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# Course Catalogue

Modulhandbuch

## Global Research in Sustainable Engineering

Global Research in Sustainable Engineering



**Department of Mechanical Engineering and Environmental Engineering**  
Fakultät Maschinenbau/Umwelttechnik

### Master of Science (M.Sc.)

Master of Science (M.Sc.)

Created by: Prof. Frank Späte / Silke Fersch  
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## Preliminary notes

Vorbemerkungen

- **Note:**

Please take special note of the Program and Examination Regulations of this degree program in their current version.

- **Study structure:**

The programme comprises a standard period of study of 3 semesters.

- **Registration formalities:**

All examinations must be registered with the Students' Office (through PRIMUSS). Additional formalities are listed in the module descriptions.

- **Abbreviations:**

ECTS = The European Credit Transfer and Accumulation System (ECTS) is a credit point system for accreditation of course achievements.

SWS = Semesterwochenstunden = Semester hours per week

- **Workload:**

According to the Bologna Process, a credit point is based on a workload of 25-30 hours. The number of hours includes the time spent at the university, the time spent preparing for and following up on courses, the time spent writing papers or preparing for examinations.

Example calculation of workload (course with 4 SWS, 5 ECTS credits):

Workload:  $5 \text{ ECTS} \times 30 \text{ h/ECTS} = 150 \text{ h}$

- Lecture (4 SWS x 15 weeks)	= 60 h
- Self study	= 60 h
- Exam preparation	= 30 h
	<hr/>
	= 150 h

- **Accreditation of course achievements:**

Please observe all relevant application procedures via the Students' Office.

## Curriculum

The module overview for the Master's programme Global Research in Sustainable Engineering can be found in the programme documents on the homepage.

# Modules

## 1. Subject-specific teaching modules

<b>1.1 Elective Module Subject-Specific 1</b> Fachwissenschaftliches Wahlpflichtmodul 1			
<b>Zuordnung zum Curriculum</b> Classification	<b>Modul-ID</b> Module ID	<b>Art des Moduls</b> Kind of Module	<b>Umfang in ECTS-Leistungspunkte</b> Number of Credits
		Subject-specific teaching module	5
<b>Ort</b> Location	<b>Sprache</b> Language	<b>Dauer des Moduls</b> Duration of Module	<b>Vorlesungsrhythmus</b> Frequency of Module
various	Englisch	1 semester	every semester
<b>Modulverantwortliche(r)</b> Module Convenor		<b>Dozent/In</b> Professor / Lecturer	
Prof. Dr. Christoph Lindenberger		Depending on the respective offer	
<b>Voraussetzungen*</b> Prerequisites			
* <b>Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.</b>			
<b>Verwendbarkeit</b> Usability	<b>Lehrformen</b> Teaching Methods	<b>Workload</b>	
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h	
<b>Lernziele / Qualifikationen des Moduls</b> Learning Outcomes			
<p><b>After completing this module successfully, students will have the following professional, methodological and personal competencies:</b></p> <ul style="list-style-type: none"> <li>• <b>Professional competence:</b> Depending on the respective offer and the individual learning agreement</li> <li>• <b>Methodological competence:</b> Depending on the respective offer and the individual learning agreement</li> <li>• <b>Personal competence (social competence and self-competence):</b> Depending on the respective offer and the individual learning agreement</li> </ul>			
<b>Inhalte der Lehrveranstaltungen</b> Course Content			
<p>The course is based on the variety of offered modules in subject-specific/related master's courses. The course choice is based on the required competencies and learning objectives, which are agreed on in the individual learning agreement between the student and the supervisor.</p> <p>The contents of the course can be taught in the presence and/or virtual.</p>			
<b>Lehrmaterial / Literatur</b> Teaching Material / Reading			
Depending on the respective offer (reference books, publications, ...)			

