UNIVERSITY OF HOHENHEIM

WINTER SEMESTER 2025/26

CURRICULUM

Landscape Ecology

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 "Landscape Ecology". It contains information about the program 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. For administrative reasons, such changes can only be included in printed materials with a delay. For this reason, we do not accept liability for the correctness of the information provided.

If in doubt, please contact the coordinator of the program (landecol@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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Edited by Katrin Winkler, last edited on 13. August 2025

Published by Faculty of Agricultural Sciences
University of Hohenheim, 70593 Stuttgart, Germany

Print: University of Hohenheim

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1 PROGRAM OBJECTIVES

Climate, soils, human land use, and other aspects of the environment vary over space and time. Landscape ecology studies how organisms respond to such environmental variation, how their interactions in variable environments determine community dynamics, and how these dynamics affect ecosystem processes. These fundamental topics of ecology and biodiversity research are also crucial for answering pressing questions posed by global environmental change:

- How can we conserve biodiversity under changing global conditions?
- How can we maintain ecosystem services important for society?
- How can natural resources be used sustainably in a changing environment?

In this program, students acquire the ecological understanding, the quantitative skills, and the practical experience necessary to study ecological dynamics in changing environments. This enables them to assess environmental change effects on biodiversity and ecosystems, and to develop concepts for the sustainable use of natural resources.

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 continuingcontinue with a Ph.D./doctoral program if the total grade is above average.

Graduates of this program are qualified for professions requiring ecological understanding, quantitative knowledge, analytical thinking, and the ability to work independently. Possible career fields include:

- Research on ecology and biodiversity
- Agencies and organizations dealing with nature and environmental protection at the regional, national, or international levels
- Companies and organizations that work on the sustainable use of resources, geographical analysis, and landscape planning
- Research communication and environmental education

Examples of LandEcol graduates can be found here: uni-hohenheim.de/landecol-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 13 modules totaling 90 credits and one research semester (30 credits), during which a master's thesis must be done.

The program follows a modular course structure. In the first two semesters, students complete five compulsory and three semi-elective modules. In the third semester, they choose five elective modules from a broad list of subjects, and in the fourth semester, they work on their thesis. This program structure ensures a solid landscape ecology education but also allows students to get trained according to their own career aspirations.

The modules of the first and second 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)

Modules of the third semester last the full length of the semester (unblocked).

	1st Semester (blocked)	**2nd Semester (blocked)**		**3rd Semester (unblocked)**	**4th Semester**
7.5 Credits	**3201-560** (Schurr) Landscape Ecology	Semi-elective module	6 Credits	Elective module	**Master's Thesis** (30 credits)
7.5 Credit	**3201-570** (Schurr) Community and Evolutionary Ecology	Semi-elective module	6 Credits	Elective module	
7.5 Credit	**3201-580** (Dieterich) Conservation Biology	Semi-elective module	6 Credits	Elective module	
7.5 Credit	**3202-440** (Schweiger) Plant Ecology	**3201-600** (Schurr) Intensive Course Landscape Ecology	6 Credits	Elective module	

3.1 Compulsory Modules

These are the modules providing the core knowledge of the study program. Those modules must be completed to obtain the M.Sc. degree.

Sem	Code	Name of Module	Duration	Credits	Professor
1	3201-560	Landscape Ecology	Block 1, WS	7.5	Schurr
1	3201-570	Community & Evolutionary Ecology (AIDAHO methods)	Block 2, WS	7.5	Schurr
1	3201-580	Conservation Biology	Block 3, WS	7.5	Dieterich
1	3202-440	Plant Ecology	Block 4, WS	7.5	Schweiger
2	3201-600	Intensive Course Landscape Ecology	Block 4, SS	7.5	Schurr

WS = Offered in each winter semester

SS = Offered in each summer semester

3.2 Semi-elective Modules

Of the following list of **semi-elective modules**, three modules must be chosen:

Sem	Code	Name of Module	Duration	Credits	Professor
2	3201-590	Combining Ecological Models and Data *(AIDAHO application)	Block 1, SS	7.5	Schurr
2	3103-450	Spatial Data Analysis with GIS * *(AIDAHO application)	Block 1, SS	7.5	Streck
2	3101-460	Soils of the World World - Formation, Classi¬fication, and … (*in 2027, 2029…)**	Block 1, SS	7.5	Herrmann
2	3102-460	Molekulare Bodenökologie / Molecular Soil Ecology *	Block 1, SS	7.5	Kandeler
2	4906-430	Field Course Agroecology and Biodiversity*	Block 2, SS	7.5	Graß
2	4905-470	Biodiversity and Genetic Resources	Block 2, SS	7.5	Rasche
2	3201-620	Vegetation and Soils of Central Europe *(= Vegetation und Böden Mitteleuropas)* *	Block 2, SS	7.5	Schmieder
2	4906-440	Agroecology and Biotic Resource Conservation *	Block 3, SS	7.5	Graß
2	3101-570	Field Course Soils and Vegetation (= Boden- und vegetationskundliche Geländeübungen) *	Block 3, SS	7.5	Herrmann
2	4403-470	Renewable Energy for Rural Areas	Block 3, SS	7.5	Müller, J.
2	4302-470	Landscape Change, Resilience, and Ecosystem Services *	Block 3, SS	7.5	Bieling
2	3202-460	Plant Ecology of Cultural Landscapes *	2 weeks in August	7.5	Schweiger
3	3202-420	Global Change Issues *	1 Semester	6	Schweiger
3	3603-480	Entomology *	1 Semester	6	Petschenka

SS = Summer semester

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

3.3 Recommended elective Modules

At least 30 credits in **elective modules** must be chosen from the following list 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 or other universities.

