



CURRICULUM | WINTER SEMESTER 2024/25

Advisory and Innovation Services in Agri-Food Systems

Master of Science

Preamble

This curriculum provides applicants and students as well as teaching and administrative staff with comprehensive information about the M.Sc. program Agricultural Sciences, major "Advisory and Innovation Services in Agri-Food Systems" It contains information on the program structure and summarizes the most important exam regulations (issued the 23th and 25th of July 2024).

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

Imprint

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Table of Contents

| The I | Master's Program "Advisory and Innovation Services in Agri-Food Systems" | 4 |
|-------|---|----|
| 1 | Program and Qualification Objectives | 4 |
| 1.1 | Qualification objectives | 4 |
| 2 | Admission Requirements | 5 |
| 3 | Degree and Career Perspectives | 5 |
| 4 | Modules | 5 |
| 4.1 | What is a Module? | 5 |
| 4.2 | Modules and associated workload | 6 |
| 4.3 | Modules per semester | 6 |
| 4.4 | Blocked and unblocked modules | 6 |
| | 4.4.1 Unblocked Modules | 6 |
| | 4.4.2 Blocked Modules | 6 |
| 4.5 | Module Categories | 6 |
| | 4.5.1 Compulsory Modules | 6 |
| | 4.5.2 Semi-elective Modules | 6 |
| | 4.5.3 Elective modules | 7 |
| | 4.5.4 Additional modules | 7 |
| | 4.5.5 Portfolio Module (3000-410) | 7 |
| | 4.5.6 English for Scientific Purposes (3000-420) | 7 |
| 4.6 | Certificate program for courses in Artificial Intelligence and Data Science in Hohenheim (AIDAHO) | 7 |
| | 4.6.1 How to achieve the certificate | 7 |
| 4.7 | Modules with limited numbers of participants | 8 |
| 4.8 | Module codes | 8 |
| 4.9 | Individual Timetable | 9 |
| 4.10 | Evaluation of Modules | 9 |
| 5 | Examinations | 9 |
| 5.1 | Registering for Examinations | 10 |
| 5.2 | Exam Repetition | 10 |
| 6 | Marks and Grades | 11 |
| 6.1 | Credit Point System at the University of Hohenheim | 11 |
| 7 | Semester structure | 11 |
| 8 | Program Design | 12 |
| 8.1 | Compulsory Modules | 13 |
| 8.2 | Semi-elective modules | 13 |
| 8.3 | Elective Modules with Focus on Advisory and Innovation Services in Agri-Food Systems | 14 |
| 9 | Master's Thesis | 14 |
| 10 | Teaching Staff | 15 |
| 11 | Academic Counselling | 15 |
| 12 | Study Abroad | 15 |
| 13 | Contact | 16 |
| 14 | Blocked Modules of the Faculty of Agricultural Sciences in Winter Semester 2024/25 | 17 |
| 15 | Blocked Modules of the Faculty of Agricultural Sciences in Summer Semester 2025 | 18 |
| Lecti | ure Periods at UHOH | 20 |

The Master's Program "Advisory and Innovation Services in Agri-Food Systems"

1 PROGRAM AND QUALIFICATION OBJECTIVES

The Advisory and Innovation Services in Agri-Food Systems major is designed for those who want to introduce and promote sustainable practices and organizations in agri-food systems through professional advisory and innovation support services. The major focuses on interactions and interventions that enable actors in agri-food systems to provide, process, and market sustainable food, agricultural commodities, and agricultural services while working effectively with other professional actors. Such services are gaining in importance worldwide because they help players to orient themselves in a constantly changing environment, to remain capable of acting, and to achieve entrepreneurial success.

International events such as the UN World Food Summit 2021 have provided many examples of the importance of knowledge and innovation for the design of sustainable food systems and have shown that knowledge transfer, joint learning and change in innovation processes, and cooperation among different actors are essential components. The growth of agricultural knowledge worldwide is impressive, but its dissemination and application is lagging behind, due among other things to scientific results not being provided in a format suited for practical use. Other current challenges include integrating situational, local, and indigenous knowledge with scientific knowledge or considering different user interests in the development of innovations. The diversity of actors in agri-food systems is growing with the differentiation of production methods, lifestyles, and consumption patterns in the context of regional, national, and international trade relations and competition, leading to an ever more specialized demand for information and services tailored to people's needs. Digital technologies offer new ways of providing information that can help diagnose problems and find solutions, but can also be sources of disruption, misjudgment, and disinformation.

1.1 Qualification objectives

The aim of this agricultural sciences Master's degree program is to combine practical expertise from the fields of agricultural production, agricultural economics, and/or agricultural engineering with the social science competences and skills for consulting and innovation promotion, thus developing a distinct professional profile for the service sector. The following academic, practical, and personal qualification objectives are to be achieved:

- A broad general understanding of agricultural production and farm management combined with a self-selected technical specialization;
- Technical and methodological knowledge and competences as a consulting specialist to support individual and collective problem-solving and innovation processes at the farm level and in the value chains of the agricultural and food industry;
- A sophisticated understanding of economic factors influencing entrepreneurial decision-making processes on farms and in upstream and downstream businesses, as well as a solid knowledge of farm planning and risk management tools in agri-food systems businesses;
- Conceptual and analytical approaches for diagnosing and assessing agricultural knowledge and innovation systems (AKIS) as well as their institutional and policy frameworks and influencing factors;

 Concepts and tools for planning, implementing, and evaluating policies and instruments of governance and coordination of innovation networks and knowledge systems in the context of the agri-food sector.

2 ADMISSION REQUIREMENTS

The major requires knowledge of agricultural sciences and land use and the economics and social sciences of agriculture in depth. To be eligible for admission, students must have successfully completed a Bachelor's degree program in Agricultural Sciences, Horticulture, Specialty Crops, and Agricultural and Forest Ecology. Please refer to the admission regulations for the Agricultural Sciences degree program for a list of acceptable Bachelor's degrees. Additionally, applicants must demonstrate English language proficiency at the level of 90 points on the "Internet Based TOEFL", as outlined in the admission regulations.