<b>Internationalität (Inhaltlich)</b>		
Internationality		
Depending on the respective offer		
<b>vgfModulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b>		
Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Depending on the respective offer  Written exam, oral test or module work	Depending on the respective offer	Depending on the respective offer

## 1.2 Elective Module Subject-Specific 2

Fachwissenschaftliches Wahlpflichtmodul 2

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Subject-specific teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	every semester	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Dr. Christoph Lindenberger			Depending on the respective offer	

### Voraussetzungen\* Prerequisites

\* **Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.**

Verwendbarkeit Usability	Lehrformen Teaching Methods	Workload
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competencies:**

- **Professional competence:** Depending on the respective offer and the individual learning agreement
- **Methodological competence:** Depending on the respective offer and the individual learning agreement
- **Personal competence (social competence and self-competence):** Depending on the respective offer and the individual learning agreement

### Inhalte der Lehrveranstaltungen

Course Content

The course is based on the variety of offered modules in subject-specific/related master's courses. The course choice is based on the required competencies and learning objectives, which are agreed on in the individual learning agreement between the student and the supervisor.

The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

### Internationalität (Inhaltlich)

Internationality

Depending on the respective offer

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Depending on the respective offer  Written exam, oral test or module work	Depending on the respective offer	Depending on the respective offer



### 1.3 Elective Module Subject-specific 3

Fachwissenschaftliches Wahlpflichtmodul 3

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Subject-specific teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	every semester	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Dr. Christoph Lindenberger			Depending on the respective offer	

#### Voraussetzungen\* Prerequisites

\* Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.

Verwendbarkeit Usability	Lehrformen Teaching Methods	Workload
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h

#### Lernziele / Qualifikationen des Moduls

Learning Outcomes

After completing this module successfully, students will have the following professional, methodological and personal competencies:

- **Professional competence:** Depending on the respective offer and the individual learning agreement
- **Methodological competence:** Depending on the respective offer and the individual learning agreement
- **Personal competence (social competence and self-competence):** Depending on the respective offer and the individual learning agreement

#### Inhalte der Lehrveranstaltungen

Course Content

The course is based on the variety of offered modules in subject-specific/related master's courses. The course choice is based on the required competencies and learning objectives, which are agreed on in the individual learning agreement between the student and the supervisor.

The contents of the course can be taught in the presence and/or virtual.

#### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

#### Internationalität (Inhaltlich)

Internationality

Depending on the respective offer

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Depending on the respective offer  Written exam, oral test or module work	Depending on the respective offer	Depending on the respective offer

## 1.4 Winter-Summer-School: Compulsory Module Subject-Specific

Winter-Summer-School: Fachwissenschaftliches Pflichtmodul

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Subject-specific teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	yearly	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Dr. Christoph Lindenberger			various	

### Voraussetzungen\* Prerequisites

\* **Note:** please also observe the prerequisites according to examination regulations law in the current version of the SPO.

Verwendbarkeit Usability	Lehrformen Teaching Methods	Workload
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competencies:**

- **Professional competence:** Depending on the respective offer
- **Methodological competence:** Apply and transfer skills and knowledge acquired during studies to new problems and new, but related fields in research and engineering; application of project management: the ability to plan, implement, evaluate, and document projects as well as present project results.
- **Personal competence (social competence and self-competence):** Independently plan, carry out, evaluate and document experiments while meeting deadlines, recognize and improve one's own ability to work in a team.

### Inhalte der Lehrveranstaltungen

Course Content

The course is part of the Winter-Summer schools and the contents depend on the respective offer and the key aspect of the current research activities.

The block course is flanked by study projects, which may be assigned beforehand.

The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

<b>Internationalität (Inhaltlich)</b>		
Internationality		
Depending on the respective offer		
<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b>		
Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Written exam, oral test or module work	Depending on the respective offer	Professional competence, methodological competence, personal competence

## 2. Interdisciplinary teaching modules

### 2.1 Innovation Management and Communication (IMC)

Innovationsmanagement und Kommunikation (I-WP)

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Interdisciplinary teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
Amberg	German/English	1 semester	yearly/summer semester	50
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Späte			Prof. Dr. Thomas Tiefel, Marian Mure	

#### Voraussetzungen\* Prerequisites

none

**\*Note: Please also observe the prerequisites according to examination regulations law in the current version of the SPO**

