



UNIVERSITY OF
HOHENHEIM



CURRICULUM

Environmental Protection and Agricultural Food Production

Master of Science

Faculty of Agricultural Sciences | As of August 2025

Preamble

This curriculum provides applicants and students as well as teaching and administrative staff with comprehensive information about the M.Sc. program "Environmental Protection and Agricultural Food Production". It contains information about the course structure and summarizes the most important exam regulations (issued the 13th May 2025).

The information presented reflects the current situation. Titles and contents of compulsory and optional modules are sometimes subject to change. Due to administrative reasons such changes can only be included in printed materials with a delay. For this reason, all information is supplied without liability.

If in doubt, please contact the coordinator of the program (envirofood@uni-hohenheim.de) to obtain up-to-date information. For up-to-date module descriptions please refer to the website at uni-hohenheim.de/en/module-catalogue. Time schedules and lecture halls for all courses are displayed in the Course Catalogue of the University of Hohenheim, available at the beginning of each semester online on the university's homepage: uni-hohenheim.de/en/course-catalog

Imprint

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The Master's Program Environmental Protection and Agricultural Food Production (EnviroFood)

1 PROGRAM OBJECTIVES

How can we provide for the world's population today without exhausting the natural resources required by generations to come? This is one of the most pressing problems for humankind to solve. Food production relies increasingly on technical means of production and is already straining our natural resources to their limit. Nevertheless, food production is being intensified, and the globalization of markets is speeding up this process. One of this century's major challenges is to intensify food production in an environmentally friendly and sustainable way. Complex problems particularly arise on the periphery of densely populated areas, where competing forms of land use have to be balanced (e.g. settlement, recreation, waste disposal). When attempting to handle these problems, we not only have to consider scientific and technical aspects, but also socio-economic, political, and legal ones. To this end, the University of Hohenheim has developed its M.Sc. program "Environmental Protection and Agricultural Food Production" (EnviroFood).

The full program is composed of 4 semesters each with 30 ECTS credits. The language of instruction is English, and the program can be started in October (winter semester) each year.

2 DEGREE AND CAREER PERSPECTIVES

After successful completion of all modules as well as the thesis, the student is awarded the degree "Master of Science" (M.Sc.). This degree entitles the student to continue with a Ph.D./doctoral program if the total grade is above average.

Graduates acquire the knowledge to analyze and understand ecosystemical, economic, political, and administrative interdependencies and develop integrative solutions for problems.

They are well qualified to work in:

- environmental and quality management in companies and organizations
- agricultural and environmental consulting companies
- research and development for international companies and organizations
- research institutions

Examples of EnviroFood graduates can be found here: uni-hohenheim.de/envirofood-alumni

In the "**Study Compass**" you will find a comprehensive compilation of important information for your studies.

Information about modules, examinations, master's thesis, plan of blocked modules, AIDAHO program, additional offers, and much more is available there.

Make sure to consult the Study Compass and get familiar with the regulations!



3 PROGRAM DESIGN

The two-year M.Sc. program consists of 90 credits in thematic modules and one research semester (30 credits), during which a master’s thesis must be done. Five of these modules are compulsory (31.5 credits) and a minimum of 24 credits (four modules) must be chosen from a list of semi-elective modules.

To create an individual study profile, five elective modules (at least 30 credits) must be done. These modules can be chosen from the complete catalog of the University’s agricultural master’s modules (see: uni-hohenheim.de/en/module-catalogue). Modules can also be chosen from other study programs, insofar as these are approved by the examination board. Upon application, examinations taken at other universities can be recognized if the request is submitted within the first three months of the first semester in Hohenheim (deadlines: 31 December or 30 June).

The modules of the first and third semester (winter semester) last the full length of the semester (unblocked). The modules of the second semester (summer semester) are offered as blocked courses, each including three weeks of instruction, one week of individual preparation, and an exam at the end of week four. (For the sequences of the blocked modules see block plan on the „[Study Compass](#)“ website)

1 st Semester (unblocked)	2 nd Semester (blocked)	3 rd Semester (unblocked)	4 th Semester
3080-440 (Gallmann) Agricultural Production and Residues	3103-450 (Streck) Spatial Data Analysis with GIS (7.5 credits)	Elective or semi-elective module	Master’s Thesis (30 credits)
4902-440 (Boysen-Urban) Economics and Environmental Policy		Elective or semi-elective module	
3103-510 (Streck) Environmental Modelling		Elective or semi-elective module	
3402-420 (Piepho) Quantitative Methods in Biosciences		Elective or semi-elective module	
Elective or semi-elective module		Elective or semi-elective module	