3 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 to continuing with a Ph.D./doctoral program if the total grade is above average.

"Advisory and Innovation Services in Agri-Food Systems" provides in-depth training as a professional for user-oriented knowledge transfer, consulting, and interactive innovation promotion in complex social systems of the agricultural sector. It enables graduates to provide targeted and customer-oriented services in the various areas and fields of agri-food systems, to diagnose problem-solving and innovation needs in a professional manner, and to effectively support and shape change processes in farms, agri-food networks, and along agri-food value chains. With this education, graduates have an excellent foundation for starting their career

- in consulting and service companies,
- in agricultural administration,
- in organizational development in the agri-food sector, and
- in international cooperation and development organizations.

4 MODULES

4.1 What is a Module?

A module is a teaching unit and can consist of several courses (lecture, seminar, excursion, practical exercises ...). Modules at the University of Hohenheim correspond to 6 ECTS credits (unblocked modules) or 7,5 ECTS credits (blocked modules). A few modules with higher workload correspond to 12 or even 15 credits. (See also chapter 2.4)

A detailed description on the content and structure of each module is found in the Module catalogue <u>uni-hohenheim.de/modulkatalog#Master</u>

4.2 Modules and associated workload

Students earn ECTS-Credits for the workload associated with each module (1 ECTS-Credit = 30 h workload). A module of 6 credits corresponds to a workload of 4 SWS (4 weekly semester hours / 56 total contact hours). A module of 7.5 credits corresponds to a workload of 5 SWS (5 weekly semester hours / 70 total contact hours). In addition, each credit requires preparation time, summing up to a total workload of about 180 hours for one module of 6 credits and 225 hours for one module of 7.5 credits.

The M.Sc. program has a requirement of 120 credits in total (90 credits from course work, 30 credits for the Master's thesis).

4.3 Modules per semester

A typical semester consists of 30 credits, and is either composed of 5 unblocked modules, (6 credits each) or 4 blocked modules (7,5 credits each). Typically, the modules are completed in the first three semesters, followed by the Master's thesis in the fourth semester. However, the examinations regulations allow a certain degree of flexibility. For details, refer to uni-hohenheim.de/en/examination.

4.4 Blocked and unblocked modules

The University of Hohenheim offers two different types of modules: unblocked modules and blocked modules. Unblocked modules correspond to a workload of 6 credits and blocked modules to a workload of 7.5 credits.

4.4.1 Unblocked Modules

Unblocked modules are based on 4 contact hours per week for the whole semester period. They end with an exam at the end of the semester.

4.4.2 Blocked Modules

Blocked Modules are composed of 3 weeks of daily instruction (usually 5 hours per day) followed by one week of individual preparation, ending with a final exam at the end of the 4th week. Blocked modules correspond to a higher workload than unblocked modules and are therefore worth 7.5 credits. However, mixing blocked and unblocked modules in one semester it is not recommended, as lectures and lesson follow-up may overlap significantly.

4.5 Module Categories

Each Master's program consists of compulsory and elective modules; some study programs also include semi-elective modules. The credits of each module correspond to the workload and not to the category, i.e. an elective module with 6 credits has the equal weight as a compulsory module regarding the final average grade.

4.5.1 Compulsory Modules

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

4.5.2 Semi-elective Modules

... are modules covering a wider range of content related to the aim of the study program. In some programs, a defined minimum number of modules out of a pool of semi-elective modules have to be chosen and completed. The Master's program in Advisory and Innovation Services in Agri-Food Systems requires students to complete at least five semi-elective modules.

4.5.3 Elective modules

... are modules chosen by the individual students, according to their interests. They are the modules outside of a program's compulsory modules, which contribute to the final total of 90 ECTS credits required for the achievement of an M.Sc. degree. They can be chosen from all Master's modules offered by the Faculty of Agricultural Sciences of the University of Hohenheim. On request, subject-related Master's modules offered from other faculties or other universities can also be chosen.

Note: Bachelor's modules cannot be chosen as elective modules.

4.5.4 Additional modules

... are modules taken out of individual interest beyond the 90 ECTS coursework credits required for the completion of the degree. Credits from additional modules will not be included in the calculation for your final average grade. But, on request to the examinations office, they can be shown on your final transcript.

There are two special cases of elective modules, which are worth highlighting:

4.5.5 Portfolio Module (3000-410)

You can gain up to 7,5 credits (not graded) for extra-curricular activities like internships, participation in conferences, trainings or summer schools, language courses (max. 3 credits), writing research papers, courses on statistical programs or similar activities. These credits can replace an elective module. The detailed explanation is found in the module catalog under module code 3000-410.

4.5.6 English for Scientific Purposes (3000-420)

This module consists of four English courses of C1 level at the language center Hohenheim. You can choose from several courses and workshops, and they can stretch over several semesters.

After completing the four courses/workshops you must write an exam to obtain the UniCert III certificate. This module counts as an elective module and is the only way language courses can be recognized for your studies apart from the portfolio module. The detailed explanation is found in the module catalog under module code 3000-420.

4.6 Certificate program for courses in Artificial Intelligence and Data Science in Hohenheim (AIDAHO)

The program is designed for students of all faculties: <u>aidaho.uni-hohenheim.de/en</u>. 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. The AIDAHO courses can be taken in any order.

4.6.1 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 statistic methods.
- In the **two semi-elective specialization modules** students can either deepen their methodological skills or choose to work on data projects in application seminars.