Verwendbarkeit Availability	Lehrformen Teaching Methods	Workload
Can be credited in the following study programmes: <ul style="list-style-type: none"> <li>Global Research in Sustainable Engineering</li> <li>International Energy Engineering</li> </ul>	Seminar-based teaching	Lecture (4 SWS x 15 weeks) = 60 h Self-study Preparation and follow-up Examination preparation = 90 h = 150 h

#### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competences:**

- Professional competence:** The students understand the importance of innovations as a success factor on a micro- and macroeconomic level. They can explain basic terms and contexts, fundamental problems and task fields as well as interdisciplinary aspects of innovation management. In addition, they deepen a foreign language (German for English-speaking students and English for German-speaking students).
- Methodological competence:** Students are able to describe and analyse practical problem areas with the help of selected theories, models, concepts and instruments of innovation management. They are able to express themselves better in a foreign language (German or English).
- Personal competence (social competence and self-competence):** Students gain the ability to act in an interdisciplinary and interculturally sensitive manner. They have expanded their ability to change perspectives and are able to communicate with different nationalities.

#### Inhalte der Lehrveranstaltungen

Course Content

- Basic terms and contexts of innovation management
- Strategic innovation management
- Innovation as a factor influencing macroeconomic, societal and sociocultural change
- Different national approaches to dealing with digital and economic transformation
- Consolidation of a foreign language (e.g. vhb course "DaF Strukturen und Kommunikation A2")

The contents of the course can be taught in presence and/or in virtual form.

<b>Lehrmaterial / Literatur</b> Teaching Material / Reading		
<p>Innovation management:                      Lecture notes with fill in blanks                      Articles from business, scientific and public journals                      Internet-based teaching and illustrative material                      Sample exam                      Textbooks: Corsten et al. (eds.): Technologie- und Innovationsmanagement, current edition, Gerpott, T.: Strategisches Technologie- und Innovationsmanagement, current edition, Strebler, H. (eds.): Innovations- und Technologiemanagement, current edition; Schilling, M: Strategic Management of Technological Innovation, current edition                      vhb-course                      Menschen A1, Course book + Workbook, Deutsch als Fremdsprache, Hueber Verlag, L 13-24 ISBN 978-3-19-211901-9</p>		
<b>Internationalität (Inhaltlich)</b> Internationality		
<p>Through the module, students are able to perform confidently and competently in an international environment in the context of the topic of innovation management. Language skills are expanded to improve communication between different nationalities.</p>		
<p>Through the module, students are able to perform confidently and competently in an international environment in the context of the topic of innovation management. Language skills are expanded to improve communication between different nationalities.</p>		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Written exam	90 min	Professional competence, methodological competence, personal competence

## 2.2 Elective Module Interdisciplinary

Interdisziplinäres Wahlpflichtmodul

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Interdisciplinary teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	every semester	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Dr. Christoph Lindenberger			Depending on the respective offer	

### Voraussetzungen\* Prerequisites

**\* Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.**

Verwendbarkeit Usability	Lehrformen Teaching Methods	Workload
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competencies:**

- **Professional competence:** Depending on the respective offer and the individual learning agreement
- **Methodological competence:** Depending on the respective offer and the individual learning agreement
- **Personal competence (social competence and self-competence):** Depending on the respective offer and the individual learning agreement

### Inhalte der Lehrveranstaltungen

Course Content

The course is based on the variety of offered modules in master's courses. The course choice is based on the required competencies and learning objectives, which are agreed on in the individual learning agreement between the student and the supervisor.

The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

### Internationalität (Inhaltlich)

Internationality

Depending on the respective offer

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Written exam, oral test or module work	Depending on the respective offer	Depending on the respective offer



## 2.3 Winter-Summer-School: Compulsory Module "Research Methods and Strategies"

Winter-Summer-School" – Pflichtmodul „Forschungsmethoden und -strategien“

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Interdisciplinary teaching module	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	yearly	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Dr. Christoph Lindenberger			various	

### Voraussetzungen\* Prerequisites

\* **Note:** please also observe the prerequisites according to examination regulations law in the current version of the SPO.

