

# Master of Science in Agroecology at UMB

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*Contents of the programme (total 120 credits):*

Year	Semester	Content
1	Autumn	Core courses: Agroecology and Farming Systems (PAE302–15 credits) Agroecology and Food Systems (PAE 303-15 credits)
	Spring	Elective courses, based on an approved individual study plan, taken at UMB or elsewhere.
2	Autumn	Elective courses or Master thesis
	Spring	Master thesis (30 or 60 credits)*

\*The choice of a 60 credits Master thesis implies 30 credits of elective courses

## **Electives**

Courses will be chosen in cooperation with the academic supervisor. The following shows a selection of electives.

### ***At UMB:***

Agroecosystems, spring  
 Biodiversity and breeding of domesticated plants, spring  
 Research methods, spring  
 Sustainable agriculture and the environment (internet), spring  
 Agriculture and Development, spring  
 General ecology, spring  
 Soil fertility and soil management, spring  
 Landscape ecology, spring  
 Sustainable sanitation- decentralized, natural and ecological wastewater treatment (summer block)  
 Food culture (summer block, may only be offered in Norwegian)  
 Tropical ecosystems and biodiversity, autumn  
 Field crops for food and feed, autumn  
 Plant health and plant protection, autumn  
 Linking ecological and social resilience, autumn

### ***At the University of Oslo:***

The world nutrition situation- data and issues, spring semester  
 Nutrition, globalization and governance, spring semester  
 Nutrition and human rights, spring semester  
 Qualitative research methods, autumn semester

### ***At The University of Copenhagen, through NOVA cooperation:***

Land resources and crop production in the tropics, autumn  
 Qualitative methods in agricultural development, autumn  
 Applied plant nutrition, autumn  
 Climate change- effects on food and feed, autumn  
 Farming systems: production and sustainability, autumn  
 Applied ecology, spring

Conservation and management of genetic resources, spring  
Molecular plant breeding, spring  
Plus classes in horticulture, agroforestry, agricultural development

***At the Swedish University of Agricultural Sciences:***

Global crop production, spring  
Plant-microbe interactions, spring  
Stakeholder facilitation in project and conflict management, spring  
Introduction- soil and water management, autumn  
Plant pathology and entomology, autumn  
Research methods, autumn (1st block)  
Soil biology, autumn  
Systems analysis for sustainable development, autumn last block and spring first block

***At the University of Helsinki:***

Sustainability in agri-food systems, spring  
Agroecosystem and agrobiodiversity, autumn

***At the University of Tuscia (Viterbo) in Italy, through Erasmus cooperation:***

15 ECTS, middle of January until end of March  
Economics and policies of environmental and natural resources (5 ECTS)  
Biological fertility of soils (5 ECTS)  
Food quality and European food law (5 ECTS)

***At the University of Torino in Italy, through Erasmus cooperation:***

At least 15 ECTS, middle of April until the end of June  
Advanced entomology (5 ECTS)  
Advanced plant pathology (5 ECTS)  
Plant pathology and food safety (5 ECTS)  
Sustainable crop production (5 ECTS)

***At ISARA- Lyon in France:***

Autumn semester in Lyon in English: 3rd semester of European Master in Agroecology  
Agriculture and landscape management in a particular agricultural region (4 ECTS)  
Sustainable soil management (6 ECTS)  
World agroecosystems and agricultural use (6 ECTS)  
Management of agroecosystems: implications from policies, global change and nature conservation (6 ECTS)  
Group project management (8 ECTS)

Spring semester in Lyon in French until 2010:

Local products  
Farming systems and rural communities  
Innovation and technology transfer: renewable resources  
Aquaculture  
Economy and food systems  
Individual project  
(each 5 ECTS)

***At University of Kassel:***

From the MSc. in Organic agriculture  
International markets and marketing of organic products  
Principles of organic farming

Organic mixed farming systems under (sub)tropical conditions  
Multidisciplinary research in tropical systems  
Nutrient dynamics, long-term experiments and modeling

***At Wageningen University, through Erasmus cooperation:***

Sustainable resource use in organic agriculture  
Analysis and management of sustainable organic production chains  
Master class in organic agriculture  
Analysis and design of organic farming systems  
Organic plant production

***At the University of Nebraska:***

Agroecology  
Agroecosystems analysis  
Agroforestry systems  
Urbanization of rural landscapes  
Organic farming systems

***At Iowa State University:***

Issues in sustainable agriculture  
Systems analysis in crop and soil management  
Organic agriculture: theory and practice  
Agroecology summer field course  
Agroecosystems analysis  
Integrated crop and livestock production systems  
Ecologically based pest management  
Organizational strategies for diversified farming systems  
Foundations of sustainable agriculture

***At the University of Minnesota:***

Student organic farm planning growing and marketing.  
Environment, global food production and the citizen.  
World food problems.  
Ecology of agricultural systems  
Agroecosystem analysis summer field course.  
Engaging agricultural science in sustainable development

***At the University of Wisconsin – Madison:***

The Farm as Socioenvironmental Endeavor  
The Multifunctionality of Agriculture  
Seminar in Agroecology  
Agroecology Field Study

The intensive full-semester block at UMB is taken by both students from other programmes and by those registered in the agroecology programme at UMB. The UMB MSc. programme and/or the common one-semester intensive block at UMB will be available to students in animal science, economics, food science, nutritional sciences, horticulture, crop science, natural resource management, biology, engineering, landscape design, anthropology and social sciences related to the food system.