

Agroecosystem Science Specialization

The whole-system approach to sustainable agricultural and food systems is the interdisciplinary area of agroecosystem sciences. Research links ecology, culture, economics and society.

Agroecosystem Science research areas include:

- Local food system development, food system assessment and sustainability
- Watershed ecology and participatory water quality management programs
- Renewable energy from agroecosystems
- Sustainability science and policy

Specialization requirements:

1. Work with an ESGP advisor from the Agroecosystem Sciences faculty list
2. Complete specialization course requirements
3. Conduct research project in Agroecosystem topic

Course requirements:

Skills classes:

All must take:

GEOG 5220 - Fundamentals of Geographic Information Systems G 3

Choose at least 3 (MS) or 6 (Ph. D.) credits from the following:

AEDECON 6120 - Applied Quantitative Methods II G 4

AEDECON 7120 - Advanced Quantitative Methods II G 3

AEDECON 7130 - Advanced Quantitative Methods III G 3

CIVILEN 5420 - Remote Sensing of Environment G 3

CIVILEN 5421 - Spatial Analysis Techniques for Civil Engineering G 3

ENVENG 7217 - Applied Mathematical Ecology G 4

FABENG 3510 - Introduction to Biological Engineering U G 4

Biological Sciences in Agricultural Ecology:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

EEOB 5470 - Community and Ecosystem Ecology G 3

HCS 5602 - The Ecology of Agriculture G 3

ENR 5263 - Biology of Soil Ecosystems G 3

ENR 5225 - Ecosystem Modeling G 3

ENR 5250.01 - Wetland Ecology Restoration, G 3 and ENR 5250.02 Wetland Field Laboratory G 1

Physical Sciences in Agricultural Ecology:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

EARTHSC 5651 – Hydrogeology G 4

FABENG 5320 - Agroecosystems G 3

ENVENG 5180/FABENG 5310/ENR 5222- Ecological Engineering and Science G 4

Social Sciences and Policy Important in Agroecosystem Function and Change:

Choose at least 3 (MS) or 6 (Ph. D.) credits of the following:

AEDECON 5330 - Benefit-Cost Analysis G 3

CRPLAN 6410 - Planning for Sustainable Development G 3

ENR 8350 - Ecosystem Management Policy G 3

RURLSOC 5530 - Sociology of Agriculture and Food Systems G 3

RURLSOC 7560 - Environmental Sociology G 3

Seminar:

Three (3) credits:

ESGP 7899 – Current Issues in Environmental Science G 1

Two (2) credits Agroecosystems special topic

Entomol 7890/ENR 8890.03/EEOB 8896.04 - Agroecosystem special topics

Agroecosystem Faculty

- Rattan Lal, SENR
- Mark Moritz,
- Nick Basta, SENR
- Mark Sulc,
- Barry Lyons
- Jiyounng Lee
- Virginia Rich
- Andy May
- Casey Hoy
- Reed Johnson
- Larry Phelan
- Steve Culman