



# Crop Sciences

## Master of Science

Curriculum



September 2016

**Contact:**

*Coordinator „Crop Sciences“*  
*Faculty of Agricultural Sciences (300)*  
*70593 Stuttgart, Germany*  
Phone: +49 711 459 23328  
e-mail: [cropsciences@uni-hohenheim.de](mailto:cropsciences@uni-hohenheim.de)  
<http://www.uni-hohenheim.de/cropsciences>

Edited by Dr. Karin Amler

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

## Preamble

This curriculum provides applicants and students as well as teaching and administrative staff with information about the M.Sc. program „Crop Sciences“. It contains information on the program structure and summarizes the most important examination regulations (issued the 16th of May 2014 including all changes until 18th of July 2016).

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 considered in printed materials with delay. For this reason all information is provided without liability.

If in doubt, please refer to the co-ordinator of the program ([cropsciences@uni-hohenheim.de](mailto:cropsciences@uni-hohenheim.de)) to obtain up-to-date information. For up-to-date module descriptions please refer to the web-pages at [uni-hohenheim.de/en/module-catalogue](http://uni-hohenheim.de/en/module-catalogue). **Time schedules and lecture halls of all courses offered at the University of Hohenheim 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](http://uni-hohenheim.de).

## Table of Contents

Program Objectives	4
Program Design	4
Modules	4
Module Descriptions	4
Individual Timetable	4
Structure of the major „Plant Breeding and Seed Science“	4
Structure of the major „Plant Nutrition and Protection“	6
Semester Duration and Lecture Times	8
Credit Point System	8
Modules with a Limited Number of Participants	9
Marks and Grades	8
Registering for Examinations	9
Examinations	10
Exam Repetition	10
Master Thesis	10
Evaluation of Modules	11
Mentoring	11
Study Abroad	11
Degree	11
Responsible Scientists	12
Contact	12
Form for a Study and Examination Plan	13
Blocked Modules and Block Periods	14
Explanation of Module Code	18
Lecture Periods and Examination Periods	20

## The Master's Program „Crop Sciences”

### **Program Objectives**

The goal of crop sciences is to develop crops and cropping systems with highest possible efficiency in converting light and supplemental resource into food, feed, and fiber. Biological, physiological, molecular genetic and biometric principles are applied and graduates are prepared to develop cropping systems that are profitable and ecologically sustainable.

### **Program Design**

The two-year M.Sc. program “Crop Sciences” comprises four semesters, during which thematic modules and the Master Thesis have to be completed.

One of the following majors has to be chosen and the title of the chosen major will be reported in the transcript of records.

- „Plant Breeding and Seed Science“
- „Plant Nutrition and Protection“

The full program has an extent of 120 ECTS credits and is constructed by 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.

### **Modules**

Most modules last the full length of the semester. Some elective modules 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.

Each module of 6 credits corresponds to a workload of 4 SWS (weekly contact hours per semester), which is 56 contact hours per module. Each module of 7.5 credits corresponds to a workload of 5 SWS (weekly contact hours per semester), which is 70 contact hours per module. In addition time for preparation at home is needed, summing up to a total workload of about 160 hours for one module of 6 credits and 200 hours for one module of 7.5 credits. Each module may consist of different forms of teaching (e.g. seminar, lecture, practical, excursions).

### **Module Descriptions**

### **Individual Timetable**

For the contents of all modules see: [uni-hohenheim.de/en/module-catalogue](http://uni-hohenheim.de/en/module-catalogue).

The Course Catalogue of University of Hohenheim contains information on times, lecturers and lecture rooms of all courses and is available at the beginning of each semester online at the university's homepage: [www.uni-hohenheim.de](http://www.uni-hohenheim.de). It is linked to the module descriptions. A tool to compose an individual timetable is available on the Intranet. Mind: especially non-blocked modules often consist of more than one course.

### **Structure of the major „Plant Breeding and Seed Science”**

	<b>1. Semester</b>	<b>2. Semester</b>	<b>3. Semester</b>	<b>4. Semester</b>	<b>Master Thesis</b> (30 credits)
6 Credits	3502-440 <b>Methods of Scientific Working</b> (for Crop Sciences)	3402-450 <b>Advanced Statistical Methods for Metric and Categorical Data</b>	3501-460 <b>Planning of Breeding Programmes</b>		
6 Credits	3502-450 <b>Population and Quantitative Genetics</b>	3501-450 <b>Breeding Methodology</b>	3501-470 <b>Selection Theory</b>		
6 Credits	Elective Module	3504-430 <b>Seed Research</b>	Elective module		
6 Credits	Elective Module	Elective module	Elective module		
6 Credits	Elective Module	Elective module	Elective module		

## **Major: Plant Breeding and Seed Science**

The **compulsory modules** (42 credits) are:

Sem	Code	Name of Module	Duration	Credits	Professor
1	3502-440	<b>Methods of Scientific Working</b> (for Cr. Sciences)	1 Semester (in the morning)	6	Schmid
1	3502-450	<b>Population and Quantitative Genetics</b>	1 Semester	6	Schmid
2	3501-450	<b>Breeding Methodology</b>	1 Semester	6	Melchinger
2	3504-430	<b>Seed Research</b>	1 Semester	6	Kruse
		<b>Advanced Statistical Methods for Metric and Categorical Data</b>	1 Semester		
2	3402-450	<b>Selection Theory</b>		6	Piepho
3	3501-470	<b>Planning of Breeding Programmes</b>	1 Semester	6	Melchinger
3	3501-460				

The **elective modules** can be chosen from the listing below or from the modules of other Master programs of the faculty of Agricultural Sciences of the University of Hohenheim. On request to the examination board and with the approval of a mentor, modules can be chosen from other programs of the University of Hohenheim.

