



The image contains several hand-drawn diagrams and equations:

- Energy Profile:** A graph showing potential energy  $\omega(h)$  versus distance  $h$ . It features a well labeled "MINIMA" and a barrier labeled "BARRIERE". The text "Wiederherstellungspotential" is written above the barrier.
- Chemical Structure:** A complex organic molecule with a benzene ring, a five-membered ring, and a phenol-like structure with substituents  $R_1$ ,  $R_2$ , and  $OH$ . The word "fructose" is written below it.
- Process Flow Diagram:** A schematic showing a pump, a control valve, a heat exchanger, and two flow control loops labeled "FC 1" and "FC 2".
- Mass Transfer Equations:**
$$\frac{dC}{dt} = -k_T \cdot C^n$$
$$C_E = \int_0^t -k_T \langle C \rangle \cdot C^n \langle C \rangle \cdot dt$$
$$C_E = C_m = C_0 - \sum_{i=1}^n k_{T,i} \cdot C_i^n \cdot \Delta t$$
- Process Equipment:** A drawing of a stirred tank reactor with a stirrer, a vertical column with trays, and a large horizontal tank. The chemical formula  $H_3C-H_2C-OH$  is written near the horizontal tank.

As of Winter Semester 2019/20

Curriculum

# Food Science and Engineering

Master of Science

Dear students

This curriculum provides you with comprehensive information on the Master's program in Food Science and Engineering for all students beginning their studies in the winter semester 2019/20.

Please keep in mind that all information in this guide is subject to change. For the latest information please visit the website of the University of Hohenheim at **[www.uni-hohenheim.de](http://www.uni-hohenheim.de)**.

Should you have further questions regarding your studies please visit our guide to advising at **[www.uni-hohenheim.de/en/guidance-counselling](http://www.uni-hohenheim.de/en/guidance-counselling)** or contact Dr. Sabine Lutz-Wahl at **[counselling-fse@uni-hohenheim.de](mailto:counselling-fse@uni-hohenheim.de)**.

We hope you enjoy your stay at the University of Hohenheim and wish you all the best for your studies!

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## Program design

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|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Final degree</b>             | Master of Science (M. Sc.)     |
| <b>Standard period of study</b> | 4 semesters (120 ECTS credits) |
| <b>Type of program</b>          | Full-time, on site             |
| <b>Language of instruction</b>  | English                        |

### Contents and aims of the degree program

The basis of the research-oriented Master's program in Food Science and Engineering is an understanding of the interactions of complex food matrices and technical processes

Modern food processing is concerned with the transformation of plant-based and animal-based raw materials into value-added, safe and stable food or nutrient formula. Food should simultaneously meet the expectations of each individual consumer regarding appearance, smell and taste, while also complying with the nutritional requirements of specific groups of consumers, such as infants, pregnant women, seniors or athletes. A thorough understanding of the biogenesis of raw materials and their microbiological ecology in combination with extensive expertise regarding equipment and processes is necessary for the development of appropriate food formula and processing techniques. Moreover, through scientific advances common additives may be increasingly foregone altogether.

While food may be developed to cater to specific dietary requirements, e.g. intolerance to gluten, it may also provide additional benefits to the consumer by containing pre-defined amounts of bio-functional substances, such as micronutrients. These products are manufactured in automated production processes using in-line sensor technology.

The processing of raw materials of agricultural production is caught between the limits of regional product diversity and the far-reaching demands of globalization, between individual sensory pleasures and worldwide food security, between sustainability and the ability to compete in the marketplace, as well as between social demands and economic interests. Debating and discussing these topics supplements the natural scientific and engineering foundation of this program.

Imparting natural scientific and engineering knowledge, as well as analytical methods is a key aspect of this program. You are prepared to deal with issues regarding food processing in a goal-oriented manner. These skills are intensely practiced and developed through practical courses, seminars and project work modules, which give you

the opportunity to work independently on a research project. This way you learn how to independently organise, execute, present and publish basic as well as application-oriented research. The program is completed by submitting a Master's thesis, which is integrated into ongoing research projects of the Institute of Food Science and Biotechnology. During this process you learn to independently conduct scientific research.

