

# AGROECOLOGY (AGROECOL)

## AGROECOL/AGRONOMY/C&E SOC/ENTOM/ENVIR ST 103 – AGROECOLOGY: AN INTRODUCTION TO THE ECOLOGY OF FOOD AND AGRICULTURE

3 credits.

Agroecology has blossomed across the world in recent decades as not only a science, but also a practice, and a movement. Employ the multiple disciplines and perspectives that Agroecology affords to analyze our agricultural and food systems within a broader context of dynamic social and ecological relationships.

**Requisites:** None

**Course Designation:** Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Elementary

L&S Credit - Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** No

**Last Taught:** Fall 2023

## AGROECOL 303 – AGROECOLOGICAL SYSTEMS: WORKING TOWARDS SUSTAINABILITY

3 credits.

Explores in-depth agriculture systems as coupled ecological and social complexities. Examines the components of agricultural systems and analyzes how different ecological and social contexts influence and are influenced by the agricultural system. Explores and analyzes how management decisions (crop breeding, in-crop management, landscape-level, etc.) ramify to influence processes and outcomes at different levels of complexity (e.g., ecosystem, landscape, social well-being, human health, economic) and the socio-ecological tradeoffs that ensue. Develops skills to analyze how the design and implementation of integrated agricultural systems can contribute to solutions for pressing societal challenges such as climate change, biodiversity declines, unsustainable resource use and social inequality.

**Requisites:** ENVIR ST/AGROECOL/AGRONOMY/C&E SOC/ENTOM 103

**Course Designation:** Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** No

**Learning Outcomes:** 1. Identify ecological biotic and abiotic aspects of agricultural systems as stocks and flows of energy and matter within and between organizational levels (e.g. cellular, organismal, ecosystem, landscape, and global)

Audience: Undergraduate

2. Describe the social dimensions of agricultural systems as stocks and flows of knowledge, information, and beliefs at organizational levels within agroecosystems

Audience: Undergraduate

3. Explain and analyze how the management of agroecosystems influences ecological and social processes

Audience: Undergraduate

4. Evaluate how agriculture can be designed and managed to be a solution for modern ecological and social challenges of today (e.g. climate change, unsustainable resources use, biodiversity declines, social inequality) in different socio-ecological contexts

Audience: Undergraduate

5. Compare and contrast careers in agroecology through interactions with a wide variety of persons working in the field, from practitioners to industry professionals

Audience: Undergraduate

6. Solve problems individually and as part of teams using the scientific method, logic, and reasoning by identifying and differentiating the strength and value of information, evidence, and approaches related to the management and sustainability of agroecosystems

Audience: Undergraduate

7. Reflect on one's participation in food systems from local to global scales

Audience: Undergraduate

**AGROECOL/AGRONOMY/DY SCI 371 – MANAGED GRAZING FIELD STUDY**

1-2 credits.

For those interested in developing a comprehensive understanding of the principles, practices, and conservation potential of managed grazing systems, and how these farming systems may contribute to the sustainability and diverse tapestry of Wisconsin's working landscape. Visit managed grazing systems of successful grazing-based farmers (graziers) across southern/central counties in Wisconsin, and/or research sites at UW's Arlington and/or Lancaster Research Stations and/or the Discovery Farms Program. An opportunity to discuss at length with farm managers and researchers the practices in place at each farm and research site. Includes introduction to UWEX pasture forage/nutrient management planning and budgeting software.

**Requisites:** Consent of instructor**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Fall 2017**AGROECOL 400 – STUDY ABROAD IN AGROECOLOGY**

1-6 credits.

Provides an area equivalency for courses taken on Madison Study Abroad Programs that do not equate to existing UW courses. Current enrollment in a UW-Madison study abroad program

**Requisites:** None**Repeatable for Credit:** Yes, unlimited number of completions**AGROECOL 503 – AGROECOLOGY CAPSTONE**

3 credits.

A stepping stone between the classroom and society. Emphasizes integration of diverse bodies of agroecological knowledge, critical thinking, and engagement with real-world problems and current research. Topics such as: bioproducts, food systems and security, economic vitality of communities, climate change, humans and their environment, biodiversity, resource management and policy, and social equity.

**Requisites:** ENVIR ST/AGROECOL/AGRONOMY/C&E SOC/ ENTOM 103, AGROECOL 303, and senior standing**Repeatable for Credit:** No**Learning Outcomes:** 1. Integrate diverse bodies of knowledge to solve an agroecological problem or formulate a policy of societal importance  
Audience: Undergraduate2. Evaluate the strength and value of information, evidence, and approaches relevant to a specific problem or policy  
Audience: Undergraduate3. Discuss and lead discussions with peers regarding a specific agroecological problem or policy  
Audience: Undergraduate4. Write and present comprehensive reports regarding a specific agroecological problem or policy for scientists or policymakers  
Audience: Undergraduate5. Write and present comprehensive reports regarding a specific agroecological problem or policy for the general public  
Audience: Undergraduate**AGROECOL 699 – SPECIAL PROBLEMS**

1-3 credits.

Scholarship on special topics, under the supervision of an agroecology faculty member.

**Requisites:** Consent of instructor**Course Designation:** Level - Advanced

L&amp;S Credit - Counts as Liberal Arts and Science credit in L&amp;S

**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2020**AGROECOL 701 – THE FARM AS SOCIO-ENVIRONMENTAL ENDEAVOR**

3 credits.

Farms may be analyzed as intentional entities shaped by the contexts in which they must operate. This course explores how these biophysical and social contexts both exert constraints and provide opportunities, leading to the diversity of farms observed.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Fall 2023

**AGROECOL 702 – THE MULTIFUNCTIONALITY OF AGRICULTURE**

3 credits.

Agroecology systems provide a variety of social, economic, and ecological functions to society, each with a different network of stakeholders. This course explores methods of evaluating these diverse functions and perspectives, with a special focus on participatory approaches.

**Requisites:** Declared in Agroecology MS**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2024**AGROECOL 710 – AGROECOLOGICAL SEMINAR**

1 credit.

Weekly seminar on topics in agroecology.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2024**AGROECOL 720 – AGROECOLOGICAL FIELD STUDY**

1-3 credits.

Field study of farms, processing, marketing, distribution, and policy-making in the food system. Courses will be several days of visits, discussions with the operators, and student-faculty discussion sections. Presentations or written reports may be required.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Fall 2023**AGROECOL/AGRONOMY/ENVIR ST 724 – AGROECOSYSTEMS AND GLOBAL CHANGE**

3 credits.

Impacts of global change drivers (climate change, atmospheric chemistry, bioenergy, urbanization, policy) on agroecosystems and their associated goods and services; environmental impacts of agricultural land use and feedbacks to climate; modeling approaches; critical review of current scientific literature.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Fall 2023**AGROECOL 875 – TOPICS IN AGROECOLOGICAL**

1-3 credits.

This course number provides for opportunities to develop and test possible new courses, or to accommodate visiting scholars who may wish to offer a course.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2018**AGROECOL 990 – RESEARCH**

1-12 credits.

Independent research on the student's thesis or degree project.

**Requisites:** Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2024