Suggestions for **elective modules** for **Plant Breeding and Seed Science** (48 credits have to be chosen):

Sem	Code	Name of Module	Duration	Credits	Professor
1-4	3000-410	<b>Portfolio-Module (Master)</b> <i>(not graded)(see ILIAS*)</i>	Not defined	1 - 7,5	Müller, T.
1	3302-440	Physiology and Biochemistry of Crops	1 Semester (in the morning)	6	Ludewig
1	3603-480	Entomology	1 Semester	6	Zebitz
1/3	3402-420	Quantitative Methods in Biosciences	1 Semester	6	Piepho
1	3504-460	<b>Seed Testing</b>	1 Semester	6	Kruse
2	3502-470	Plant Genetic Resources	1 Semester	6	Schmid
2	3504-450	<b>Saatguttechnologie</b>	1 Semester	6	Kruse
3	3402-460	<b>Advanced Statistical Methods for Metric and Categorical Data II</b>	1 Semester	6	Piepho
3	3502-810	Quantitative Methods in Plant and Livestock Genomics <i>(not in WS 16/17)</i>	1 Semester	6	Schmid
3	3503-450	From Genes to Transgenic Plants	1 Semester (in the morning)	6	Schmid
3	4302-420	<b>Ethical Reflection on Food and Agriculture **</b>	1 Semester	6	Bieling

\* [https://ilias.uni-hohenheim.de/goto.php?target=crs\\_318386&client\\_id=UHOH](https://ilias.uni-hohenheim.de/goto.php?target=crs_318386&client_id=UHOH)

\*\* Number of places is limited. Please register for participation per ILIAS

**Blocked Modules** (*significant time overlapping with unblocked modules!*)

Sem	Code	Name of Module	Duration	Credits	Professor
1	2302-410	<b>Spring School "Extreme Environments"**</b>	blocked in Febr.-Mar.	7,5	Hanke
2	4605-500 4602-500	<b>Biologische Sicherheit und Gentechnikrecht</b>	Block 2, SS	7,5	Beyer
2	3501-480	<b>Breeding of Tropical, Ornament., and Vegetable Pl.</b>	Block 3, SS	7,5	Melchinger

*Structure of the major  
„Plant Nutrition  
and Protection”*

	<b>1. Semester</b>	<b>2. Semester</b>	<b>3. Semester</b>	<b>4. Semester</b>
6 Credits	3502-440 <b>Methods of Scientific Working</b> (for Crop Sciences)	Elective module	Elective module	
6 Credits	3302-500 <b>Methods in Molecular Biology and Biotechnology</b>	Elective module	Elective module	
		Elective module	Elective module	
6 Credits	3302-440 <b>Physiology and Biochemistry of Crops</b>	Elective module	Elective module	
6 Credits	3503-450 <b>From Genes to Transgenic Plants</b>	Elective module	Elective module	
				<b>Master Thesis</b> (30 credits)

Instead of choosing five elective modules per semester (each 6 credits) as shown above, the major “Plant Nutrition and Protection” offers the possibility to choose four blocked modules (each 7.5 credits) offered by the Faculties of Agricultural Sciences and/or Natural Sciences during the second and/or the third semester. Choosing modules of the Faculty of Natural Sciences requires the approval of a mentor and a request to the examination board.

**Major: Plant Nutrition and Protection**

The **compulsory modules** (30 credits) are:

<b>Sem</b>	<b>Code</b>	<b>Name of Module</b>	<b>Duration</b>	<b>Credits</b>	<b>Professor</b>
1	3502-440	<b>Methods of Scientific Working</b> (for Crop Science)	1 Semester (in the morning)	6	Schmid
1	3302-440	<b>Physiology and Biochemistry of Crops</b>	1 Semester (in the morning)	6	Ludewig
1	3503-450	<b>From Genes to Transgenic Plants</b>	1 Semester (in the morning)	6	Schmid
1	3302-500	<b>Methods in Molecular Biology and Biotechnology</b>	1 Semester (in the afternoon)	12	Ludewig

The **elective modules** can be chosen from the listing below or from the modules of other Master programs of the faculty of Agricultural Sciences of the University of Hohenheim. On request to the examination board and with the approval of a mentor, modules can be chosen from other programs of the University of Hohenheim.

Suggestions for **elective modules for Plant Nutrition and Protection** (60 credits have to be chosen):

<b>Sem</b>	<b>Code</b>	<b>Name of Module</b>	<b>Duration</b>	<b>Credits</b>	<b>Professor</b>
1-4	3000-410	<b>Portfolio-Module (Master)</b> <i>(not graded)(see ILIAS*)</i>	open	1 - 7,5	Müller, T.
1	2302-410	<b>Spring School "Extreme Environments"**</b>	blocked in March	7,5	Hanke
1/3	3402-420	Quantitative Methods in Biosciences	1 Semester	6	Piepho
2	3302-430	Molecular Plant Nutrition	1 Semester	6	Ludewig
2	3401-450	Conservation Agriculture	1 Semester	6	Claupein