## Learning outcomes

Below is a schematic overview of the learning outcomes for the program in Food Science and Engineering. It helps you identify the knowledge and skills you acquire during the course of your studies.

|                    | Professional skills   | Cognitive skills  | Key skills  |
|--------------------|---|---|---|
|                    | Upon completion of your studies you...  |   |   |
| <b>Knowledge</b>   | <ul style="list-style-type: none"> <li>possess comprehensive and in-depth knowledge of the field of food science and engineering and can clearly communicate its scientific basics, even to laymen.</li> <li>are able to grasp new and unknown facts and developments in the field of food science and incorporate them into and thereby expand upon already existing knowledge.</li> </ul>   | <ul style="list-style-type: none"> <li>are able to describe the principle of a method in detail from a natural and engineering science point of view.</li> <li>quickly comprehend new and unknown facts and developments in the adjoining disciplines of biotechnology, nutritional science as well as engineering by drawing on existing knowledge, which is expanded in the process.</li> </ul> | <ul style="list-style-type: none"> <li>possess critical thinking skills.</li> <li>are able to work efficiently towards a goal, both independently and as part of a team.</li> <li>are able to design, coordinate, execute and analyze diverse projects.</li> <li>can take part and contribute to (scientific) discussions as well as moderate them.</li> <li>know how to deal with contrary opinions in a productive manner.</li> <li>are able to confidently give presentations</li> <li>know how to express yourself appropriately in spoken and written form.</li> </ul> |
| <b>Application</b> | <ul style="list-style-type: none"> <li>know how to develop new products as well as their corresponding processing techniques by connecting theory to praxis. You are familiar with necessary laboratory equipment and can derive application-oriented concepts from experimental work.</li> <li>Are able to identify the main unit operations of processing and to evaluate new techniques and processing approaches.</li> <li>are able to adapt the processing of food from laboratory to pilot and ultimately to industrial scale.</li> </ul> | <ul style="list-style-type: none"> <li>are able to transfer knowledge to diverse fields of operation.</li> <li>are able to combine knowledge of the area of food science with developments in adjoining fields, such as automatization and inline analytical tools, in order to develop inter- and transdisciplinary concepts and methods.</li> </ul>   |   |
| <b>Analysis</b>    | <ul style="list-style-type: none"> <li>can easily implement existing methods in strategies and know how to modify existing methods when required to suit a particular problem.</li> <li>are able to analyze your own methods and strategies and optimize them if necessary.</li> </ul>  |   |   |

## Structure of the program

The program in Food Science and Engineering has a modular block structure. All modules consist of compact courses lasting four weeks, with new modules commencing every fifth week.

During the course of the two-year study program, modules in the amount of a minimum of 120 credits, including the Master's thesis, have to be completed successfully. This includes

- **compulsory modules** in the amount of a minimum of **45 credits**,
- **elective modules** in the amount of a minimum of **45 credits**,
- **Master's thesis** which awards **30 credits**.

The table below shows the structure of the program and represents the ideal course of studies:

|                          | 1 <sup>st</sup> module slot<br>(7.5 credits)  | 2 <sup>nd</sup> module slot<br>(7.5 credits)  | 3 <sup>rd</sup> module slot<br>(7.5 credits)  | 4 <sup>th</sup> module slot<br>(7.5 credits)                           |
|--------------------------|---|---|---|--|
| 1 <sup>st</sup> semester | <b>Analysis and Quality Assurance in the Food Production</b><br>(1504-500)          | <b>Applied Mathematics for the Life Sciences</b><br>(1101-400)                          | <b>Food Process Design I Efficient Processing and Transport Phenomena</b><br>(1503-520) | <b>Soft Matter Science I Food Rheology and Structure</b><br>(1505-500) |
| 2 <sup>nd</sup> semester | <b>Soft Matter Science II Food Physics</b><br>(1507-510)                            | <b>Elective Modules</b><br><br>You choose elective modules in the amount of 45 credits. |   |  |
| 3 <sup>rd</sup> semester | <b>Project Work</b><br>(1500-530)<br>- module may be completed in any module slot - |   |   |  |
| 4 <sup>th</sup> semester | <b>Master's Thesis</b><br><b>Food Science and Engineering</b><br>(1500-410)         |   |   |  |

