



UNIVERSITY OF
HOHENHEIM



Faculty of Natural Sciences



As of Winter Semester 2019/20

Curriculum

Food Systems

Master of Science

Dear students,

This curriculum provides you with comprehensive information on the jointly offered Master's program in Food Systems. It contains information on the course structure as well as on the examination regulations. The focus lies on the details of your study period here at Hohenheim.

The information presented reflects the current situation. Titles and contents of modules are however changed from time to time. For administrative reasons, there is often a delay before these changes appear in printed materials. Therefore, the correctness of the information provided in this brochure cannot be guaranteed.

If in doubt, please contact the program coordinator, Ms. Angela Schaffert, to obtain most recent information. You can find up-to-date module descriptions in the online module catalogue at **www.uni-hohenheim.de/module-catalogue**. Time schedules and lecture halls of all courses are displayed in the University of Hohenheim's course catalogue, available at the beginning of each semester at **www.uni-hohenheim.de/coursecatalogue**.

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

Dean's Office of the Faculty of Natural Sciences &
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Contents

Program design	1
Contents and aims of the degree program	1
Learning outcomes.....	1
Structure of the program	2
Modules.....	4
Compulsory modules.....	4
Elective modules	5
Internship.....	5
Master's thesis.....	6
Examinations	11
Registration	11
Examination resits.....	11
Grading system	12
Overall grade	12
Cheating and plagiarism.....	12
Language courses	13
Career prospects	13
Semester dates	13
FAQ.....	14
Who can I contact with questions regarding my studies?	14
I have completed all modules required for my degree, what happens now?	14

Program design

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

Contents and aims of the degree program

The Master's program in Food Systems aims to prepare you to drive a future transformation of the food system. With personalised study plans, it allows for a unique integration of different aspects of the food system. Within the program, you will have different possibilities for creating your personal journey from the joint offering of the EIT Food Consortium partners, which covers all aspects of the food system. In addition, pan-European activities will ensure bonding of the international cohort and facilitate the creation of an international alumni network, with alumni activities offered by EIT Food. By means of a strong integration of entrepreneurial elements and mentored project work with industry partners from the EIT Food consortium and beyond, you will also build up practical skills that optimally match the employability criteria of businesses spanning from start-ups to large multinationals.

As a graduate of this program, you can identify short and long term future consequences of plans and decisions involving different components of the food system from an integrated scientific, ethical and intergenerational perspective, and merge this into a solution-focused approach, moving towards a sustainable society.

Learning outcomes

Upon completion of your studies you will ...

- be able to translate innovations into feasible business solutions for the food sector,
- be able to think beyond boundaries and systematically explore and generate new ideas, responding to current and future challenges within the food system,
- be able to use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs in the food sector,

- be able to use cutting-edge research methods, processes and techniques towards new venture creation and growth, and apply these in cross-disciplinary teams and contexts,
- be able to transform practical experiences in different areas of the food sector into research problems and challenges,
- possess decision-making and leadership competencies, based on a holistic understanding of the contributions of Higher Education, research and business to value creation, in limited sized teams and contexts.

Structure of the program

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

- **compulsory modules** in the amount of a minimum of **30 credits**,
- **elective modules** in the amount of a minimum of **15 credits**,
- **semi-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 this Master’s program and represents the ideal course of studies:

	1st semester <i>Home institution</i>	2nd semester <i>1st Host institution</i>	3rd semester <i>2nd Host institution</i>	4th semester <i>Home institution</i>
7.5 credits	SPOC: Introduction to Food Systems (7.5 ECTS)	Early Summer School (7.5 ECTS)	Emerging Technologies Business Case (7.5 ECTS)	Master's Thesis (30 ECTS)
7.5 credits	AgFoodTech (7.5 ECTS)	Track at 1st Host institution semi-elective modules (22.5 ECTS)	Track at 2nd Host Institution semi-elective modules (22.5 ECTS)	
7.5 credits	Elective Module (7.5 ECTS)			
7.5 credits	Elective Module (7.5 ECTS)			

The **first semester** takes place in Hohenheim with a focus on *AgriFood Science and Engineering*. Here, you will develop a combination of knowledge and skill from the fields of agrarian technology and food processing. You will enrol in the obligatory modules “AgFoodTech” and “SPOC: Introduction to Food Systems”. The SPOC is a mandatory specialized private online course taken by the entire international cohort. Furthermore, two elective modules have to be completed.