Sem	Code	Name of Module	Duration	Credits	Professor
2	3302-490	Rhizosphere Processes - Nutrient Acquisition and Stress Adaptations of Higher Plants	1 Semester	6	Neumann
2	3402-450	Advanced Statistical Methods for Metric and Categorical Data	1 Semester	6	Piepho
2	3502-470	Plant Genetic Resources	1 Semester	6	Schmid
2	3602-460	Information Technologies and Expert Systems in Plant Protection	1 Semester (partly blocked in June)	6	Gerhards
2	3603-420	Crop Protection in Organic Farming	1 Semester	6	Zebitz
2	3603-490	Biological Pest Control	1 Semester	6	Zebitz
2	3603-500	Exercises in Biological Pest Control	Summer school	7,5	Zebitz
2	3701-420	Qualitätsrelevante Inhaltsstoffe von Nutzpflanzen	1 Semester	6	Graeff-Hönninger
2	3701-450	Biotechnologische Methoden in der Landwirtschaft	1 Semester	6	Zörb
2/3	3301-480	Fertilisation and Soil Fertility management in the Tropics and Subtropics	e-learning 1 Semester	7.5	Müller, T.
3	3102-410	Environmental Microbiology	1 Semester	6	Kandeler
3	3103-410	Plant and Crop Modeling	In March	6	Priesack
3	3302-450	Plant Symbioses for Nutrient Acquisition		6	Neumann
3	3302-460	Plant Quality	1 Semester	6	Ludewig
3	3601-460	Molecular Phytopathology (partly blocked in March)	1 Semester +block	6	Vögele
3	3602-450	Molecular Aspects of Plant Protection	1 Semester	6	Gerhards
3	3603-480	Entomology	1 Semester	6	Zebitz
3	3701-440	Fororschungsaspekte qualitätsrelevanter Inhaltsstoffe	1 Semester	6	Graeff-Hönninger
3	4302-420	Ethical Reflection on Food and Agriculture **	1 Semester	6	Bieling
3	4905-420	Crop Production Systems	1 Semester	6	Cadisch
3	3801-420				

\* [https://ilias.uni-hohenheim.de/goto.php?target=crs\\_318386&client\\_id=UHOH](https://ilias.uni-hohenheim.de/goto.php?target=crs_318386&client_id=UHOH)

\*\* Number of places is limited. Please register for participation per ILIAS

Suggestions for semester packages of **blocked elective modules** including modules offered by the **Faculty of Natural Sciences**. Choosing modules of the Faculty of Natural Sciences – codes starting with “1” or “2” - requires the approval of a mentor and a request to the examination board. Most modules have a strictly limited number of participants; access is not guaranteed.

**Modules for a blocked summer semester** (with 4 modules x 7.5 credits):

Sem	Code	Name of Module	Duration	Credits	Professor
2	2601-430	Entwicklungsbiologie der Pflanzen*	Block 1, SS	7,5	Schaller
2	3102-450	Molecular Soil Ecology *	Block 1, SS	7,5	Kandeler
2	1101-410	Applied Mathematics for the Life Sciences II *	Block 2, SS	7,5	Kügler

Sem	Code	Name of Module	Duration	Credits	Professor
2	4605-500 4602-500	Biologische Sicherheit und Gentechnikrecht	Block 2, SS	7,5	Beyer
2	4905-430 3801-430	Integrated Agricultural Production Systems	Block 2, SS	7,5	Cadisch
2	4906-420 3802-420	Biodiversity, Plant and Animal Gen. Resources	Block 2, SS	7,5	Rasche
2	2402-410	Molekulare Virologie**	Block 3, SS	7,5	Pfitzner
2	2402-420	Angewandte molekulare Virologie**	Block 4, SS	7,5	Pfitzner
2	4907-430 3803-450	Crop Production Affecting the Hydrological Cycle	Block 3, SS	7,5	Asch
2	2202-400	Pathogens, Parasites and their Hosts, Ecology, Molecular Interactions and Evolution***	Block 4, SS	7,5	Mackenstedt
2	4907-420 3803-430	Ecophysiology of Crops in the Tropics and Subtropics	Block 4, SS	7,5	Asch
2	3603-500	Exercises in Biological Pest Control	Summer school	7,5	Zebitz

\* Limited number of participants. Registration/selection via ILIAS.

\*\* These two have an advanced level of microbiology and have to be taken together. Registration/selection via ILIAS.

\*\*\* = EuroLeague Summer school: 8 places for UHOH-students!

#### Modules for a blocked winter semester (with 4 modules x 7.5 credits):

Sem	Code	Name of Module	Duration	Credits	Professor
3	3000-410	Portfolio-Module (Master) (not graded)(see ILIAS*)	open	1 - 7,5	Müller, T.
3	2601-410	Pflanze-Pathogen Interaktionen**	Block 2, WS	7,5	Schaller
3	2602-500	Regulatorische Prinzipien pflanzlicher Signaltransduktionswege**	Block 3, WS	7,5	Schulze
3	2203-410	Chemische Signale bei Tieren**	Block 4, WS	7,5	Steidle
3	2302-410	Spring School "Extreme Environments"**	blocked in Febr.-Mar.	7,5	Hanke
3	3103-410	Plant and Crop Modeling	blocked in March	6	Priesack

\* [https://ilias.uni-hohenheim.de/goto.php?target=crs\\_318386&client\\_id=UHOH](https://ilias.uni-hohenheim.de/goto.php?target=crs_318386&client_id=UHOH)

\*\* Limited number of participants! Registration/selection via ILIAS.

#### Semester Duration and Lecture Times

A semester lasts 14 weeks (winter as well as summer semester). 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“).

#### Credit Point System

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

#### Modules with Limited Number of Participants

Some modules can accept only a limited number of participants due to space constraints or supervision regulations. In this case, it is necessary to register for the module in advance. If there is a limited number of participants, 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](https://uni-hohenheim.de/en/module-catalogue)). Each module with a limited number of participants is set up as a course on the e-learning platform ILIAS (<https://ilias.uni-hohenheim.de/>). You have to register there and you can read there how the spots are allocated on ILIAS. In general, the following applies: Students for whom the respective module is compulsory or the last module that needs to be completed to finish a degree program, must 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 degree program coordinator. She will register you for the module.

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.

Please mind: the ILIAS registration is only for participation and NOT a registration for the examination!