In the **first semester** and part of the second semester of the program you focus on soft matter science and physics in order to understand basics of creating food structure in technical processing of food by means of apparatus, e. g. 3D-plotting. At the same time, you become familiar with scientific approaches, including modern chemical, physical, molecular, and statistical methods as well as methods for modeling and simulating unit operations, processes, and reactions. During practical courses you

put your acquired skills into practice while exploring food processing in natural scientific, engineering, and economic contexts during seminars.

From the **second semester** onwards you freely plan your studies according to your individual interests and preferred areas of specialization. You may choose to either specialize in one or two areas by choosing your **elective modules** accordingly or to become a generalist in the field of food engineering or science by covering a wide range of modules. While your individual approach to the program may thus differ, you will, in all cases, increasingly conduct independent research starting in the second semester.

During selected modules, excursions to food companies and related suppliers e.g. apparatus, sensors, automatization techniques take place. Furthermore, the module catalog also includes modules in the areas of modeling, automatization, economics, biotechnology, technical chemistry and nutritional sciences. This allows you to develop your personal qualifications to include subject areas adjacent to and beyond the field of food science and engineering.

Completing the compulsory module “**Project Work**” is mandatory for all students in this program. The “Project Work” serves to introduce you to working on a research project and prepares you for your Master’s thesis. It is usually supervised by post-graduate scientific staff member of the department at which you plan to write the Master’s thesis. In so doing you get familiar with the facilities e. g. pilot plants, technical equipment in the laboratories, methodologies and the staff before commencing your thesis work. You are free to choose when you want to complete your “Project Work”, but you must complete it before starting to write your Master’s thesis at the latest. We recommend the project work in the third semester, shortly before starting work on your Master’s thesis.

**External internships in Research and Development** may be integrated in the course of your studies on an individual basis. Depending on the duration and contents of the internship, you may be awarded credits. In order to be awarded credits you need to discuss your plan to do an internship as an elective module with a supervising professor before the internship begins to establish a timeframe and academic requirements. For detailed information on internships please see page 9.

With the completion of your **Master’s thesis** at the end of the fourth semester, you demonstrate your ability to do independent scientific work. If you want to complete your Master’s thesis at a facility outside the University of Hohenheim, please see page 14 for further information.



## Modules

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The program in Food Science and Engineering consists of compulsory and elective modules. You earn credits for each completed module. Each module awards 7.5 credits and lasts four weeks (unless specifically stated otherwise). In order to complete a module, you need to pass the module examination as explained chapter “Examinations”.

Detailed information on individual modules, their corresponding courses, the current state of modules on offer as well as on how to register for exams may be obtained at [www.uni-hohenheim.de/en/module-catalogue/studiengang/fse](http://www.uni-hohenheim.de/en/module-catalogue/studiengang/fse).

A tool for composing individual timetables is available in the intranet at [www.uni-hohenheim.de/schedule](http://www.uni-hohenheim.de/schedule).

### Compulsory modules

The compulsory modules have to be completed by all students in order to obtain their degree. The compulsory modules are:

#### Compulsory modules winter semester (WS 18/19) and summer semester (SS 19)

|          | Module slot | Module dates                               | Module code | Module title   |
|----------|-------------|--|-------------|--|
| WS 19/20 | 1           | 14.10. - 08.11.2019                        | 1504-500    | Analysis and Quality Assurance in the Food Production                |
|          | 2           | 11.11. - 06.12.2019                        | 1101-400    | Applied Mathematics for the Life Sciences                            |
|          | 3           | 09.12. - 20.12.2019<br>07.01. - 17.01.2020 | 1503-520    | Food Process Design I – Efficient Processing and Transport Phenomena |
|          | 4           | 20.01. - 14.02.2020                        | 1505-500    | Soft Matter Science I – Food Rheology and Structure                  |
| SS 20    | 1           | 06.04. - 30.04.2020                        | 1505-510    | Soft Matter Science II – Food Physics                                |