The following sections cover additional information about the basic and specialization modules. A complete list of all courses of all faculties in the AIDAHO program can be found here: aidaho.uni-hohen-heim.de/en/courses

The basic modules contain three courses which all participants of the AIDAHO program must pass:

| Sem | Code | Name of Module | Duration | Credits | Professor |
|--------|------------------------------|---|------------|---------|---------------------------|
| 1 or 2 | 5000-300 (B.Sc level!) | Tools for AI & Data Science (no elective module, only addi- tional for M.Sc.) *(AIDAHO-Basic) | 1 Semester | 6 | Krupitzer/ Vogelgesang |
| 2 | 4407-480 | Introduction to Machine Learn- ing with Python*(AIDAHO-Basic) | 1 Semester | 7,5 | Stein |
| 1/3 | 5107-410 | Introduction to Applied Data Science*(AIDAHO-Basic) | 1 Semester | 6 | Dimpf |

In the specializing part students enrol in two modules. At least one of them must be an application course. Modules of this curriculum that apply to the AIDAHO certificate as a specialization module *(AIDAHO specialization) or application course *(AIDAHO application) are marked. All these modules can be integrated into the Master's degree at the same time in accordance with the program-specific regulations.

Passed project works, seminar papers or theses, in which a substantial part was the quantitative data analysis or working with machine learning/artificial intelligence, can be credited as an "application course".

Questions about the AIDAHO certificate should be directed to aidaho@uni-hohenheim.de

4.7 Modules with limited numbers of participants

Some modules can accept only a limited number of participants due to space constraints or supervision regulations. It is necessary to register for such modules in advance. See also: <u>uni-hohenheim.de/en/registration-for-modules</u>.

If the number of participants is limited, this will be stated under the "comments" ("Anmerkungen") section of the module description. Please check before lectures start, whether the modules you have chosen have a limited number of participants or not. (uni-hohenheim.de/en/module-catalogue). Each module is set up as a course on the e-learning platform ILIAS (ilias.uni-hohenheim.de). You have to register there and see how the spots for each course are allocated. Further instructions and information, e.g. how to contact the relevant lecturer or to join the waiting list are also available there. Generally, students for whom the respective module is compulsory or the last module that needs to be completed to finish a degree program will always be admitted. If you have not yet enrolled by the end of the registration period and do not yet have access to ILIAS, please contact the responsible lecturer by e-mail and ask for registration.

For blocked modules with a limited number of participants in block period 1, the registration starts at least two weeks before the start of the lecture period and ends eight days before the lecture period. For all other modules with a limited number of participants, the registration period starts at least one week before the start of the lecture period and ends at the end of the first week after the start of the lecture period.

4.8 Module codes

Each module and each course have a specific code. Example: 4902-440 Economics and Environmental Policy.

The first four digits represent the respective institute and the department or study field (i.e. of the responsible person / course instructor). The next three digits correspond to the type of module and the term, as well as the course.

4902-440 = institute number (490 Institute of Agricultural Sciences in the Tropics "Hans Ruthenberg Institute")

000**2**-000 = department within the institute (2 corresponds to the 2nd letter in the alphabet: B

> department 490b International Agricultural Trade and Food Security)

0000-440 = module designation:

01 - 40 modules for Bachelor's students

41 - 80 modules for Master's students

81 - 90 modules for doctoral candidates

0000-011 = course 1 of a module (1 - 9 courses possible)

0 at the end of the code indicates that it is the module name. 1, 2 or 3 as last digit indicate that it is a course (sub-unit) within a module (tutorial, exercises, lectures, etc.)

The module 4902-440 Economics and Environmental Policy consist of four courses:

- 4902-441 Basic Microeconomics
- 4902-442 Environmental Policy
- 4902-443 Exercises to Basic Microeconomics
- 4902-444 Exercises to Environmental Policy

Note: It is important to check for the times and venues of all courses that belong to a module!

4.9 Individual Timetable

The Master's programs at the University of Hohenheim offer a high variety of different modules that can be chosen as elective modules. This allows for a personalized study profile with different specializations as well as for the creation of individual timetables depending on the choice of courses.

The Course Catalog of the University of Hohenheim contains information on times, lecturers, and lecture rooms of all courses, and is available at the beginning of each semester online on the University's homepage: uni-hohenheim.de/en/course-catalog. It is linked to the modules listed in the HohCampus Study Planner. A tool to compose a virtual individual timetable is also available on HohCampus: hohcampus-help-schedule. Please note: many modules consist of more than one course e.g. a lecture and a seminar (see above, module code explanation).

The lectures usually begin 15 minutes after the defined start time indicated in the course catalogue (c.t.=lat.: cum tempore = "with time"). Therefore, a lecture with a defined start time at 9 c.t. starts at 9:15. If a lecture starts on time at 9:00, there will be an indication 9 s.t. (lat.: sine tempore = "without time").

4.10 Evaluation of Modules

The quality of courses and modules is evaluated every year by the students of all study programs. The evaluation sheets are distributed on paper or sent as online links by email and evaluated by the Faculty of Agricultural Sciences. The results are sent back to the lecturers in an anonymous format. The lecturers are asked to discuss the results with the students at the end of their courses. This feedback is important for the Faculty to be able to continuously improve the study experience for our students.

5 EXAMINATIONS

Each module is completed with an examination. To be eligible for an exam, students must register for it on HohCampus during the designated registration periods. These periods are published on the examinations office website and in HohCampus. During the registration process, students have the option to

choose whether the module should be categorized as semi-elective, elective, or additional (refer to chapter 2.5 Module Categories for more details). It is important to note that students are allowed to change the designation of modules (e.g., from additional to elective or vice-versa) <u>only once</u> throughout their entire study period. Consequently, most students opt to request this change shortly before completing their degree, as they will have access to the most information and can make better-informed decisions based on their completed modules.

In every semester there are two designated examination periods and students can choose in which period they want to write the exam. The examinations of the blocked modules are held at the end of the respective block period; those for the unblocked modules are held in the two examination periods that follow the lectures. The first examination period starts directly after the end of the lecture period, the second examination period takes place shortly before the lecture period of the next semester starts. Withdrawal from a registered module examination is possible until 7 days before the examination date. The right to be admitted to an examination expires if:

- the examination of any module has been failed for the third time
- not all module examinations have been passed by the end of the seventh semester at the latest.
- the Master's thesis has not been registered by the beginning of the seventh semester at the latest.