### **Marks and Grades**

<b>marks and grades</b>			
	<b>grades</b>		<b>mark</b>
<i>excellent performance</i>	<i>very good</i>	A	1.0
		A-	1.3
<i>performance considerably exceeding the above average standard</i>	<i>good</i>	B+	1.7
		B	2.0
		B-	2.3
<i>performance meeting the average standard</i>	<i>medium</i>	C+	2.7
		C	3.0
		C-	3.3
<i>performance meeting minimum criteria</i>	<i>pass</i>	D+	3.7
		D	4.0
<i>performance not meeting minimum criteria</i>	<i>fail</i>	F	5.0

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. The end score is calculated as a weighted average score according to the credits achieved in all modules and the Master Thesis.

### **Registering for Examinations**

Students have to register for the examinations of each semester at the examination office per *Studium Online* during the time period announced at the examination office. After registration a module cannot be dropped any more. When you have to 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: <https://www.uni-hohenheim.de/en/exams>.

### **Examinations**

Each module is examined upon completion in an oral or a written exam. The examination may be divided in sections which can be weighted differently. The weighting of the partial performances (in-course assessments = ICA) is written down in the module descriptions. The examinations of the modules

should be taken within the semester scheduled in this curriculum. 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. Withdrawal on the first trial of each module examination is possible up to 7 days before the examination date. The examination will be postponed to the next possible examination period.

The claim for examination expires if:

- one out of 15 modules needs to be repeated more than two times
- an examination of one of the modules has not been passed by the end of the seventh semester at the latest.

The claim for examinations does not expire, if the candidate cannot be held responsible for the failure to comply with the deadline. The students themselves 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 examination office.

Please mind that plagiarism, that means the take-over of text or phrases in a written examination (even within a partial performance) without quoting them accordingly, will be marked as attempt of deception and the respective examination performance is to be graded "fail" (F; mark 5.0). A declaration (<https://agrar.uni-hohenheim.de/en/plagiats>) has to be attached to homework, presentations, and to the thesis and the final digital text document has to be transferred to the mentoring supervisor.

### ***Exam Repetition***

In case of failure the examination office will inform the student via mail. Normally, the letter includes the repetition date. In some cases the date for repetition has not been pointed out at the time of informing the students. Students are responsible themselves to check with the responsible professor or the examination office about dates for repeater exams. Usually repeater exams for blocked modules will be scheduled by the responsible professor within the same semester. Repeater exams in lectures will usually automatically be scheduled for the next examination period.

### ***Master Thesis***

The Master Thesis shall show that the candidate is able to work independently on a problem in the field of „Crop Sciences“, within a fixed period of time by applying scientific methods. The exam consists of a written part (thesis) and an oral presentation (defence). The candidate has to defend the essential arguments, results and methods of the thesis in a colloquium of 30-45 minutes. The written part of the Master Thesis has to be completed within a period of six months. It is usually written during the fourth semester. There might be cases, depending on the chosen modules, for which the third semester is more appropriate. Thesis work can pursue empirical or theoretical questions related to ongoing research projects but students' own initiatives and ideas are certainly welcome. It includes a literature review as well as new and original data derived from field and or laboratory work. This work can be carried out either at University of Hohenheim or at one of the partner universities.

There are several possibilities for finding the right reviewer and the right topic. Sometimes you can find them using the published Final thesis topics ([www.uni-hohenheim.de/en/finaltheses](http://www.uni-hohenheim.de/en/finaltheses)), sometimes 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 three months after notification of the final passed module examination or at the start of the seventh semester. Otherwise it is graded "fail" (F; mark 5.0).

### ***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 and evaluated by the Faculty of Agricultural Sciences and 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.

***Academic calendar***

In the winter semester (WS) courses usually begin in week 42 and end in week 6 or 7 of the new year. In the summer semester (SS) courses usually begin the first Monday in April and end in week 30, 31, or 32. For un-blocked modules the lecture period of each semester is followed by an examination period of three weeks. The last block period of each semester has an overlapping with this examination period of the unblocked modules.

***Mentoring***

A personal mentor from the teaching staff is assigned to advice on appropriate profiles and support smooth and goal-oriented study progress. The form on page 13 serves as a basis for a counseling interview. Fill in name, code, and credits of all modules and specify for each module if it is a compulsory (C), semi-elective (S), elective (E) or an additional (A) module for you. It is strongly recommended NOT to mix blocked and unblocked modules within one semester.

The following scientists have been appointed as mentors:

**Plant Breeding and Seed Science:**

- Prof. Dr. Schmid (Crop Biodiversity and Breeding Informatics, 350)

**Plant Nutrition and Protection:**

- Prof. Dr. Ludewig (Nutritional Crop Physiology, 340)
- Prof. Dr. Neumann (Nutritional Crop Physiology, 340)
- Prof. Dr. Zebitz (Applied Entomology, 360)
- Prof. Dr. Voegele (Phytopathology, 360)

***Academic advisor***

providing specific information on the disciplines:

- Dr. Tobias Schrag ([tobias.schrag@uni-hohenheim.de](mailto:tobias.schrag@uni-hohenheim.de), phone: 459-23483)

***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 such kind of international mobility. German students are strongly advised to spend a semester abroad. Particularly, the third semester is suitable for integrated study abroad. Students will preferably spend this time at one of the partner universities of the Euroleague 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 Agriculture (CUA), 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. Quantitative parity of study achievements is based on the European Credit Transfer System (ECTS). Students may also request to spend the semester at universities other than mentioned above.