#### Compulsory “Project Work“ module

| Module slot | Module dates             | Module code | Module title              |
|-------------|--------------------------|-------------|---------------------------|
| any         | may be completed anytime | 1500-530    | Project Work (Compulsory) |

### Elective modules

Elective modules provide you with the opportunity to specialize in an area that corresponds to your personal and professional interests.

You may choose elective modules of the program in Food Science and Engineering, of other natural science Master's programs of the University of Hohenheim and of other degree programs offered at the University of Hohenheim. If you want to take modules at other German or foreign universities, you need to petition the board of examiners. Please contact the examinations office for further information. Elective modules may also include internships. For more information on internships please read the corresponding chapter.

### Elective modules summer semester 2020

| Module slot | Module dates        | Module code | Module title   |
|-------------|---------------------|-------------|--|
| 1           | 06.04. - 30.04.2020 | 1508-410    | Advanced Flavor Chemistry  |
| 1           | 06.04. - 30.04.2020 | 1405-400    | Nutrigenomik (taught in German)  |
| 2           | 04.05. - 29.05.2020 | 1505-440    | Dairy Science and Technology   |
| 2           | 04.05. - 29.05.2020 | 1509-500    | Advanced Process Engineering Techniques for Cereal Processing                            |
| 2           | 04.05. - 29.05.2020 | 2502-430    | Cellular Microbiology  |
| 2           | 04.05. - 29.05.2020 | 1101-410    | Applied Mathematics for the Life Sciences II   |
| 2           | 04.05. - 29.05.2020 | 1510-420    | Integrated Bioprocess Engineering - Bioproduction  |
| 2           | 04.05. - 29.05.2020 | 1502-410    | Enzymatic Reactions  |
| 3           | 08.06. - 03.07.2020 | 1503-500    | Food Process Design II – Process Integration and Scale-up                                |
| 3           | 08.06. - 03.07.2020 | 1504-430    | Technologie Pflanzlicher Lebensmittel II (taught in German)                              |
| 3           | 08.06. - 03.07.2020 | 1301-450    | Metal Coordination Chemistry in Biomolecules   |
| 3           | 08.06. - 03.07.2020 | 1505-400    | Prinzipien der technischen Milchverarbeitung und analytische Methoden (taught in German) |
| 4           | 08.06. - 03.07.2020 | 1501-510    | Anwendung von Bakteriophagen in den Lebenswissenschaften (taught in German)              |
| 4           | 06.07. - 31.07.2020 | 1503-540    | Drying, Granulation and Instantization   |
| 4           | 06.07. - 31.07.2020 | 1506-500    | Bioethanol and Distilled Spirits   |

| Module slot | Module dates             | Module code | Module title   |
|-------------|--------------------------|-------------|--|
| 4           | 06.07. - 31.07.2020      | 1701-410    | Instrumentelle Analytik und Bioassays (taught in German) |
| any         | may be completed anytime | 1500-020    | Free Project Work  |
| any         | may be completed anytime | 1500-520    | Project Work (Elective)                                  |