The **second and third semester** will each comprise an overarching module (Summer School “Introduction to Entrepreneurship” in the 2nd semester and “Emerging Technologies Business Case Study” in the 3rd one, respectively). Besides that, you will spend both semesters at two different partner universities. There, you have to complete further modules offered by the respective host institution. The partner universities themselves are determined by the path you have been placed in. Each university in the EIT Food Consortium offers three distinct mobility paths. The possible paths offered by the University of Hohenheim are shown in the table below:

Mobility paths offered in winter semester (WS 19/20)

Mobility path	1 st semester <i>Home institution</i>	2 nd semester <i>1st Host institution</i>	3 rd semester <i>2nd Host institution</i>	4 th semester <i>Home institution</i>
<i>Option 1</i>	University of Hohenheim	University of Reading	University of Warsaw	University of Hohenheim
<i>Option 2</i>	University of Hohenheim	University of Reading	Universidad Autonoma de Madrid	University of Hohenheim
<i>Option 3</i>	University of Hohenheim	Queen's University of Belfast	Universidad Autonoma de Madrid	University of Hohenheim

The *first mobility option* focuses on understanding the factors that influence food choice and behavior of consumer. Furthermore, the design of innovative and sustainable value chains for food system, developing of new products and introducing to the food market will be considered.

In the *second path option* students will develop an in-depth understanding not only about the factors that influence food choice and behavior of consumer but also about the role of functional food on human health in a personalized nutrition paradigm.

With the *third option*, the students will learn how to incorporate new innovations with emerging technologies and how to design these to get approval and acceptance for

their implementation. Further goal will be the role of functional food on human health in a personalized nutrition paradigm as in option 2.

For support in travel planning and finding accommodation abroad, please contact the program coordinator at the University of Hohenheim.

The **final semester** is entirely dedicated to the Master's thesis which you will complete at the home institution. With the completion of the **Master's thesis**, the students demonstrate their ability to do independent scientific work. Owing to the strong integration of entrepreneurial elements and mentored project work with industry partners from the EIT Food Consortium and beyond, you have the opportunity to prepare the practical part of the Master's Thesis in a cooperation with an industry partner. If the Master's thesis is completed at one of the partner institutions within your path, please see page 10 for further information.

Modules

The Master's program in Food Systems consists of compulsory, semi-elective and elective modules. You earn credits for each completed module. In order to complete a module, you need to pass the module examination as explained on page 11.

Modules offered at the University of Hohenheim can be either blocked or non-block. Blocked modules represent compact courses which take four weeks in total. In contrast, the non-block modules are running the entire duration of the lecture period. **Please note that non-block modules in particular often consist of more than one course!**

Detailed information on individual modules, their corresponding courses, current state on offer as well as information about the registration for a module may be obtained at www.uni-hohenheim.de/en/module-catalogue/studiengang/fs.

A tool for composing individual timetables is available in the intranet at 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 of the program in Food Systems are:

Compulsory modules (beginning in WS 2019/20)

Semester	Module code	Module title	Duration*	Credits	Professor
1	1507-440	SPOC: Introduction to Food Systems	WS block 1	7.5	J. Weiss
1	1507-450	AgFoodTech	WS block 2	7.5	J. Weiss
2	1507-470	Summer School: Introduction to Entrepreneurship	to be announced	7.5	J. Weiss
3	1507-460	Emerging Technologies Business Case Study	1 semester	7.5	J. Weiss

* WS: winter semester; SS: summer semester
Block 1: 14.10.-08.11.2019/ 06.04.-01.05.2020
Block 2: 11.11.-06.12.2019/ 04.05.-29.05.2020
Block 3: 09.12.-17.01.2020/ 08.06.-03.07.2020
Block 4: 20.01.-14.02.2020/ 06.07.-31.07.2020

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 Systems, of other natural science Master's programs of the University of Hohenheim and of other degree programs offered at the University of Hohenheim. For detailed information about possible elective modules offered in winter and summer semesters as well as information about the registration for a module, please visit www.uni-hohenheim.de/en/module-catalogue.