3.1 Compulsory Modules

Sem	Code	Name of Module	Duration	Credits	Professor
1	3080-440	Agricultural Production and Residues	1 semester	6	Gallmann
1	3103-510	Environmental Modeling * <small>*(AIDAHO methods)</small>	1 semester	6	Streck
1	4902-440	Economics and Environmental Policy	1 semester	6	Boysen-Urban
1	3402-420	Quantitative Methods in Biosciences <small>*(AIDAHO methods)</small>	1 semester	6	Piepho
2	3103-450	Spatial Data Analysis with GIS * <small>*(AIDAHO application)</small>	SS block 1	7.5	Streck

SS = summer semester

* Limited number of participants. Please register for participation in ILIAS

3.2 Semi-elective Modules

Four semi-elective modules must be selected from the following list:

Sem	Code	Name of Module	Duration	Credits	Professor
1	4906-410	Ecology and Agroecosystems *	1 semester	6	Graß
1	4903-500	Policy Processes in Agriculture and Natural Resource Management	1 semester	6	Birner
1	4908-440	Livestock Production Systems and Development	1 semester	6	Roesel
2	3102-440	Environmental Pollution and Soil Organisms*	SS block 2	7.5	Kandeler
2	4905-470	Biodiversity and Genetic Resources *	SS block 2	7.5	Martin
2	4403-550	Postharvest Technology of Food and Biobased Products	SS block 2	7.5	Müller, J
2	4403-470	Renewable Energy for Rural Areas	SS block 3	7.5	Müller, J
2	4302-470	Landscape Change, Resilience, and Ecosystem Services *	SS block 3	7,5	Bieling
2	3103-460	Environmental Science Project *	SS block 4	7.5	Streck
2	3409-480	Fertilization and Soil Fertility Management in the Tropics and Subtropics	e-learning, by arrangement	7.5	Müller, T.
3	3090-410	Organic Farming in the Tropics and Subtropics	1 semester	6	Zikeli
3	3202-420	Global Change Issues *	1 semester	6	Schweiger
3	3409-440	Soil Fertility and Fertilization in Organic Farming	1 semester	6	Müller, T.
3	4403-440	Irrigation and Drainage Technology	1 semester	6	Müller, J.
3	4406-410	Waste Management and Waste Techniques	1 semester	6	Hafner
3	4907-410	Natural Resource Use and Conservation in the Tropics and Subtropics	1 semester	6	Asch
3	3103-410	Plant and Crop Modeling ^{*(AIDAHO application)}	Blocked in March	6	Priesack

SS = summer semester;

* Limited number of participants. Please register for participation in ILIAS

3.3 Recommended elective Modules

The elective modules can be chosen from the list below or from the modules of other master's programs offered by the Faculty of Agricultural Sciences at the University of Hohenheim. On request to the examination board and with the approval of an academic counsellor or the program coordinator, modules can be chosen from other programs of the University of Hohenheim or other universities. With compulsory, semi-elective, and elective modules together, at least 90 credits have to be reached.

Suggestions for elective modules:

Sem	Code	Name of Module	Duration	Credits	Professor
1-4	3000-410	Portfolio-Module (Master)	open	1 – 7,5	Kruse, M.
1-4	3000-420	UNlcert III English for Scientific Purposes	open	7.5	Kruse, M.
1-4	3000-560	Deutsch als Fremdsprache UNlcert® II (B2)	open	7.5	Hölzle
1	4303-410	Analyzing Sustainability in Agri-Food Systems	1 semester	6	Seufert
1/3	5107-4X0	Principles of Data Science (AIDAHO-Basic)	1 Semester	6	Dimpfl
2	4905-430	Integrated Agricultural Production Systems	SS, block 2	7,5	Asch
2	3201-620	Vegetation and Soils of Central Europe *	SS, block 2	7,5	Schmieder
2	4906-430	Field Course Agroecology and Biodiversity *	SS, block 2	7,5	Graß