### Elective modules winter semester 2020/21

| Module slot | Module dates                               | Module code | Module title  |
|-------------|--|-------------|---|
| 1           | 12.10. – 06.11.2020                        | 1507-500    | Advanced Meat Science and Technology  |
| 1           | 12.10. – 06.11.2020                        | 1505-420    | Innovative Milchtechnologie (taught in German)  |
| 1           | 12.10. – 06.11.2020                        | 1501-520    | Scientific Writing and Reporting  |
| 2           | 09.11. – 04.12.2019                        | 1503-510    | Process Driven Product Design: Cereals and Sweets   |
| 2           | 09.11. – 04.12.2019                        | 1502-430    | Fermentation Technology   |
| 2           | 09.11. – 04.12.2019                        | 1504-420    | Technologie Pflanzlicher Lebensmittel I (taught in German)                                |
| 2           | 09.11. – 04.12.2019                        | 2301-430    | Molekulare Sinnesphysiologie (taught in German)   |
| 2           | 09.11. – 04.12.2019                        | 1510-430    | Integrated Bioprocess Engineering - Upstream Processing                                   |
| 3           | 07.12. - 18.12.2020<br>04.01. - 15.01.2021 | 1510-430    | Integrated Bioprocess Engineering – Bioseparation Process Science (Downstream Processing) |
| 3           | 07.12. - 18.12.2020<br>04.01. - 15.01.2021 | 1507-410    | Encapsulation of Functional Food Components   |
| 4           | 18.01. – 12.02.2021                        | 1504-440    | Technologie Pflanzlicher Lebensmittel III (taught in German)                              |
| 4           | 18.01. – 12.02.2021                        | 1501-420    | Microbial Ecology and Diversity in the Food Environment                                   |
| any         | may be completed anytime                   | 1500-020    | Free Project Work   |
| any         | may be completed anytime                   | 1500-520    | Project Work (Elective)   |

## Internships

As part of the curriculum you have the opportunity to choose to do an internship and be awarded credits. An internship may be done at a national or international research center or at a research and development department of a company in Germany or abroad that is related to the life sciences. This includes the food, pharmaceutical as well as their supplying industries, the sector of plant design and engineering as well as process technology.

You have to find an internship placement on your own; however, the Internship Office ([uhoh.de/praktikum](http://uhoh.de/praktikum)) and the CareerCenter ([uni-hohenheim.de/career-center](http://uni-hohenheim.de/career-center)) are able to offer assistance. Prior to beginning your internship, you also need to find a supervisor related to the subject-area of your placement. The supervisor decides whether the internship placement is appropriate and also assesses the mandatory internship report. Please be aware that while internships may last longer than six or twelve weeks, respectively, no additional credit can be awarded. We nevertheless encourage you to complete a prolonged internship in order to gain experience.

There are two internship modules:

| Slot | Module dates             | Code     | Module title  |
|------|--------------------------|----------|---|
| any  | can be completed anytime | 1500-500 | Internship FSE (Industrial placement) (6 weeks, 7,5 ECTS) |
| any  | can be completed anytime | 1500-510 | Internship FSE (Industrial placement) (12 weeks, 15 ECTS) |

## Master's thesis

Your Master's thesis shows that you are able to work independently on a topic in the field of food science and engineering within a period of six months by applying scientific methods. It is usually written during the fourth semester. Thesis work includes a literature review, compilation of original data derived from laboratory work as well as a period of write-up. You need to find a thesis supervisor – a professor or a *Privatdozent/in* – on your own. The thesis is usually written at the department at which you have completed your “Project Work” (see page 5).

The Master's thesis examination consists of a written part (thesis) as described above and, if applicable, an oral defense (colloquium). Whether a colloquium is part of the Master's thesis is decided by your supervisor. In the colloquium, you have to defend the essential arguments, methods and results of your thesis.

You have to register your Master's thesis with the Examinations Office immediately once your thesis supervisor has assigned the topic. Please use the form available online at [uhoh.de/masterthesisfse](http://uhoh.de/masterthesisfse). You have to register your Master's thesis six months after you have passed your last module examination at the latest.

## Recommendations for writing a Master's thesis<sup>1</sup>

**Length** The Master's thesis should be approximately 50 to 80 pages long, excluding the bibliography and addendum.

### **Layout**

#### **Format**

- Language: English
- Passive voice ("The experiment was designed to show...")
- Continual paging
- Page margins: top: 2.5 cm; bottom: 2 cm; left: 3 cm, right: 2 cm
- Distance of header from top 1.25 cm; distance of footer from bottom: 1.25 cm
- Paper format DIN A4 (upright format)

#### **Font**

Choose a font that is big enough and easily legible, e.g. Arial, Times New Roman or Helvetica 12pt, (variables in equations and Latin names or the names of microorganisms: in italics). 1.5 line spacing. Grouped style is recommended.