Internship

As part of the curriculum you have the opportunity to complete an internship and to gain additional 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 food and/or agricultural sciences (the food sector and its supplying industries, the sector of plant design and engineering as well as process technology).

You have to find an internship placement autonomously; however, the Internship Office (www.uni-hohenheim.de/en/internship) and the CareerCenter (www.uni-hohenheim.de/en/cch) are able to offer assistance. Prior to beginning the internship, you also need to find a supervisor related to the subject-area of the placement. The supervisor decides whether the internship placement is appropriate and also as-

sesses the mandatory internship report. Please be aware that, even though internships may last longer than six or twelve weeks, no additional credit can be awarded. Nevertheless, we encourage you to complete a prolonged internship in order to gain experience.

Master's thesis

The Master's thesis shows that students are able to work independently on a topic in the field of food systems 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 new and original data derived from laboratory or field work or a systems analysis and modelling as well as a period of write-up. It is every student's responsibility to find a thesis supervisor – a professor or an associate professor, i.e. PD=*Privatdozent/in*.

The Master's thesis examination consists of a written part (Thesis) as described above and a Graduate Conference. Within the framework of the Graduate Conference, you will give an overview of essential arguments, methods and results of your thesis to an audience of fellow graduates and representatives from partner companies in the food sector.

The Master's thesis has to be registered at the Examinations Office immediately once the thesis supervisor has assigned the topic. Please use the form available online at www.uni-hohenheim.de/en/examination. The registration of the Master's thesis has to be done six months after the last passed examination at the latest.

Recommendations for writing a Master's thesis¹

Length The Master's thesis should be approximately 50 to 80 pages long, excluding references 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

¹ Deviations are possible in consultation with your supervisor.

- Paper format DIN A4 (upright format)

Font

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

Citing journals, books or the internet

The citation has to be consistent – once a citation format has been chosen, it has to be kept throughout the entire 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 internet-based sources, the following information have to 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
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. Literature
11. Addendum (if applicable)

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

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

Wikipedia or commercial information material (company flyers, advertisement brochures, internet platforms) are not primary sources and cannot be cited as such.

Addendum Additional material, such as tables, extensive derivations, computer codes etc., which would interrupt the text flow, 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 you have 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 page 11.

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 a Master's thesis outside the University of Hohenheim

If you cannot find a suitable Master's thesis topic at the University of Hohenheim, it is possible to write the thesis at an external institution, provided that a professor in Hohenheim agrees. The external institution must provide suitable conditions for conducting research at 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 equivalent to those of a professor at Hohenheim. This means that you can write the 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 the work.

Please follow these steps, if the Master's thesis will be created at an institution outside the University of Hohenheim:

1. Contact the head of the department corresponding to the desired thesis topic, discuss thesis and institution, where the research will be done, and ask for permission to write the thesis outside the University of Hohenheim. If the supervisor at the external institution is not a full-time scientific staff member at the Faculty of Natural Sciences, ask the head of the department for being a second supervisor. Furthermore, the professor at Hohenheim has to agree to the thesis topic proposed by the external supervisor.
2. If the professor agrees to the proposed thesis work, you need to request approval from the examinations board in a formal letter. The request has to include the following information:
 - **Title** of the proposed thesis and an **exposé**
 - The **reason** for conducting the thesis work at an external facility
 - Name of the **external supervisor**
 - Name of the second **supervisor at Hohenheim**.
3. Once the examinations board has approved the request, the supervisor may assign the topic and the student must register the thesis immediately with the Examinations Office. Please use the form available online at **www.uni-hohenheim.de/en/examination**.

Submitting the 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 have to submit the thesis on a digital medium (CD/DVD) for further examination purposes. Along with these documents, a declaration of authorship has to be submitted.

Examinations

Every module of the Master's program in Food Systems 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. Coursework may be a prerequisite for taking an examination. For detailed information on specific requirements for taking an examination, please check the respective module description at **www.uni-hohenheim.de/en/module-catalogue**.