The right to be admitted to an examination does not expire if the candidate cannot be held responsible for the failure to comply with the deadline. The students are responsible for complying with these examination deadlines as well as all other regulations given in the examination regulations. The examination regulations are distributed by the Examinations Office.

Please note that plagiarism — copying text or phrases in a written examination (even as part of a partial performance) without quoting them accordingly — will be marked as a cheating attempt and the respective examination performance is to be graded "fail" (F; mark 5.0). A declaration (available at: agrar.uni-hohenheim.de/en/plagiarism) has to be attached to homeworks, presentations, and to the Master's thesis.

5.1 Registering for Examinations

Students must register for the examinations of each semester at the examination office using HohCampus. The registration must take place during the time period announced at the examination office. When you must register for an examination depends on whether it is a blocked or a non-blocked module. More information on examination periods and dates, deadlines for registration, withdrawal, and resits is given at the homepage of the examination office (uni-hohenheim.de/en/examination). Please note: the ILIAS registration is only for participation in the module and is NOT a registration for the examination!

5.2 Exam Repetition

If an exam is failed, the Examinations Office will inform the student via post. Students are responsible for checking in HohCampus or with the responsible professor about dates for resit exams and registration deadlines. Resit exams for blocked modules will usually be scheduled by the responsible professor within the same semester. Resit exams in unblocked modules will usually be scheduled for the next examination period. Students are not obliged to take a re-exam in the next possible examination period but can choose to take it in one of the later examination periods, if they wish.

6 MARKS AND GRADES

6.1 Credit Point System at the University of Hohenheim

With each completed module, students earn credits for the workload associated with each module. The M.Sc. program has a requirement of 120 credits in total. The credit point system used in the M.Sc. program is fully compatible with the European Credit Transfer System, ECTS.

The examination result is expressed in grades and marks. The highest score is 1.0 [grade A]. A score of 4.0 [grade D] is required for passing.

| | Marks and Grades | | |
|---|------------------|-------------|-------|
| | grades | | score |
| excellent performance | very good | Α | 1.0 |
| | | A- | 1.3 |
| performance considerably exceeding the above average standard | good | good B+ 1.7 | |
| | | В | 2.0 |
| | | B- | 2.3 |
| performance meeting the average standard | medium | C+ | 2.7 |
| | | C | 3.0 |
| | | C- | 3.3 |
| performance meeting minimum | pass | D+ | 3.7 |
| criteria | | D | 4.0 |
| performance not meeting minimum criteria | fail | F | 5.0 |

The final score is calculated as an average score weighted according to the credits achieved in all modules and the thesis. The final, weighted average of received scores results in a final grade for the Master's degree according to the table below:

```
between 1,0 and 1,5 = very good (A)
between 1,6 and 2,5 = good (B)
between 2,6 and 3,5 = medium (C)
between 3,6 and 4,0 = pass (D)
```

Additional and non-graded modules will not be included in the calculation of the final average grade.

7 SEMESTER STRUCTURE

The academic year at the University of Hohenheim is structured into two semesters, a winter semester (October until March) and a summer semester (April until September). The lecture period of each semester usually lasts 14 weeks (winter as well as summer semester).

Winter semester (WS) courses usually begin in the middle of October and end in February of the following year. Summer semester (SS) courses begin the first Monday in April and by end of July / beginning of August. For unblocked modules, the lecture period of each semester is followed by an examination period of three weeks. The last block period of each semester overlaps with this examination period for the unblocked modules.

(See here <u>uni-hohenheim.de/en/semester-dates</u> and also back side of this brochure for important semester dates)

8 PROGRAM DESIGN

The two-year / 4-semester M.Sc. program "Advisory and Innovation Services in Agri-Food Systems" comprises 4 compulsory modules totaling 24 ECTS credits. Additionally, a minimum of 30 ECTS credits must be selected from a semi-elective catalog of 14 modules. Students can choose elective modules for further individual specialization, amounting to at least 36 credits, from the complete range of modules offered in the Master's degree programs of the Faculty of Agricultural Sciences. Furthermore, up to 15 credits can be chosen from the modules offered in the doctoral study programs of the Faculty of Agricultural Sciences. The third semester is suitable for a semester abroad. The Master's thesis carries 30 credits.

The program follows a modular course structure. A typical semester consists of five modules. In the first and 2nd semester, students complete the four compulsory modules, in the 2nd and 3rd semester they select semi-elective and elective modules. During the fourth semester they work on their thesis. 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).

Specializations are formed by students through a combination of elective modules, semi-elective modules, and research or organizational internships, if applicable. For example, a specialization can be developed (e.g., crop production, animal production, business management, organic farming, etc.). Students are recommended to take the AIDAHO certificate in parallel and with elective modules.

Especially for this degree program, the module "Advisory and Innovation Services Internship" is offered as an elective module, which provides internships in advisory organizations and research institutions, especially in European research projects with multi-actor approaches. An internship of several months can be taken in the winter semester (3rd semester) as part of this one-semester internship module. In addition to the 6-month internship period (which can be split into 2 positions of 3 months each), students are required to complete a seminar paper, which is presented in 3 online seminar sessions (start-mid-end). The seminar part is graded, and counts towards the Master's final grade with 12 credit points, the internship part is ungraded, and counts with 18 credit points. The module is offered for 10 students at a time and only for students in this major.

This program structure ensures a solid education in Advisory and Innovation Services in Agri-Food Systems but also allows students to get trained according to their own career aspirations.

| 1st Semester | 2nd Semester | 3rd Semester | 4th Semester |
|---|---|---|-----------------|
| 4301-470 Agricultural Knowledge Systems and Advisory Services | 4301-460 Fit for Innovation Support – Concepts, Methods and Skills | 5 Elective Modules, | Master's Thesis |
| 4903-520 Governance of Sustainable Agri-Food Systems | 4101-450 Farm and Agribusiness Economics | exchange semester | |
| Semi-elective Module | Semi-elective Module | or internship: 4301-480 Advisory and Innovation | |
| Semi-elective Module | Semi-elective Module | Services Internship (30 credits) | |
| Semi-elective Module | Elective Module | | |

Note: the five semi-elective modules and the elective modules can be freely placed within the 1^{st} , 2^{nd} and 3^{rd} semester.