#### **Citing journals, books or the internet**

The citational style has to be consistent – once a style has been chosen, you have to adhere to it throughout the text. The use of citation managing programs, such as RefManager or Endnote, is recommended.

An example for a journal citation:

Author A, author B, Title of the text, (acronym of the) journal volume, pages xx-yy (year)

An example for a book citation:

Author A, author B; in Title of the book; editor A; Publishing house, publishing place (year); pages xx-yy.

If you are using sources found on the internet (also see page 13), they have to be cited. The following information should be included in the citation: Name, First name of the author, title of the publication, publishing organization if applicable, url, date of retrieval

### **Outline**

Every Master's thesis should have the following outline:

1. Cover

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<sup>1</sup> Deviations are possible in consultation with your supervisor.

2. Declaration of authorship
3. Table of contents
4. Introduction
5. Materials and methods
6. Results
7. Discussion
8. Conclusion
9. Summary in German and English
10. Bibliography
11. Addendum (if applicable)

**Bibliography** Material not authored by you, such as citations, research results, charts, photos, illustrations, etc., have to be clearly indicated.

The bibliography includes all citations in alphabetical or numerical order. We expect our students to engage with primary literature and reviews. Cited literature should always be up to date.

**The use of any online encyclopedia, such as Wikipedia, or other commercial information material (company flyers, advertisement brochures, internet platforms) are not to be used.**

**Addendum** Additional material, such as tables, extensive derivations, computer codes, etc., which would interrupt the flow of the text, are added here. Acknowledgments, dedications, etc. may be added to the Master's thesis. These are, however, not required and not given page numbers or included in the table of contents as they are not part of the scientific text.

**Declaration of authorship** At the beginning of the Master's thesis every student has to declare to be the sole author of the text. The text of this declaration is as follows (according to German law this text has to be in German, please find a translation below):

„Hiermit versichere ich, dass ich die vorliegende Arbeit selbstständig verfasst habe. Dabei wurden keine anderen als die angegebenen Quellen und Hilfsmittel verwendet. Wörtlich oder inhaltlich übernommene Stellen wurden als solche kenntlich gemacht.

Place, date

Signature

("I hereby declare to be the sole author of this text. I have used no other than the cited sources and aides. Citations, direct or indirect, are marked as such.")

**Cover**

The layout for the cover page is on the following page.

UNIVERSITY OF HOHENHEIM  
Name of the institute

**Title of the Master's thesis**

Master's Thesis

Degree program:

Handed in by  
**(Name)**

Head of Department :  
1. supervisor :  
2. supervisor :  
Topic issued on :  
Date of submission :



## Writing your Master's thesis outside the University of Hohenheim

Only if you are unable to find a suitable Master's thesis topic at the University of Hohenheim and only if a professor from Hohenheim agrees, it is possible to write your thesis at an external institution. The external institution must provide proper conditions for conducting research at a university level. The topic for a Master's thesis may be issued and the thesis work supervised by a person who is not a full-time member of scientific staff at the Faculty of Natural Sciences, as long as the supervisor possesses qualifications equal to those of a professor at Hohenheim. This means that you can write your Master's thesis, e.g. at a research and development department of a company meeting the required scientific and academic standards and that a qualified person at that company may issue the thesis topic and supervise your work.

Please follow these steps, if you want to write your Master's thesis at an institution outside the University of Hohenheim:

1. Contact the professor heading the department corresponding to your desired thesis topic to seek approval to write your thesis outside of the University of Hohenheim. Discuss your thesis as well as the institution at which you would like to conduct your research with the professor. If your supervisor at the external institution is not a full-time scientific staff member at the Faculty of Natural Sciences, ask the professor to be your second supervisor. Further, the professor at Hohenheim has to agree to the thesis topic proposed by the external supervisor.
2. If the professor agrees to your proposed thesis work, you need to petition the examinations board in a formal letter for its approval. Please include the following information in your petition:
  - **Title** of your proposed thesis and an **exposé**
  - The **reason** for conducting your thesis work at an external facility
  - Name of your **external supervisor**
  - Name of your second **supervisor at Hohenheim**.
3. Once the examinations board has approved your petition, your supervisor may assign your topic and you must register the thesis immediately with the Examinations Office. Please use the form available online at [uhoh.de/masterthesisfse](http://uhoh.de/masterthesisfse).