Examinations of non-block modules are usually scheduled in two examination periods that follow the lecture period. Consequently, you may choose the period, when you would like to take the examination. In contrast, the exams of blocked modules take place at the end of the respective block. Please note: The last block period of each semester overlaps with the first examination period of non-block modules!

Detailed information on valid examination regulations, deadlines, examination dates etc. may be obtained at the Examinations Office or online at **www.uni-hohenheim.de/en/examination**.

Registration

You have to register every examination you decide to take, online through *Studium Online* at **www.uhoh.de/studiumonline** within the exam registration period.

For the current registration period of exams please visit **www.uni-hohenheim.de/en/semester-dates**. For blocked modules, the registration has to be completed seven days at the latest, before the examination takes place.

Once a registration for a module examination has been completed, the module can no longer be dropped from the personal course of study and the examination is obligatory. A withdrawal from the registered examination date is possible, when it is submitted in writing to the Examinations Office seven calendar days before the examination date. In this case, you are automatically registered for the following examination date.

Please note: withdrawing from an examination date does not cancel the registration for the examination. It is not possible to withdraw the registration for an exam. There is only the option of pushing the examination date.

Examination resits

In case of a failed attempt, it is possible to resit a module examination *once*. It is not possible to resit an examination which has already been passed. A *second* resit is permitted for a *single* module examination (compulsory, semi-elective or elective).

If an examination was not passed, the Examinations Office sends you a written notification which includes the resit date for which you are automatically signed up. If the resit date has not been set at the time of notification, please check the resit dates with the respective professor or the Examinations Office.

Examination resits for non-block modules are usually scheduled for the following examination period. Those for blocked modules take place either in the following examination period or are scheduled by the responsible professor.

Grading system

The examination result is expressed in grades according the grading table below. A minimum grade score of 4.0 (D) is required to pass an examination and complete a module. Modules Some modules are not graded but are assessed as either “pass” or “fail”. These modules do not contribute to the overall grade.

Grades	German	English
1.0 A	<i>sehr gut</i>	very good
1.3 A-		
1.7 B+	<i>gut</i>	good
2.0 B		
2.3 B-		
2.7 C+	<i>befriedigend</i>	satisfactory
3.0 C		
3.3 C-		
3.7 D+	<i>ausreichend</i>	sufficient
4.0 D		
5.0 F	<i>nicht ausreichend</i>	fail

Overall grade

The overall grade for the Master’s program in Food Systems 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 (D) are always rounded up to 5.0 (F).

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 the work.

Language courses

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

For more information on German language courses please visit <https://spraz.uni-hohenheim.de/deutsch>.

For more information on the Language Center and all other language courses please visit <https://spraz.uni-hohenheim.de>.

Career prospects

Apart from the engagement in an entrepreneurial venture, a degree in Food Systems allows for further academic qualification at universities or research centers. Another focus lies in development, research or consultancy work for companies in the food sector, as well as public institutions. Corresponding jobs are offered by state or federal government agencies and offices, insurance companies and private consulting firms. Further, employment at international, bilateral and non-governmental organisations involved in development cooperation as well as environmental and food security is possible.

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 the own profile as well as assistance with the career entry and career planning. For more informations please visit www.uni-hohenheim.de/en/career-entry.

Semester dates

For detailed information on the semester dates please visit www.uni-hohenheim.de/en/semester-dates.

FAQ

Who can I contact with questions regarding my studies?

The first point of contact is Ms. Angela Schaffert, coordinator of the Master's program in Food Systems. Her contact information is on the first page of this curriculum.

I have completed all modules required for my degree, what happens now?

Once you have successfully completed all required modules, you will be issued your degree certificate. However, please keep the following in mind:

- Your degree certificate cannot be issued until you have completed all exams and all of your grades have been entered into the system. Once all grades have been entered into the system, you may exmatriculate yourself and do not need to re-register for the following semester. Do not forget to re-register for the next semester until all grades have been entered into the system. Otherwise your studies are considered to have ended prematurely with exams either not taken or not entered the system.
- If you re-register due to missing entries in the system, you do not have to pay the semester fees.