***Degree***

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

***Responsible Scientist***

Prof. Dr. C. Zebitz  
Department of Applied Entomology

***Professors in charge of the majors***

Prof. Dr. U. Ludewig, Nutritional Crop Physiology  
Prof. Dr. K. Schmid, Crop Biodiversity and Breeding Informatics

***Contact***

Program Coordinator Crop Sciences  
Kerstin Hoffbauer  
University of Hohenheim (300)  
70593 Stuttgart

Germany  
Tel. +49-(0) 711-459-23328  
Fax +49-(0) 711-459-23315  
E-mail: [cropsciences@uni-hohenheim.de](mailto:cropsciences@uni-hohenheim.de)  
<http://www.uni-hohenheim.de/cropsciences>

# MSc-Studien- und Prüfungsplan | MSc Study and Examination Plan

Name:

Studiengang / Study Programme:

Dieser Plan dient als Diskussionsgrundlage für ein Beratungsgespräch und ist danach für Ihre Unterlagen bestimmt. Geben Sie bei jedem Modul Modulkennung, Modulname, Credits und Verbindlichkeit an. (P=Pflicht-, WP=Wahlpflicht-, W=Wahl-, Z=Zusatzmodul). Es wird dringend empfohlen, in einem Semester entweder nur geblockte oder ungeblockte Module zu belegen. **Bitte achten Sie selbst darauf, bis zum Ende Ihres Studiums die für Ihren Studiengang erforderliche Anzahl von Wahlpflichtmodulen abzulegen.** | This document serves as a basis for a counselling interview. Keep it with your own study documents afterwards. Fill in name, code, and credits of all modules and specify for each module if it is a compulsory (C), semi-elective (S), elective (E) or an additional (A) module for you. It is strongly recommended NOT to mix blocked and unblocked modules within one semester. **It is within your own responsibility to achieve the minimum amount of semi-elective modules required for your study programme until the end of your studies.**

1. Semester WS / SS: .....	Verbindlichkeit   Bindingness	Credits	2. Semester: WS / SS: .....	Verbindlichkeit   Bindingness	Credits	3. Semester: WS / SS: .....	Verbindlichkeit   Bindingness	Credits	4. Semester: WS / SS: .....	Verbindlichkeit   Bindingness	Credits
<b>Σ Semester-Credits</b>	X		X	X		X	X	X	X	X	

# Geblockte Module der Fakultät Agrarwissenschaften für das Wintersemester 2016/17

## Blocked Modules in Winter Semester 2016/17

05.08.2016

● = Pflicht/Compulsory    ◉ = Wahlpflicht/Semi-elective    ○ = Wahl/Elective

Blockperiode / Period	Block 1 (7.5 credits!)	Block 2 (7.5 credits!)	Block 3 (7.5 credits!)	Block 4 (7.5 credits!)	März-Block/ March Block
Studiengang / Study Course	17.10. - 11.11.2016	14.11. - 09.12.2016	12.12.16 – 22.12.16/ 09.01. – 20.01.2017	23.01. - 17.02.2017	i.d.R 27.02.- 21.03.2017
B.Sc. Agrarwissenschaften					◉ 4402-210 (Jungbluth) Planung von Nutztierhaltungssystemen (6 credits)
					○ 4606-220 (Weiler) Nutztiersystemmanagement – Schwein (6 credits)
M.Sc. Agrarwissenschaften Tierwissenschaften					◉ 4602-530 (Mosenthin) Futterwertbeurteilung, Futtermittelmikrobiologie und –mikroskopie (6 credits)
M.Sc. EnviroFood					◉ 3003-410 (Schöne) Food Safety and Quality Chains (6 credits) Next time offered in March 2018!
M.Sc. Landscape Ecology	● 3201-560 (Schurr) Landscape Ecology	● 3201-570 (Schurr) Community and Evolutionary Ecology	● 3201-580 (Schurr) Conservation Biology	● 3202-440 (Fangmeier) Plant Ecology	○ 3201-420 (Schurr) Methods in Landscape and Plant Ecology (7.5 credits!)
M.Sc EnvEuro Ecosystems and Biodiversity (alternative 2)	● 3201-560 (Schurr) Landscape Ecology	● 3201-570 (Schurr) Community and Evolutionary Ecology	● 3201-580 (Schurr) Conservation Biology	● 3202-440 (Fangmeier) Plant Ecology	◉ 3201-420 (Schurr) Methods in Landscape and Plant Ecology (7.5 credits!)
M.Sc. Crop Sciences (3.Sem., blocked semester package)	○ 3000-410 (Müller, T.) Portfolio Module (Master)	○ 2601-410 (Schaller) Pflanze-Pathogen Interaktionen (5 Plätze für CS)	○ 2602-500 (Schulze) Regulatorische Prinzipien pflanzlicher Signaltransduktionswege (5 Plätze für CS)	○ 2203-410 (Steidle) <u>Chemische Signale bei Tieren</u> (3 Plätze für CS)	○ 3103-410 (Streck) Plant and Crop Modeling (6 credits)
					○ 2302-410 (Hanke) Spring School "Extreme Environments" (7.5 credits!) (20.02.-17.03.17)
Sonstige M.Sc./Other M.Sc.					○ 4909-430 (Focken) Experimental Aquaculture (27.02.-10.03. at Ahrensburg) (6 credits)
					○ 4303-470 (Lemke) Gender, Nutrition, and Right to Food (6 credits!)
					○ 4302-450 (Bieling) Emotions in Public Discourses on Food and Agriculture (6 credits!)