## Submitting your Master's thesis

You are required to submit two bound copies of the Master's thesis to the Examinations Office before the deadline. In addition, you need to submit your thesis on a digital medium (CD/DVD) for further examination purposes. Along with these documents, you have to submit a written declaration of authorship, declaring to be the sole

author of the submitted work and that all sources and aids have been indicated as such.

## Examinations

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Every module of the Master's program in Food Science and Engineering is completed with an examination. Types of examinations offered at the University of Hohenheim include written and oral examinations, protocols of practical courses, reports, preparation and presentation of contributions to seminars as well as colloquia. Information on examinations for specific modules may be found in the module catalog at [www.uni-hohenheim.de/en/module-catalogue](http://www.uni-hohenheim.de/en/module-catalogue).

## Registration

Examinations of blocked modules are usually held at the end of the respective block. For blocked modules registration must be completed seven days before the examination takes place at the latest. You have to register for every examination you decide to take online through *HohCampus* at <https://hohcampus.verw.uni-hohenheim.de>.

You have the option of withdrawing from an examination online at the latest seven days before the examination date. In case of withdrawal, you are not automatically registered for the upcoming examination date. Please register for the next date during the registration periods.

Coursework may be a prerequisite for taking an examination. Please see the respective module description at [www.uni-hohenheim.de/en/module-catalogue](http://www.uni-hohenheim.de/en/module-catalogue) for detailed information on the specific requirements for taking an examination.

Information on the respective valid examination regulations, deadlines, examination dates, etc. may be obtained at the Examinations Office or online at [www.uni-hohenheim.de/exams](http://www.uni-hohenheim.de/exams).

## Examination resits

It is possible to resit an examination once. It is not possible to resit an examination which has already been passed.

If you fail an examination, you signed up for, you need to register for the second trial as well. Examination resits for blocked modules take place either in the upcoming examination period or are scheduled by the responsible professor. In some cases, the resit date has not been set at the time of notification. If this is the case, please check the resit dates with the respective professor or the Examinations Office.

## Grading system

The examination result is expressed in grades according the grading table below. A minimum grade of 4.0 is required to pass an examination and complete a module. Modules Some modules are not graded and are either passed or failed.

|                   | German                   | English      |
|-------------------|--------------------------|--------------|
| 1,0<br>1,3        | <i>sehr gut</i>          | very good    |
| 1,7<br>2,0<br>2,3 | <i>gut</i>               | good         |
| 2,7<br>3,0<br>3,3 | <i>befriedigend</i>      | satisfactory |
| 3,7<br>4,0        | <i>ausreichend</i>       | sufficient   |
| 5,0               | <i>nicht ausreichend</i> | fail         |

## Overall grade

The overall grade for the Master's program in Food Science and Engineering is calculated as the weighted average of all grade scores achieved in all modules, including the Master's thesis. The module grades and the grade of the Master's thesis are weighted on the basis of the credits awarded for each completed module. The result is rounded mathematically to one decimal digit. Results above 4.0 are always rounded up to 5.0.

## Recognition of credits obtained abroad

Credits obtained at another university during an exchange period can be recognized by the examinations board and thus contribute towards your degree. The awarding institution has to be equivalent to a German university and the competencies imparted by the courses taken must not exhibit substantial differences to the competencies of the program in Food Science and Engineering.

## Cheating and plagiarism

If you attempt to influence the result of an examination by cheating or using forbidden aids the respective examination is assessed with "fail" (5.0). This expressly includes plagiarism, i.e. the use of content taken from the internet or other sources without properly quoting or indicating the source.