University of Hohenheim

Faculty of Natural Sciences

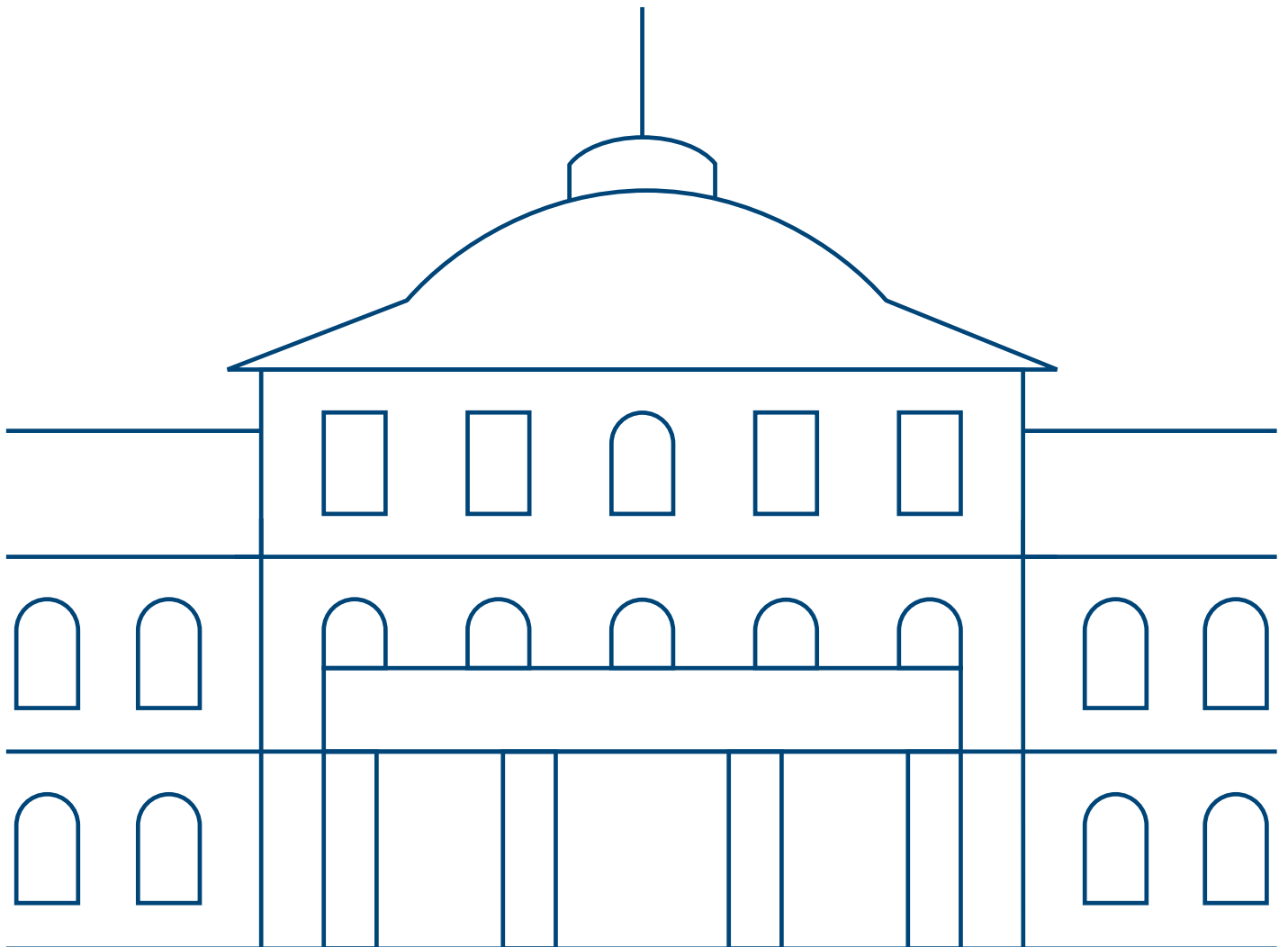
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