8.1 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.

The **compulsory modules** are:

| Sem | Code | Name of Module | Duration | Credits | Professor |
|-----|----------|--|------------|---------|-----------|
| 1 | 4301-470 | Agricultural Knowledge Systems and Advisory Services | 1 Semester | 6 | Knierim |
| 1 | 4903-520 | Governance of Sustainable Agri-Food Systems | 1 Semester | 6 | Birner |
| 2 | 4301-460 | Fit for Innovation Support – Concepts, Methods and Skills | 1 Semester | 6 | Knierim |
| 2 | 4101-450 | Farm and Agribusiness Eco- nomics | 1 Semester | 6 | Lippert |

8.2 Semi-elective modules

These are modules covering a wider range of content related to the aim of the study program.

In the Advisory and Innovation Services in Agri-Food Systems program at least five modules must be chosen of the following list of **semi-elective modules**:

| Sem | Code | Name of Module | Duration | Credits | Professor |
|-----|-----------|---|---------------------------------------|---------|-----------|
| 1 | 3402-420 | Quantitative Methods in Biosciences | 1 Semester | 6 | Piepho |
| 1 | 4904-460 | Farm System Modelling | 1 st half of se- mester | 6 | Berger |
| 1 | 4901-470* | Quantitative Methods in Economics | 1 Semester | 6 | Zeller |
| 1 | 4301-410 | Knowledge and Innovation Management | 1 Semester | 6 | Knierim |
| 1 | 4903-500 | Policy Processes in Agriculture and Natural Resource Management | 1 Semester | 6 | Birner |
| 1 | 4908-450 | Organic Livestock Farming and Products | 1 Semester | 6 | Rösel |
| 1 | 4908-440 | Livestock Production Systems and Development | 1 Semester | 6 | Rösel |
| 1 | 4905-420 | Crop Production Systems | 1 Semester | 6 | Kroschel |
| 1 | 3090-440 | Organic Food Systems and Concepts | 1 Semester | 6 | Zikeli |
| 2 | 3090-470 | Organic Plant Production | 1 Semester | 6 | Zikeli |
| 2 | 4903-510 | Innovations for Sustainable Agri- Food Systems | 1 Semester | 6 | Birner |
| 2 | 4203-460* | Sustainability Marketing & Marketing Consulting | 1 Semester | 6 | Weinrich |
| 2 | 4201-410 | Agricultural and Food Policy | 1 Semester | 6 | Wieck |
| 2 | 4404-520 | Precision Farming | 1 Semester | 6 | Böttinger |

^{*} Limited number of participants. Please register for participation on ILIAS

8.3 Elective Modules with Focus on Advisory and Innovation Services in Agri-Food Systems

Further **elective modules** must be chosen to complete the required 90 credits of course work. 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 also chosen from other programs of the University of Hohenheim or other universities.

Suggestions for elective modules:

| Sem | Code | Name of Module | Duration | Credits | Professor |
|-----|-------------------------|--|------------|-----------------|-----------|
| 1/3 | 4302-420* | Ethical Reflection on Food and Agriculture | 1 Semester | 6 | Bieling |
| 1/3 | 4303-420 | Communicating Sustainability in Agri Food Systems | 1 Semester | 6 | Seufert |
| 2 | 4903-470 | Qualitative Research Methods in Rural Development Studies | 1 Semester | 6 | Birner |
| 3 | 4303-480 | Enacting Local Transformation in the Agri-food System | 1 Semester | 6 | Seufert |
| 3 | 5209-420 | Innovation Economics | 1 Semester | 6 | Pyka |
| 3 | 4101-410 | Environmental and Resource Economics | 1 Semester | 6 | Lippert |
| 3 | **4301-480+ 4301-490 | Advisory and Innovation Services Internship (Practical Part + Seminar) | 1 Semester | 30 = (18+12) | Knierim |

^{*} Limited number of participants. Please register for participation on ILIAS

For the complete module catalogue refer to: <u>uni-hohenheim.de/en/module-catalogue</u>

9 MASTER'S THESIS

The Master's thesis shows that the candidate is able to work independently on a problem in the field of "Advisory and Innovation Services in Agri-Food Systems" within a fixed period of time by applying scientific methods. The exam consists of a written (thesis) and an oral (defense) part. The written part of the Master's thesis has to be completed within a period of six months and accounts for 30 credits. It is usually written during the fourth semester. Thesis work includes a literature review, new and original data derived from field work, a period of writing-up and, finally, a presentation. The candidate has to defend the essential arguments, results, and methods of the thesis in a colloquium of 30-45 minutes. The thesis can be carried out either at the University of Hohenheim or at one of the various partner universities.

There are several possibilities for finding the right reviewer and the right topic. Sometimes you can find them from the homepage of the department or institute, or you can talk directly to a professor. The Master's thesis has to be registered at the latest at the start of the seventh semester. Otherwise, it is graded "fail" (F; mark 5.0). More information on the Master thesis can be found under the following website: <u>uni-hohenheim.de/aw-msc-pa#jfmulticontent_c397829-5</u>

^{**} The module consists of an internship and an accompanying seminar: both parts must be followed

10 TEACHING STAFF

The professors of the University of Hohenheim have broad experience in international research. Students also benefit from Hohenheim's network with academic partners worldwide. Guest speakers from partner universities as well as research, development, and policy institutions cover additional topics, enriching the curriculum with special fields of expertise.