Teaching staff may require you to attach a declaration of authorship to written examinations or assignments and demand them to be handed in in digital form. Please ask the respective supervisor before submitting your work.

## Language courses

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The Language Center of the University of Hohenheim offers courses in more than ten languages, including German.

For more information on German language courses and all other language courses please visit [www.uni-hohenheim.de/en/language-center](http://www.uni-hohenheim.de/en/language-center).

## Extending the period of study

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The standard period of study is four semesters. However, you are not required to complete your studies within that time. There are ways and reasons to extend the period of study. The maximum period of study is seven semesters!

### Extending the period of study before all modules are completed

If you have yet to complete your regular modules, excluding the Master's thesis, it is possible to take a semester on leave (*Urlaubssemester*). During this time, you are free to spend a semester abroad and take courses and examinations at a host university. Completed modules can be recognized by the University of Hohenheim and thus contribute towards your degree. It is also possible to complete an internship, which may also be an extension of an internship done as part of an elective module (see page 10 for more information on internships).

A semester on leave provides you with the necessary flexibility to design the course of your studies on an individual basis. This does not necessarily extend your period of study as examinations completed during an exchange semester, for example, can be fully recognized. For further information on reasons for being granted a semester on leave please visit [www.uni-hohenheim.de/en/semester-on-leave](http://www.uni-hohenheim.de/en/semester-on-leave).

### Extending the period of study after all modules are completed

Once you have successfully completed your last module, with only the master's thesis left, you have six months before you are required to begin working on your thesis. However, please be aware that the maximum period of study is seven semesters, which cannot be extended. You may, of course, also opt to start writing your thesis right away.

These six months provide you with the opportunity to do an internship or spend a semester abroad. However, neither of these activities can be recognized since all credits necessary to complete your degree have already been accumulated.

For further information on exchange semesters please visit the website of the Office of International Affairs at [exchange.uni-hohenheim.de](http://exchange.uni-hohenheim.de).

## Career prospects

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Your interdisciplinary expertise in the natural sciences and engineering, as well as your expert knowledge of complex food systems leads to many excellent job opportunities in various areas both nationally and internationally:

- food and nutritional research organizations, e.g. universities, national and international research institutions
- food and life science industry, pharmaceutical companies, the health care and biotechnology sector, the packaging industry, as well as their supplying industries
- research and development, process and machine planning and construction, production and quality assurance

With an above-average degree you also have the option of pursuing further academic qualifications by obtaining your doctorate at a university in Germany or abroad. This provides a path to leading positions in research and development or, if you are interested in economics, into management positions at international companies.

If you want to enter the job market outside academia, we would like to advise you to contact the CareerCenter for guidance. The CareerCenter Hohenheim is a service center and the first contact point for students and graduates for guidance when creating your own profile as well as assistance with your career entry and career planning. For more information please visit [www.uni-hohenheim.de/en/career-entry](http://www.uni-hohenheim.de/en/career-entry).

## Completing your studies

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You have successfully completed your studies and would like to use your degree certificate to apply for a job? No problem, but please keep the following in mind:

- Only after you have completed all exams and all of your grades have been entered into the system can your diploma be issued. Once all grades have been entered into the system you may exmatriculate yourself and do not need to re-register for the next semester. If you exmatriculate or forego re-registration before all grades have been entered into the system, your studies are considered to have ended prematurely with exams either not taken or not entered into the system.
- If you re-register due to missing entries in the system, you do not have to pay the semester fees.

## Semester dates

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For detailed information on the semester dates please visit [www.uni-hohenheim.de/en/semester-dates](http://www.uni-hohenheim.de/en/semester-dates).

**University of Hohenheim**

**Faculty of Natural Sciences**

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[www.uni-hohenheim.de/food-science-and-engineering-master-studium](http://www.uni-hohenheim.de/food-science-and-engineering-master-studium)



[www.uni-hohenheim.de/app](http://www.uni-hohenheim.de/app)