Sem	Code	Name of Module	Duration	Credits	Professor
1-4	3000-410	Portfolio-Modul (Master)	open	1 – 7.5	Kruse, M.
1-4	3000-420	UNIcert ®III English for Scientific Purposes	open	7.5	Kruse, M.
1-4	3000-560	Deutsch als Fremdsprache UNIcert® II (B2)	open	7.5	Hölzle
1	1902-470	Botanical Excursion in the Mediterranean*	blocked in March	7.5	Schlüter
2	3101-420	International Field Course Site Evaluation*	blocked in Sept. 2025	7.5	Herrmann
2	3102-440	Environmental Pollution and Soil Organisms*	SS block 2	7.5	Kandeler
2	4907-430	Crop Production Affecting the Hydrological Cycle	SS block 3	7.5	Asch
2	3201-430	Ecology of Alpine Vegetation	SS block 4	7.5	Schmieder

Sem	Code	Name of Module	Duration	Credits	Professor
2	4303-430	Exploring Regional Transformations through Utopias *	Partially blocked	7.5	Seufert
2	4407-480	Introduction to Machine Learning in Python *(AIDAHO-Basic)	1 Semester e-learning	7.5	Stein
3	1920-570	Nature-Based Solutions - Case Study	1 Semester	6	Steidle
3	3101-490	Environmental Soil Science	1 Semester	6	Rennert
3	3103-510	Environmental Modeling * *(AIDAHO methods)	1 Semester	6	Streck
3	3201-610	Project in Landscape Ecology **(AIDAHO application)	1 Semester	6	Schurr
3	3402-480	Environmental and Ecological Statistics	1 Semester	6	Piepho
3	3502-450	Population and Quantitative Genetics *(AIDAHO methods)	1 Semester	6	Schmid
3	3403-460	Nachhaltigkeit und Produktionsökologie von rohstofffliefernden Pflanzen	1 Semester	6	Lewandowski
3	4302-420	Ethical Reflection on Food and Agriculture *	1 Semester	6	Bieling
3	4303-480	Enacting Local Transformation in the Agri-Food System *	1 Semester	6	Seufert
3	4605-430	Microbiological Safety within the Feed and Food Production Chain	1 Semester	6	Hölzle
3	4905-410	World Crops and Pasture Management in the Tropics and Subtropics / Weltwirtschaftspflanzen und Weidewirtschaft in den T. und S.	1 Semester	6	J. Silva
3	4906-410	Ecology and Agroecosystems *	1 Semester	6	Graß
3	3201-420	Methods in Landscape and Plant Ecology *(AIDAHO application)	4 weeks in March	7.5	Schurr
3	4407-440	Einführung in die Künstliche Intelligenz *(AIDAHO methods)	1 Semester	6	Stein
3	5107-4X0	Principles of Data Science (AIDAHO-Basic)	1 Semester	6	Dimpfl
(3)/4	3201-480	International Field Course Mediterranean Ecosystems * (offered only every other year, spans from February until May '26, '28…)	Feb./Mar. + SS, block 1	7.5	Schmieder
4	3103-460	Environmental Science Project *	SS, block 4	7.5	Streck
4	5703-510	Entrepreneurship	1 Semester	6	Kuckertz

* Limited number of participants. Please register for participation on 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 Landscape Ecology

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

3.4.1 Profile Vegetation & Soil Ecology

- 3202-460 Plant Ecology of Cultural Landscapes (SE)
- 3201-620 Vegetation & Soils of Central Europe (SE)
- 3101-570 Field Course Soils & Vegetation (SE)
- 3102-460 Molecular Soil Ecology (SE)
- 3102-440 Environmental Pollution and Soil Organisms (E)

3.4.2 Profile Animal Ecology & Agroecology

- 4906-430 Field Course Agroecology and Biodiversity (SE)
- 4906-440 Agroecology and Biotic Resource Conservation (SE)
- 3603-480 Entomology (SE)
- 4906-410 Ecology and Agroecosystems (E)

3.4.3 Profile Ecology & Society

- 4302-470 Landscape Change, Resilience & Ecosystem services (SE)
- 3202-460 Plant Ecology of Cultural Landscapes (SE)
- 4302-420 Ethical Reflection on Food & Agricult. (E)
- 1920-570 Nature-Based Solutions - Case Study (E)

3.4.4 Profile Quantitative Ecology

- 3201-590 Combining Ecological Models & Data (SE)
- 3103-450 Spatial Data Analysis with GIS (SE)
- 3103-510 Environmental Modelling (E)
- 3502-450 Population & Quantitative Genetics (E)
- 6501-410 GEO-76: Angewandte Geoinformatik (E)
- 6501-430 GEO-77: Geomorphologie und Bodenlandschaftsmodellierung (E)

3.4.5 Profile Global Change

- 3201-440 Ecology of Alien Invasive Plants and Weeds (E)
- 3202-420 Global Change Issues (SE)
- 1920-570 Nature-Based Solutions - Case Study (E)

3.4.6 Profile Molecular Ecology & Evolution

- 3102-460 Molecular Soil Ecology (SE)
- 1902-510 Ecological Genomics (E)
- 3502-450 Population & Quantiative Genetics (E)

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 LANDSCAPE ECOLOGY 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 Landscape Ecology and their respective research focus:

- **Prof. Dr. Frank Schurr**, Landscape Ecology and Vegetation Science, frank.schurr@uni-hohenheim.de
- **Prof. Dr. Ingo Graß**, Ecology of Tropical Agricultural Systems, ingo.grass@uni-hohenheim.de
- **Prof. Dr. Andreas Schweiger**, Plant Ecology, andreas.schweiger@uni-hohenheim.de
- **Prof. Dr. Claudia Bieling**, Environmental Management, claudia.bieling@uni-hohenheim.de

5.2 Landscape Ecology Program Director

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