11 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 Advisory and Innovation Services in Agri-Food Systems and their respective research focus:

- Prof. Dr. Andrea Knierim, <u>andrea.knierim@uni-hohenheim.de</u>, Communication and Advisory Services in Rural Areas
- Prof. Dr. Regina Birner, regina.birner@uni-hohenheim.de, Social and Institutional Change in Agricultural Development

12 STUDY ABROAD

Students are encouraged to spend one semester in the second year at a partner university abroad, to gain additional experience and further strengthen their individual profile. Our credit point system is intended to facilitate the mutual acceptance of courses attended at different universities. Assessment is based on the European Credit Transfer System (ECTS), which facilitates this kind of international mobility. Particularly, the third semester is suitable for integrated study abroad. Students will preferably spend this time at one of the partner universities of the Euro League for Life Sciences: Universität für Bodenkultur Wien (BOKU), Austria; Royal Veterinary and Agricultural University (KVL), Denmark; Swedish University of Agricultural Sciences (SLU), Sweden; Wageningen University, Netherlands; Czech University of Life Sciences (CZU), Czech Republic, Warsaw Agricultural University (SGGW), Poland. On the basis of an agreement on quality standards, the members of the Euro League for Life Sciences have agreed to mutually recognize study achievements. Students may also request to spend the semester at universities other those than mentioned above.

For more information consult the website of the Office of International Affairs (uni-hohenheim.de/en/office-of-international-affairs).

Coursework and examinations that have been completed during the program at a university abroad can be recognized as compulsory, semi-elective, or elective modules as part of this degree program. The examination regulations define the conditions of recognition. How you must proceed for recognition is explained in detail on the pages of the examination office for this study program under the header "Recognition".

13 CONTACT

Advisory and Innovation Services in Agri-Food Systems Program Director

Prof. Dr. Andrea Knierim, <u>andrea.knierim@uni-hohenheim.de</u>, Communication and Advisory Services in Rural Areas

Head of the Examination and Admission Committee M.Sc. Agricultural Sciences

Prof. Dr. Amélia Camarinha da Silva, amelia.silva@uni-hohenheim.de, Livestock Microbial Ecology

Advisory and Innovation Services in Agri-Food Systems Program Coordinator

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Telephone: +49 711 459 23328, E-mail: AdvisoryServices@uni-hohenheim.de

Web: uni-hohenheim.de/advisoryservices

14 BLOCKED MODULES OF THE FACULTY OF AGRICULTURAL SCIENCES IN WINTER SEMESTER 2024/25

| Blockperiode / Period Studiengang / Study Course | Block 1 (7.5 credits!) 14.10 08.11.2024 | Block 2 (7.5 credits!) 11.11 06.12.2024 | Block 3 (7.5 credits!) 09.12. – 20.12.2024 + 07.01. – 17.01.2025 | Block 4 (7.5 credits!) 20.01 14.02.2025 | März-Block/ March Block i.d.R. 24.0219.03.2025 |
|--|---|---|--|--|--|
| M.Sc. Agrarwissenschaften Pflanzen- und Tierwissensch. | | | O 7301-420 (Ernst) Aktuelle Themen zur Biologie der Honigbienen (hybride Lehre) | | O 4611-440 (Kube) The Bacterial Genome, from Culture to Functional Reconstruction (<i>7.5 credits</i>) |
| M.Sc. Agrarwissenschaften Tierwissenschaften | | | | | 4 4601-480 (Rodehutscord) Futtermitteltechnologie und - analytik (6 credits) ○ 4605-510 (Hölzle) Wissensch. Fragestellungen d. Umwelt- und Tierhygiene (6 credits) (n.V.) |
| M.Sc. Agrarbiologie (nur die Module der Fakultät A) | | | | | 4 4611-440 (Kube) The Bacterial Genome, from Culture to Functional Reconstruction (<i>7.5 credits</i>)) |
| M.Sc. EnviroFood | | | | | ■ 3103-410 (Priesack) Plant and Crop Modeling (6 credits) |
| M.Sc. Landscape Ecology | ● 3201-560 (Schurr) Landscape Ecology | ● 3201-570 (Schurr) Community and Evolutionary Ecology | • 3201-580 (Dieterich) Conservation Biology | ● 3201 (Schweiger) Plant Ecology | ○ 3201-420 (Schurr) Methods in Landscape and Plant Ecology (7.5 credits!) (time sched- ule individually arrangeable) |
| M.Sc EnvEuro Ecosystems and Biodiversity (Alternative 2) | ◀ 3201-560 (Schurr) Landscape Ecology | ◀ 3201-570 (Schurr) Community and Evolutionary Ecology | ◀ 3201-580 (Dieterich) Conservation Biology | ◀ 3202-440 (Schweiger) Plant Ecology | ◀ 3201-420 (Schurr) Methods in Landscape and Plant Ecology (7.5 credits!) (individually arrangeable time schedule) |
| M.Sc. Crop Sciences | | | | | 3103-410 (Priesack) Plant and Crop Modeling (6 credits) 4611-440 (Kube) The Bacterial Genome, from Culture to Functional Reconstruction (7.5 credits) |

Check HohCampus for how to register for participation: View <u>module handbooks</u>

| ● = Compulsory | ■ = Semi-elective | ○ = Elective |
|----------------|-------------------|--------------|
| / | | |