Check module descriptions for how to register for participation (<https://www.uni-hohenheim.de/modulkatalog.html>)

# Blocked Modules in Summer Semester 2017

05.08.2016

● = Pflicht/Compulsory    ◉ = Wahlpflicht/Semi-elective    ○ = Wahl/Elective

Blockperiode / Period	Block 1 (7,5 credits)	Block 2 (7,5 credits)	Block 3 (7,5 credits)	Block 4 (7,5 credits)	By arrangement (7,5 credits)
Studiengang / Study Course	03.04. - 28.04.2017	02.05. - 26.05.2017	29.05. - 02.06.2017 / 12.06. - 30.06.2017	03.07. - 28.07.2017	
M.Sc. Agrarwissenschaften Bodenwissenschaften	◉ 3103-450 (Streck) Spatial Data Analysis with GIS	◉ 3102-440 (Kandeler) Environmental Pollution and Soil Organisms	◉ 3101-580 (Rennert) Bodenschutz, Bodenbewertung, -sanierung	● 3101-430 (Rennert) Integr. bodenw. Projekt f. Fortgeschr. / Interdiscipl. Advanced Soil Science Project (Engl.+ Ger.)	◉ 3102-420 (Kandeler) Bodenwissenschaftliches Experiment/Project in Soil Sciences (Engl.+ Ger.)
	◉ 3102-450 (Kandeler) Molecular Soil Ecology	◉ 3101-560 (Rennert) Soils of the World	◉ 3101-570 (Herrmann) Boden- und veg.kundl. Geländeübung / Field Course Soils + Vegetation		○ 3101-450 (Herrmann) Große pedologische Geländeübung / Major Pedological Field Trip (Engl.+ Ger.) (September)
	◉ 3201-620 (Schmieder) Vegetation and Soils of Centr. Europe				
M.Sc. Agrarwissenschaften		○ 4605-500 (Beyer) Biologische Sicherheit und Gen-technikrecht	◉ 7301-410(Rosenkranz) Bienen	○ 4604-420 (Steffl) Seminar zu klinischen Fallstudien der Spez. Anatomie und Phys. d. Nutztiere	
		○ 7301-400 (Rosenkranz) Soziale Insekten (10 Plätze für Fak. A)			
Tierwissenschaften: Profil Ernährung und Futtermittel	◉ 4602-410 (Mosenthin) Methoden zur Analytik und Qualitätsbeurteil. von Futtermitteln	◉ 4601-430 (Rodehutscord) Tracer Techniques in Animal Nutrition		◉ 4601-450 (Rodehutscord.) Spezielle Ernährung der Wiederkäuer	
Tierwissenschaften: Profil Genomik und Züchtung		◉ 4607-510 (Bennewitz) Zuchtplanung und Zuchtplaxis i. d. Nutztierwissenschaften	◉ 4608-420 (Hasselmann) Molekulare Evolution und Populationsgenetik		
Tierwissenschaften: Profil Gesundheit und Verhalten	◉ 4606-490 (Stefanski) Verhaltensbiologie	◉ 4606-420 (Stefanski) Immunologie und Infektionsbiologie (nicht Block 3)	◉ 4604-410 (Huber) Leistungs- assoziierte Stoffwechselstörungen bei landw. Nutztieren (nicht Bl.2)	◉ 4605-490 (Hölzle) Spezielle Tierhygiene	
M.Sc. Agrarwissenschaften Agricultural Economics	○ 4202-420 (Becker) Questionnaire Design and Data Analysis in SPSS (partly blocked!)				
M.Sc. AgriTropics	● 4907-440 (Asch) Interdiscipl. Practical Science Training (AgriTropics only!)	○ 4906-420 (Rasche) Biodiversity, Plant and Animal Gen. Resources	○ 4909-420 (Dickhöfer) Quantitative Meth. in Animal Nutrition + Vegetation Sciences		
Animal		○ 4908-430 (Valle Zárate) Livestock Breeding Programmes	○ 4605-450 (Hölzle) Food Safety a. Drinking Water Quality related to Zoonoses in the T+S	○ 4908-420 (Valle Zárate) Promotion of Livestock in Trop. Environments	
Crop		○ 4905-430 (Cadisch) Integrated Agricultural Production Systems	○ 4907-430 (Asch) Crop Production Affecting the Hydrological Cycle	○ 4907-420 (Asch) Ecophysiology of Crops in the Tropics and Subtropics	
		○ 3101-560 (Rennert) Soils of the World	○ 3501-480 (Melchinger) Breeding of Trop., Ornamental, and Vegetable Plants		
Engineering		○ 4403-550 (Müller, J.) Postharvest Technology of Food and Bio-Based Products	○ 4403-470 (Müller, J.) Renewable Energy for Rural Areas	○ 4403-410 (Müller, J.) Irrigation and Drainage Technology	