Sem	Code	Name of Module	Duration	Credits	Professor
2	4906-440	Agroecology and Biotic Resource Conservation *	SS, block 3	7,5	Graß
2	4907-430	Crop Production Affecting the Hydrological Cycle	SS, block 3	7,5	Asch
2	3201-600	Intensive Course Landscape Ecology	SS, block 4	7.5	Schurr
2	3201-420	Ecology of Alpine Vegetation	SS, block 4	7.5	Schmieder
2	1916-400	Pathogens, Parasites and their Hosts, Ecology, Molecular Interactions and Evolution *	SS, block 4	7.5	Mackenstedt
2	4905-460	Modeling of Agroecosystems	1 semester	6 (!)	Asch
2	4407-480	Introduction to Machine Learning in Python <small>*(AIDAHO basic)</small>	e-learning	7.5	Stein
2	3101-420	Int. Field Course Site Evaluation (Eng.+Ger.) *	Sept. 2027	7.5	Herrmann
3	1201-590	Agricultural and Forest Meteorology	1 semester	6	Wulfmeyer
3	1201-630	Weather and Climate Physics	1 semester	6	Wulfmeyer
3	920-570	Nature-Based Solutions - Case Study	1 semester	6	Steidle
3	3201-570	Community and Evolutionary Ecology *	WS, block 2	7,5	Schurr
3	3201-580	Conservation Biology *	WS, block 3	7,5	Dieterich
3	3202-440	Plant Ecology *	WS, block 4	7,5	Schweiger
3	3201-420	Methods in Landscape and Plant Ecology <small>*(AIDAHO application)</small>	4 weeks in March	7,5	Schurr
3	3402-480	Environmental and Ecological Statistics	1 semester	6	Piepho
3	3603-480	Entomology	1 semester	6	Petschenka
3	4301-460	Fit for Innovation Support – Concepts, Methods and Skills	1 semester	6	Knierim
3	4302-420	Ethical Reflection on Food and Agriculture *	1 semester	6	Bieling
3	4302-500	Transformation Studies in Agri-Food Systems	1 semester	6	Bieling
3	4303-420	Communicating Sustainability in Agri-Food Systems*	1 semester	6	Seufert
3	4303-480	Enacting Local Transformation in the Agri-Food System *	1 semester	6	Seufert
3	4407-440	Einführung in die Künstliche Intelligenz <small>*(AIDAHO methods)</small>	1 semester	6	Stein
3	4605-430	Microbiological Safety within the Feed and Food Production Chain	1 semester	6	Hölzle
3	4611-470	Current Infectious Diseases of Crops and Livestock	1 semester	6	Kube
(3)/4	3201-480	International Field Course Mediterranean Ecosystems (offered only in even-numbered years)	Feb./Mar.+ SS, block 1	7.5	Schmieder
2/4	4407-510	Intelligent Robotics for Agriculture <small>(AIDAHO application)</small>	1 semester	6	Stein

SS = summer semester, * Limited number of participants. Please register for participation in ILIAS

Based on a cooperation contract with the *University of Tübingen*, Hohenheim students can also join modules related to Geographical Information Systems (GIS) in Tübingen. These modules are taught in German and require previous knowledge in GIS! Students who are interested in joining these modules should contact Dr. Andreas Braun, Tel. +49-7071 29-78 940, an.braun@uni-tuebingen.de

More information is available at geographie.uni-tuebingen.de

Sem	Code	Name of Module	Duration	Credits	Professor
3	6501-410	GEO-76: Angewandte Geoinformatik	1 semester	6	Uni Tübingen
3	6501-430	GEO-77: Geomorphologie und Bodenlandschaftsmodellierung	1 semester	6	Uni Tübingen
3	6501-420	GEO 88 Angewandte Fernerkundung	1 semester	6	Uni Tübingen

3.4 Suggestions for thematic foci in EnviroFood

The following lists of semi-elective (SE) and elective (E) modules should give some orientation for possible thematic profiles within the EnviroFood program.

3.4.1 Profile "Environmental Management"

Sem	Code	Name of Module	Duration	Credits	Professor
2	3409-480	Fertilization and Soil Fertility Management in the Tropics and Subtropics (E)	e-learning by arrangement	7,5	Müller, T.
2	4905-430	Integrated Agricultural Production Systems (E)	SS, block 2	7,5	Asch
2	4905-470	Biodiversity and Genetic Resources (SE)	SS, block 2	7,5	Martin
2	4302-470	Landscape Change, Resilience, and Ecosystem Services * (E)	SS, block 3	7,5	Bieling
2	4403-470	Renewable Energy for Rural Areas (SE)	SS, block 3	7,5	Müller, J.
2	3103-460	Environmental Science Project (E)	SS, block 4	7,5	Streck
3	4302-420	Ethical Reflection on Food & Agriculture * (E)	1 semester	6	Bieling
3	4403-440	Irrigation and Drainage Technology (SE)	1 semester	6	Müller, J.
3	4406-410	Waste Management & Waste Techniques (SE)	1 semester	6	Hafner
3	4904-460	Farm System Modelling (E)	First half of semester	6	Berger
3	4901-420	Poverty and Development Strategies ** (E)	1 semester	6	Zeller