15 BLOCKED MODULES OF THE FACULTY OF AGRICULTURAL SCIENCES IN SUMMER SEMESTER 2025

| Blockperiode / Period Studiengang / Study Course | Block 1 (7.5 credits) 01.04 25.04.2025 | Block 2 (7.5 credits) 28.04 23.05.2025 | Block 3 (7.5 credits) 26.05 06.06.2025+ 16.06 27.06.2025 | Block 4 (7.5 credits) 30.06 25.07.2025 | By arrangement (7,5 credits) |
|---|---|---|---|---|---|
| M.Sc. Agrarwissenschaften Bodenwissenschaften | ■ 3103-450 (Streck) Spatial Data Analysis with GIS ■ 3102-460 (Kandeler) Molec. Bodenökol. /Molecular Soil Ecology ■ 3101-460 (Herrmann) Soils of the World - Formation, Classification, and Land Evaluation (only offered in odd years) | ■ 3102-440 (Kandeler) Environmental Pollution and Soil Organisms ■ 3201-620 (Schmieder) Vegetation and Soils of Centr. Europe | ◀ 3101-570 (Herrmann) Boden- und veg.kundl. Gelände- übung / Field Course Soils + Ve- getation | ■ 3101-430 (Herrmann) Integriertes bodenwissenschaftliches. Projekt für Fortgeschrittene ○ 3201-430 (Schmieder) Ecology of Alpine Vegetation (only offered in odd years) ○ 3103-460 Env. Science Proj. | ● 3102-420 (Kandeler) Bodenwissenschaftliches Experiment/Project in Soil Sciences (Engl.+ Ger.) ○ 3101-420 (Herrmann) Internationale standortkundliche Geländeübung (Engl.+Ger.) (September 2025) |
| M.Sc. Agrarwissenschaften und MSc. NawaRo | ○ 3602-410 (Gerhards) Integrierter Pflanzenschutz mit Übungen (<i>Präsenz Ihinger Hof</i>) ○ 4605-500 (Hölzle) Biologische Sicherheit und Gentechnikrecht (taught in German!) | ○ 7301-400 (Ernst) Soziale Insekten <i>(10 Plätze f. Fak. A)</i> | ◀ 7301-430 (Traynor) Honey bee research and beekeeping techniques | | 4407-480 (Stein) Introduction to Machine Learning in Python (E-Learning) (unblocked) 4408-480 (Kruse, A.) Der Business Design Prozess - Von der Idee zum Produkt (6 credits) |
| M.Sc. Agrarwissenschaften Animal Science | 4603-470 (Seifert) Feed-stuff Microbiology ○ 4605-500 (Hölzle) Biologische Sicherheit und Gentechnikrecht (taught in German!) 4606-450 (Stefanski) Animal Behavior | ■ 4601-490 (Rodehutscord) Tracer-based Methods in Animal Nutrition (not 2025) ■ 4607-520 (Bennewitz) Animal Breeding Methods: From Theory to Practice ■ 4606-460 (Stefanski) Immunology and Infection Biology | ■ 4603-440 (Seifert) Interaktionen Mikrobiom-Nutztier/ Microbiom- Animal Interaction (Engl.+ Ger.) ■ 4608-450 (Hasselmann) Molec- ular Evolution and Population Ge- netic ■ 4604-430 410 (Huber) Physio- logical Limitations of Animal Per- formance | 4601-430 (Rodehutscord) Ruminant Nutrition (not 2025) 4605-470 (Hölzle) Animal Hygiene and Welfare → 4604-420 (Steffl) Seminar zu klinischen Fallstudien der Spez.Anatomie und Phys. d. Nutztiere (taught in German!) 4908-420 (Rösel) Promotion of Livestock in Trop. Environments | ○ 4605-510 (Hölzle) Research Questions of Environmental and Animal Hygiene (6 credits) ○ 4606-570 (Stefanski) Research Meth. and Scientific De- velopments in Behavioral Physiol- ogy (6 credits) |
| M.Sc. Agrarbiologie (nur die Module der Fakultät A) | ● 4603-470 (Seifert) Feedstuff Microbiology ● 4613-420 (Camarinha Silva) Mi- crobiome in Animals and Humans ● 3601-410 (Vögele) Molecular Phytopathology ● 3102-460 (Kandeler) Molec. Bo- denökol. /Molecular Soil Ecology ○ 4605-500 (Hölzle) Biologische Sicherheit und Gen- technikrecht (taught in German!) | ■ 4906-430 (Graß) Field Course Agroecology and Biodiversity ■ 3102-440 (Kandeler) Environmental Pollution and Soil Organisms | ■ 4603-440 (Seifert) Microbiom-Animal Interaction (Engl.+ Ger.) ■ 4608-450 (Hasselmann) Molecular Evolution and Population Genetic ■ 4604-430 410 (Huber) Physiological Limitations of Animal Perfomance ■ 3408-420 (Ludewig) Genetische und molekulare Regulation der pflanzlichen Nährstoffaufnahme | ◀ 4907-420 (Asch) Ecophysiology of Crops in the T+S ◀ 4605-500 (Hölzle) Biologische Sicherheit und Gentechnikrecht ◀ 3411-430 (Schmöckel) Von Genen und Genregulation zu Transgenen und editierten Genomen | |
| M.Sc. Crop Sciences (option for a blocked se- mester) | ○ 3601-410 (Vögele) Molecular Phytopathology ○ 4605-500 (Hölzle) Biologische Sicherheit und Gentechnikrecht | 4905-430 (Asch.) Integr. Agricultural Production Systems 4905-470 (Martin) Biodiversity and Genetic Resources 1509-510 (Schaum) Industry 4.0 Technologies | ◆ 4907-430 (Asch) Crop Prod. Affecting the Hydrological Cycle ○ 3504-470 (Nagel) Applied Seed Physiology | ○ 1916-400 (Mackenstedt) Pathogens, Parasites and their Hosts, (8 Pl. UHOH) ○ 4907-420 (Asch) Ecophysiology of Crops in the T+S | |

