (3)  
 SOCIOL 391 F - Food and Labor (3)

#### **4. Professional Electives**

Students working closely with an academic adviser are encouraged to select professional elective courses from the major, other UMass majors, and the Five Colleges which help them move toward their own career goals. General Education classes, one credit Stockbridge classes, transfer courses, independent study and practicum classes may be used to fulfill this requirement. **A total of 18 credits** of approved courses are required with at least one course from each category below:

- Biophysical Systems
- Economic Systems
- Social Systems

This requirement ensures that all three aspects of sustainability (environmental, economic and equity) are included in the course of study, while at the same time offering maximum flexibility to students.

#### **5. Summary**

Students are encouraged to take up to the maximum of 18 credits as Internships or Practica which may be counted toward Professional Electives. These may be farm internships, working with non-profits or businesses, or study abroad. Stockbridge is committed to helping students gain practical experience as part of their major area of study. For more information, talk with our SFF Internship Coordinator, Renee Ciulla at [rciulla@umass.edu](mailto:rciulla@umass.edu). And see: <https://sustfoodfarm.org/internship/>.

To graduate, students must take the following minimum number of classes:

- University classes = 120 credits
- College of Natural Science classes (includes Stockbridge) = 60 credits\*
- Stockbridge School of Agriculture classes = 30 credits

\* Students with a primary major outside of the College of Natural Sciences and a second major in SFF do not need to meet the 60 credit CNS minimum.