3.4.2 Profile "Soil Resources and Land Use"

Sem	Code	Name of Module	Duration	Credits	Professor
2	3102-420	Project in Soil Sciences * (English + German) (E)	by arrangement	7,5	Kandeler
2	3201-620	Vegetation and Soils of Central Europe * (E)	SS, block 2	7,5	Schmieder
2	3202-460	Plant Ecology of Cultural Landscapes (E)	by arrangement	7,5	Schweiger
2	3102-440	Environmental Pollution and Soil Organisms * (SE)	SS, block 2	7,5	Kandeler
2	3101-570	Field Course Soils & Vegetation* (E)	SS, block 3	7,5	Herrmann
2	3201-430	Ecology of Alpine Vegetation (E)	SS, block 4	7,5	Schmieder
2	3103-460	Environmental Science Project (E)	SS, block 4	7,5	Streck
3	4403-440	Irrigation & Drainage Technology-(SE)	1 semester	6	Müller, J.
2/3	3409-480	Fertilization and Soil Fertility Management in the Tropics and Subtropics (E)	e-learning by arrangement	7,5	Müller, T.
3	3409-440	Soil Fertility and Fertilization in Organic Farming (E)	1 semester	6	Müller, T.
3	3402-480	Environmental and Ecological Statistics (E)	1 semester	6	Piepho
3	3103-410	Plant and Crop Modeling (SE) *(AIDAHO application)	in March	6	Priesack

3.4.3 Profile “Ecosystems and Biodiversity”

Sem	Code	Name of Module	Duration	Credits	Professor
2	3201-620	Vegetation and Soils of Central Europe * (E)	SS, block 2	7,5	Schmieder
2	4905-470	Biodiversity and Genetic Resources (SE)	SS, block 2	7,5	Martin
2	3101-570	Field Course Soils and Vegetation * (E)	SS, block 3	7,5	Herrmann
2	4302-470	Landscape Change, Resilience, and Ecosystem Services * (E)	SS, block 3	7.5	Bieling
2	3201-600	Intensive Course Landscape Ecology * (E)	SS, block 4	7,5	Schurr
2	3202-460	Plant Ecology of Cultural Landscapes (E)	by arrangement	7.5	Schweiger
3	3201-610	Project in Landscape Ecology * (E)	1 semester	6	Schurr
3	3402-480	Environmental and Ecological Statistics (E)	1 Semester	6	Piepho
3	3502-450	Population and Quantitative Genetics ^{*(AIDAHO methods)} (E)	1 semester	6	Schmid
3	3603-480	Entomology	1 semester	6	Petschenka
3	4302-420	Ethical Reflection on Food and Agriculture*	1 semester	6	Bieling
3	4906-410	Ecology and Agroecosystems * (SE)	1 semester	6	Graß
3	3201-420	Methods in Landscape and Plant Ecology ^{*(AIDAHO application)} (E)	4 weeks in March	7,5	Schurr
4	3201-590	Combining Ecological Models and Data ^{*(AIDAHO application)} (E)	SS, block 1	7,5	Schurr

4 ARTIFICIAL INTELLIGENCE AND DATA SCIENCE IN HOHENHEIM (AIDAHO)

The program is designed for students of all faculties. The aim of AIDAHO is to increase the expertise of its participants in the fields of Artificial Intelligence (AI), Data Science and Scientific Computing. Students can enroll in the certificate in addition to their main course of study: aidaho.uni-hohenheim.de/en.

How to achieve the certificate

To successfully complete the program, students must pass at least five AIDAHO modules (30 ECTS).

- There are **three mandatory basic modules** that all participants must complete. The courses of these modules teach basic programming skills and statistical methods.
- In the **two semi-elective specialization modules** students can deepen their *methodological skills* and choose to work on data projects in *application* seminars.

For better planning, modules which are part of the AIDAHO program, are marked across the curriculum with an asterisk and a note whether it is a basic, an application or a methodological module.

5 KEY CONTACTS FOR THE ENVIROFOOD PROGRAM

5.1 Academic Counselling

Academic counsellors advise students on their choice of modules to design their individual study profile and to support smooth and focused study progress. If a student wants to select modules offered by a faculty other than the Faculty of Agricultural Sciences, they must be approved by the academic counsellor or the program coordinator beforehand. Students can contact these counsellors at any time and ask for an appointment.

Academic counsellors for EnviroFood and their respective research focus:

- **Prof. Dr. Streck**, Soil Science, Biogeophysics, Environmental Modelling, thilo.streck@uni-hohenheim.de
- **Prof. Dr. Bieling**, Societal Transition and Agriculture, claudia.bieling@uni-hohenheim.de
- **Prof. Dr. Hölzle**, Livestock Infectiology and Environmental Hygiene, ludwig.hoelzle@uni-hohenheim.de
- **Prof. Dr. Georg Petschenka**, Applied Entomology, georg.petschenka@uni-hohenheim.de

5.2 EnviroFood Program Director and Head of the Examination and Admission Committee

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