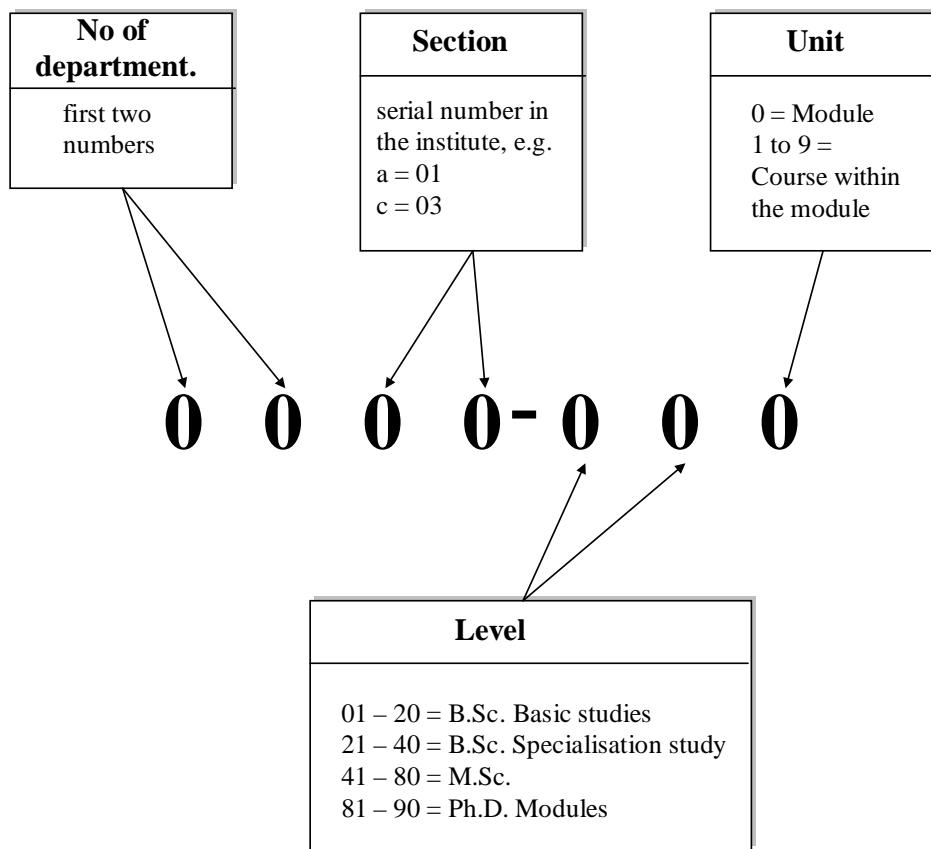
Economics			<input type="radio"/> <b>4901-410</b> (Zeller) Rural Development Policy and Institutions	<input type="radio"/> <b>1401-530</b> (Scherbaum) Global Nutrition	
<b>M.Sc. Crop Sciences</b> (blocked semester packages)	<input type="radio"/> <b>2601-430</b> (Schaller) Entwicklungsbiologie der Pflanzen (5 Plätze für CS)	<input type="radio"/> <b>1101-410</b> (Kügler) Applied Mathematics for the Life Sciences II (5 Plätze für CS)	Sofern Zulassung möglich: ggf. Kombination der beiden Virologie-Module 2402-410 und 2402-420 in Block 3 und 4	<input type="radio"/> <b>2202-400</b> (Mackenstedt) Pathogens, Parasites and their Hosts, Ecology, Molec. Interactions a. Evolution (8 Pl. UHOH)	
		<input type="radio"/> <b>4605-500</b> (Beyer) Biologische Sicherheit und Gentechnikrecht			
	<input type="radio"/> <b>3102-450</b> (Kandeler) Molecular Soil Ecology	<input type="radio"/> <b>4905-430</b> (Cadisch) Integr. Agricultural Production Systems	<input type="radio"/> <b>4907-430</b> (Asch) Crop Prod. Affecting the Hydrological Cycle	<input type="radio"/> <b>4907-420</b> (Asch) Ecophysiology of Crops in the T+S	<input type="radio"/> <b>3603-500</b> (Zebitz) Exercises in Biological Pest Control
<b>M.Sc. EnviroFood</b>	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>3102-440</b> (Kandeler) Environmental Pollution and Soil Organisms	<input checked="" type="radio"/> <b>4403-470</b> (Müller, J.) Renewable Energy for Rural Areas	<input checked="" type="radio"/> <b>3103-460</b> (Streck) Environmental Science Project	
		<input checked="" type="radio"/> <b>4906-420</b> (Rasche) Biodiversity, Plant and Animal Gen. Resources	<input checked="" type="radio"/> <b>4605-450</b> (Hölzle) Food Safety a. Drinking Water Quality related to Zoonoses in the T+S	<input checked="" type="radio"/> <b>1401-530</b> (Scherbaum) Global Nutrition	
		<input checked="" type="radio"/> <b>4403-550</b> (Müller, J.) Postharvest Technology of Food and Bio-Based Products	<input type="radio"/> <b>1401-490</b> (Biesalski) Food Security	<input checked="" type="radio"/> <b>4403-410</b> (Müller, J.) Irrigation and Drainage Technology	
<b>M.Sc. EnvEuro</b> Environm. Impacts	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>4906-420</b> (Rasche) Biodiversity, Plant and Animal Gen. Resources	<input checked="" type="radio"/> <b>4907-430</b> (Asch) Crop Production Affecting the Hydrological Cycle	<input checked="" type="radio"/> <b>3103-460</b> (Streck) Environmental Science Project	
		<input checked="" type="radio"/> <b>3101-560</b> (Rennert) Soils of the World	<input checked="" type="radio"/> <b>3101-570</b> (Hermann) Field Course Soils and Vegetation	<input checked="" type="radio"/> <b>4403-410</b> (Müller, J.) Irrigation and Drainage Technology	
Environm. Management	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>4905-430</b> (Cadisch) Integrated Agricultural Production Systems	<input checked="" type="radio"/> <b>4403-470</b> (Müller, J.) Renewable Energy for Rural Areas	<input checked="" type="radio"/> <b>3103-460</b> (Streck) Environmental Science Project	
		<input checked="" type="radio"/> <b>4906-420</b> (Rasche) Biodiversity, Plant and Animal Gen. Resources	<input checked="" type="radio"/> <b>4302-430</b> (Bieling) Landscape Change, Nature Conservation and Ecosystem Services	<input checked="" type="radio"/> <b>4403-410</b> (Müller, J.) Irrigation and Drainage Technology	
Soil Resources and Land Use	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>3101-560</b> (Rennert) Soils of the World	<input checked="" type="radio"/> <b>4907-430</b> (Asch) Crop Production Affecting the Hydrological Cycle	<input checked="" type="radio"/> <b>3103-460</b> (Streck) Environmental Science Project	<input checked="" type="radio"/> <b>3301-480</b> (Müller, T.) Fertilisation and Soil Fertility Management in the T. and S.
		<input checked="" type="radio"/> <b>3102-440</b> (Kandeler) Environmental Pollution and Soil Organisms	<input checked="" type="radio"/> <b>3101-570</b> (Hermann) Field Course Soils and Vegetation	<input checked="" type="radio"/> <b>4403-410</b> (Müller, J.) Irrigation and Drainage Technology	<input type="radio"/> <b>3102-420</b> (Kandeler) Bodenwissenschaftl. Experiment/Project in Soil Sciences (Engl.+ Ger.)
Ecosystems and Biodiversity	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>3201-590</b> (Schurr) Combining Ecological Models and Data	<input checked="" type="radio"/> <b>3101-570</b> (Hermann) Field Course Soils and Vegetation	<input checked="" type="radio"/> <b>3103-460</b> (Streck) Environmental Science Project	
		<input checked="" type="radio"/> <b>4906-420</b> (Rasche) Biodiversity, Plant and Animal Gen. Resources	<input checked="" type="radio"/> <b>4302-430</b> (Bieling) Landscape Change, Nature Conservation and Ecosystem Services	<input checked="" type="radio"/> <b>3201-600</b> (Schurr) Intensive Course Landscape Ecology	
<b>M.Sc. Landscape Ecology</b>	<input checked="" type="radio"/> <b>3201-620</b> (Schmieder) Vegetation and Soils of Centr. Europe	<input checked="" type="radio"/> <b>3201-590</b> (Schurr) Combining Ecological Models and Data	<input checked="" type="radio"/> <b>3101-570</b> (Hermann) Field Course Soils and Vegetation	<input checked="" type="radio"/> <b>3201-600</b> (Schurr) Intensive Course Landscape Ecology	
	<input checked="" type="radio"/> <b>3103-450</b> (Streck) Spatial Data Analysis with GIS	<input checked="" type="radio"/> <b>3101-560</b> (Rennert) Soils of the World	<input checked="" type="radio"/> <b>4907-430</b> (Asch) Crop Production Affecting the Hydrological Cycle		
		<input checked="" type="radio"/> <b>4906-420</b> (Rasche) Biodiversity, Plant and Animal Gen. Resources	<input checked="" type="radio"/> <b>4303-430</b> (Bieling) Landscape Change, Nature Conservation and Ecosystem Services		