| M.Sc. AgriTropics | ● 4907-440 (Asch) Interdiscipl. Practical Science Training | ○ 4905-470 (Martin) Biodiversity and Genetic Resources | | | |
|--|---|--|---|---|--|
| Livestock | | O 4908-480 (Rösel) Animal Breeding for Sustainable Devel- opment | | O 4908-420 (Rösel) Promotion of Livestock in Trop. Environments | |
| Crops | | O 4905-430 (Asch) Integrated Agricultural Production Systems | ○ 4907-430 (Asch) Crop Prod. Affecting the Hydrological Cycle | O 4907-420 (Asch) Ecophysiology of Crops in the Tropics and Subtropics | |
| Engineering | | O 4403-550 (Müller, J.) Post- harvest Technology of Food and Bio-Based Products | ○4403-470 (Müller, J.) Renewable Energy for Rural Areas | | ○ 4407-480 (Stein) Introduction to Machine Learning in Python (<i>E-Learning</i>) (unblocked) |
| M.Sc. EnviroFood | ● 3103-450 (Streck) Spatial Data Analysis with GIS | ■ 43102-440 (Kandeler) Environmental Pollution and Soil Organisms ■ 4905-470 (Martin) Biodiversity and Genetic Resources ■ 4403-550 (Müller, J.) Postharvest Technology of Food and Bio-Based Products | 4-4302-470 (Bieling) Landscape Change, Resilience, and Ecosystem Services (not 2025) 4 4403-470 (Müller, J.) Renewable Energy for Rural Areas | ○ 3201-430 (Schmieder) Ecology of Alpine Vegetation (only offered in odd years) ○ 3201-600 (Schurr) Intensive Course Landscape Ecology 4 3103-460 (Streck) Environmental Science Project | ■ 3409-480 (Müller, T.) Fertilisation and Soil Fertility Management in the T. and S. |
| M.Sc. EnvEuro Environmental Management | ● 3103-450 (Streck) Spatial Data Analysis with GIS | ■ 4905-430 (Asch) Integrated Agricultural Production Systems □ 4905-470 (Martin) Biodiversity and Genetic Resources | 4 4403-470 (Müller, J.) Renewable Energy for Rural Areas | ○ 3201-600 (Schurr) Intensive Course Landscape Ecology ¶ 3103-460 (Streck) Environ- mental Science Project | O 3409-480 (Müller, T.) Fertilisation and Soil Fertility Management in the T. and S. |
| Soil Resources and Land Use | ● 3103-450 (Streck) Spatial Data Analysis with GIS | ■ 3201-620 (Schmieder) Vegetation and Soils of Centr. Europe ■ 3102-440 (Kandeler) Environmental Pollution and Soil Organisms | ○ 4907-430 (Asch) Crop Prod. Affecting the Hydrological Cycle 4 3101-570 (Herrmann) Field Course Soils and Vegetation | 3201-430 (Schmieder) Ecology of Alpine Vegetation (only offered in odd years) 3103-460 (Streck) Environmental Science Project | ■ 3409-480 (Müller, T.) Fertilisation and Soil Fertility Management in the T. and S. ■ 3102-420 (Kandeler) Project in Soil Sciences (Engl.+Ger.) ○ 3202-460 (Schweiger) Plant Ecology of Cultural Landscapes |
| Ecosystems and Biodiversity | ● 3201-590 (Schurr) Combining Ecological Models and Data | ○ 3201-620 (Schmieder) Vegetation and Soils of Centr. Europe 4 4905-470 (Martin) Biodiversity and Genetic Resources | ○ 3101-570 (Herrmann) Field Course Soils and Vegetation 4 4906-440 (Graß) Agroecology and Biotic Resource Conservat. | O 1916-400 (Mackenstedt) Pathogens, Parasites and their Hosts, Ecology, Molec. Interactions a. Evolution (8 Pl. UHOH) 4 3201-600 (Schurr) Intensive Course Landscape Ecology | ○ 3101-420 (Herrmann) International Field Course Site Evaluation (September 2025) ■ 3202-460 (Schweiger) Plant Ecology of Cultural Landscapes |
| M.Sc. Landscape Ecology | ■ 3201-590 (Schurr) Combining Ecological Modells and Data ■ 3103-450 (Streck) Spatial Data Analysis with GIS ■ 3102-460 (Kandeler) Moleku- lare Bodenökologie / Molecular Soil Ecology ■ 3101-460 (Herrmann) Soils of the World - Formation, (only offered in odd years) | 4 3201-620 (Schmieder) Vegetation and Soils of Centr. Europe 4 4905-470 (Martin) Biodiversity and Genetic Resources 4 4906-430 (Graß) Field Course Agroecology and Biodiversity ○ 3102-440 (Kandeler) Environmental Pollution and Soil Organisms | ■ 43101-570 (Herrmann) Field Course Soils and Vegetation ■ 4403-470 (Müller, J.) Renewable Energy for Rural Areas ■ 4302-470 (Bieling) Landscape Change, Resilience, and Ecosystem Services (not 2025) ■ 4906-440 (Graß) Agroecology and Biotic Resource Conservation | ● 3201-600 (Schurr) Intensive Course Landscape Ecology | ○ 3101-420 (Herrmann) International Field Course Site Evaluation (September 2025) 4 3202-460 (Schweiger) Plant Ecology of Cultural Landscapes |

Lecture Periods at UHOH

| WS 24/25 | First day of <u>un</u> blocked modules: | (42. кw) Monday, 14 Oct 2024 |
|----------|---|--|
| | First day of blocked modules: | (42. KW) Monday, 14 Oct 2024 |
| | Last day of unblocked modules: | (5. KW) Saturday, 01 Feb 2025 |
| > | Last day of blocked modules: | _(7. кw) Friday, 14 Feb 2025 |
| | First day of <u>un</u> blocked modules: | (14. KW) Tuesday, 1 April 2025 |
| 25 | First day of blocked modules: | (14. KW) Tuesday, 1 April 2025 |
| SS | Last day of unblocked modules: | (28. KW) Saturday, 12 July 2025 |
| | Last day of blocked modules: | (<u>30. кw</u>) Friday, 25 July 2025 |

No lectures: All Saints' Day: Fr, 01 Nov 2024,

Christmas holidays: Mon, 23 Dec 2024 - Mon 06 Jan 2025,

Easter: Fri, 18 Apr – Mon, 21 Apr 2025,

International Labor Day: Thurs, 01 May 2025,

Ascension: Thurs, 29 May 2025,

Pentecost: Tues, 10 June 2025 - Sat, 14 Jun 2025 (excursions might take

place during that week!),

Corpus Christi: Thurs, 19 Jun 2025.

Examination periods for the winter semester 2024/25:

1st examination period: Mon, 03 Feb – Fr, 21 Feb 2025

2nd examination period: Mon, 03 Feb – until 7 days before the second date

Examination periods for the summer semester 2025:

1st examination period: not yet defined 2nd examination period: not yet defined

See also: www.uni-hohenheim.de/en/semester-dates