Check module descriptions for how to register for participation (<https://www.uni-hohenheim.de/modulkatalog.html>)

# Module Duration within all Master's Programs of the Faculty of Agricultural Sciences

Master's Program		Semester Structure				
Program	Specialisation	Language	Winter Semester 1 (Compulsory-/SE)	Summer Semester1 (Compulsory/SE/Elective)	Winter Semester 2 (Compulsory/SE/Elective)	Summer Semester 2
AW	Agrartechnik	German	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
	Bodenwissenschaften	German	Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
	Pflanzenproduktionssysteme	German	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
	Tierwissenschaften	German	Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
Agribusiness		German	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
NawaRo		German	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
Crop Sciences	Plant breeding & seed scienc.	English	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
	Plant nutrition & protection		Whole Semester	Package Fak. A and/or N	Package Fak. A or N	Master's-Thesis
AgriTropics		English	Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
AgEcon		English	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis
Landscape Ecology		English	4 Weeks Blocked	4 Weeks Blocked	Whole Semester	Master's-Thesis
EnviroFood		English	Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
Bioeconomy		English	Whole Semester	Whole Semester	Package Fak. W/A or N	
<b>Double Degree Specialisation</b>						
EnvEuro	Ecosystems & Biodiversity		Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
	Environmental Impacts		Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
	Environmental Management	English	Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
	Climate Change		Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
	Soil Resources & Land Use		Whole Semester	4 Weeks Blocked	Whole Semester	Master's-Thesis
EurOrganic		English	Whole Semester	Whole Semester	Whole Semester	Master's-Thesis

# Explanation of Module Code





# Lecture Periods

<b>WS 16/17</b>	<b>First day of un-blocked modules:</b>	(42. KW) Monday, 17.10.2016
	<b>First day of blocked modules:</b>	(42. KW) Monday, 17.10.2016
	<b>Last day of un-blocked modules:</b>	(5. KW) Saturday, 04.02.2017
	<b>Last day of blocked modules:</b>	(6. KW) Friday, 17.02.2017
<b>SS 17</b>	<b>First day of blocked modules:</b>	(14. KW) Monday, 03.04.2017
	<b>First day of un-blocked modules:</b>	(14. KW) Monday, 03.04.2017
	<b>Last day of un-blocked modules:</b>	(28. KW) Saturday, 15.07.2017
	<b>Last day of blocked modules:</b>	(30. KW) Friday, 28.07.2017

**Free of lectures:** All Saints' Day: Sun, 01.11.2016, Christmas holidays: Fri, 23.12.2016 – Sat, 07.01.2017, Easter holidays: Fri, 14.04. – Mon, 17.04.2017, Labour Day: Mon, 01.05.2017, Ascension Day: Thu, 25.05.2017, Pentecost: Tue, 06.06.2017 – Sat, 10.06.2017 (excursions might take place during that week!), Feast of Corpus Christi: Thu, 15.06.2017. “Dies Academicus” (probably 07.07.2017) will be free of lectures, too.

## Examination periods in winter semester 2016/17

- B.Sc. and M.Sc. period 1:** calendar week 6 to 8  
**B.Sc. and M.Sc.: period 2:** calendar week 12 to 13  
**Deadline for the registration for exams:** is fixed by the examination office

## Examination periods in summer semester 2017

- B.Sc. and M.Sc. period 1:** calendar week 29 to 31  
**B.Sc. and M.Sc.: period 2:** calendar week 39 to 41  
**Deadline for the registration for exams:** is fixed by the examination office

Questions concerning the examination regulations, the study and examination plan, withdrawal or transcripts of records are answered at the examination office and the exact dates of the module examinations are posted at the online notice-board of the examination office at: (<https://www.uni-hohenheim.de/en/exams>).