Verwendbarkeit Usability	Lehrformen Teaching Methods	Workload
	Depending on the respective offer  Seminar-based teaching, exercises, practical training or seminar	150 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competencies:**

- **Professional competence:** Depending on the respective offer student will learn how to plan, conduct and evaluate experiments based on the scientific method.
- **Methodological competence:** Apply and transfer methods and knowledge acquired during the practical parts of the studies to the scientific approach. Transferring those scientific methods to a research and development environment.
- **Personal competence (social competence and self-competence):** Independently plan, carry out, evaluate and document experiments while meeting deadlines, recognize and improve one's own ability to work in a team.

### Inhalte der Lehrveranstaltungen

Course Content

The course is part of the Winter-Summer schools and the contents depend on the respective offer and the key aspect of the current research activities.

The block course is flanked by study projects, which may be assigned beforehand.

The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

<b>Internationalität (Inhaltlich)</b>		
Internationality		
Depending on the respective offer		
<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b>		
Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Written exam, oral test or module work	Depending on the respective offer	Professional competence, methodological competence, personal competence

### 3. Project 1

<b>3.1 Project Work 1</b> Projektarbeit 1			
<b>Zuordnung zum Curriculum</b> Classification	<b>Modul-ID</b> Module ID	<b>Art des Moduls</b> Kind of Module	<b>Umfang in ECTS-Leistungspunkte</b> Number of Credits
		Project	10

<b>Ort</b> Location	<b>Sprache</b> Language	<b>Dauer des Moduls</b> Duration of Module	<b>Vorlesungsrhythmus</b> Frequency of Module	<b>Max. Teilnehmerzahl</b> Max. Number of Participants
various	English	1 semester	every semester	
<b>Modulverantwortliche(r)</b> Module Convenor			<b>Dozent/In</b> Professor / Lecturer	
Prof. Frank Späte			various	
<b>Voraussetzungen*</b> Prerequisites				
* <b>Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.</b>				
<b>Verwendbarkeit</b> Usability		<b>Lehrformen</b> Teaching Methods	<b>Workload</b>	
		Project	300 h	

<b>Lernziele / Qualifikationen des Moduls</b> Learning Outcomes
<p><b>After completing this module successfully, students will have the following professional, methodological and personal competences:</b></p> <ul style="list-style-type: none"> <li>• <b>Professional competence:</b> Depending on the respective offer</li> <li>• <b>Methodological competence:</b> Apply and transfer skills and knowledge acquired during studies to new problems, application of project management: ability to plan, implement, evaluate and document research projects.</li> <li>• <b>Personal competence (social competence and self-competence):</b> Independently plan, carry out, evaluate and document research projects while meeting deadlines, recognise and improve one's own ability to work independently in an international context.</li> </ul>
<b>Inhalte der Lehrveranstaltungen</b> Course Content
<p>Depending on the respective offer                      The project is carried out in the form of an independent research work coached by supervisors and supplemented by a final seminar (see module "Seminar 1").</p>
<b>Lehrmaterial / Literatur</b> Teaching Material / Reading
<p>Depending on the respective offer (reference books, publications, ...)</p>
<b>Internationalität (Inhaltlich)</b> Internationality
<p>Research in an international context</p>

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Module work	Term paper / 100 %	Professional competence, methodological competence, personal competence

### 3.2 Seminar 1

Seminar 1

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Project	2,5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	every semester	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Frank Späte			various	
Voraussetzungen* Prerequisites				
* Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.				
Verwendbarkeit Usability		Lehrformen Teaching Methods		Workload
		Seminar		75 h

#### Lernziele / Qualifikationen des Moduls

Learning Outcomes

After completing this module successfully, students will have the following professional, methodological and personal competences:

- **Professional competence:** Depending on the respective offer
- **Methodological competence:** Methods of writing a publication as well as presenting, discussing and defending research results, here in the context to project work 1.
- **Personal competence (social competence and self-competence):** improve the ability of writing a publication as well as presenting, discussing and defending the self-developed research results in the research conference within the study program in an international context.

#### Inhalte der Lehrveranstaltungen

Course Content

Depending on the respective offer

A research conference where the research project work result is presented and published in a conference book is held in form of a seminar at the end of each semester.

The contents of the course can be taught in the presence and/or virtual.

#### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

#### Internationalität (Inhaltlich)

Internationality

Seminar in an international context

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Presentation	Presentation plus written contribution / 100 %	Professional competence, methodological competence, personal competence

## 4. Project 2

<b>4.1 Project Work 2</b> Projektarbeit 2			
<b>Zuordnung zum Curriculum</b> Classification	<b>Modul-ID</b> Module ID	<b>Art des Moduls</b> Kind of Module	<b>Umfang in ECTS-Leistungspunkte</b> Number of Credits
		Project	10

<b>Ort</b> Location	<b>Sprache</b> Language	<b>Dauer des Moduls</b> Duration of Module	<b>Vorlesungsrhythmus</b> Frequency of Module	<b>Max. Teilnehmerzahl</b> Max. Number of Participants
various	English	1 semester	every semester	
<b>Modulverantwortliche(r)</b> Module Convenor			<b>Dozent/In</b> Professor / Lecturer	
Prof. Frank Späte			various	
<b>Voraussetzungen*</b> Prerequisites				
* <b>Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.</b>				
<b>Verwendbarkeit</b> Usability		<b>Lehrformen</b> Teaching Methods	<b>Workload</b>	
		Projekt	300 h	

<b>Lernziele / Qualifikationen des Moduls</b> Learning Outcomes
<p><b>After completing this module successfully, students will have the following professional, methodological and personal competences:</b></p> <ul style="list-style-type: none"> <li>• <b>Professional competence:</b> Depending on the respective offer</li> <li>• <b>Methodological competence:</b> Apply and transfer skills and knowledge acquired during studies to new problems, application of project management: ability to plan, implement, evaluate and document research projects.</li> <li>• <b>Personal competence (social competence and self-competence):</b> Independently plan, carry out, evaluate and document research projects while meeting deadlines, recognise and improve one's own ability to work independently in an international context.</li> </ul>
<b>Inhalte der Lehrveranstaltungen</b> Course Content
<p>Depending on the respective offer                      The project is carried out in the form of an independent research work coached by supervisors and supplemented by a final seminar (see module "Seminar 2").</p>
<b>Lehrmaterial / Literatur</b> Teaching Material / Reading
<p>Depending on the respective offer (reference books, publications, ...)</p>
<b>Internationalität (Inhaltlich)</b> Internationality
<p>Research in an international context</p>

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Module work	Term paper / 100 %	Professional competence, methodological competence, personal competence



## 4.2 Seminar 2

Seminar 2

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Pflichtmodul	2,5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English	1 semester	every semester	
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Frank Späte			various	
Voraussetzungen* Prerequisites				
<p><b>* Note: please also observe the prerequisites according to examination regulations law in the current version of the SPO.</b></p>				
Verwendbarkeit Usability		Lehrformen Teaching Methods		Workload
		Seminar		75 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competences:**

- **Professional competence:** Depending on the respective offer
- **Methodological competence:** Methods of writing a publication as well as presenting, discussing and defending research results, here in the context to project work 2.
- **Personal competence (social competence and self-competence):** improve the ability of writing a publication as well as presenting, discussing and defending the self-developed research results in the research conference within the study program in an international context.

### Inhalte der Lehrveranstaltungen

Course Content

Depending on the respective offer

A research conference where the research project work result is presented and published in a conference book is held in form of a seminar at the end of each semester.

The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

### Internationalität (Inhaltlich)

Internationality

Seminar in an international context

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Presentation	Presentation plus written contribution / 100 %	Professional competence, methodological competence, personal competence

## 5. Master thesis

### 5.1 Master Thesis

Masterarbeit

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Master thesis	25

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
various	English		every semester	1
Modulverantwortliche(r) Module Convenor			Dozent/In Professor / Lecturer	
Prof. Frank Späte			various	
Voraussetzungen* Prerequisites				
50 ECTS from the present course of study in the current Master's degree programme				
*Note: Please also observe the prerequisites according to examination regulations law in the current version of the SPO				
Verwendbarkeit Usability		Lehrformen Teaching Methods		Workload
				750 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

After completing this module successfully, students will have the following professional, methodological and personal competences:

- **Professional competence:** Depending on the respective topic
- **Methodological competence:**  
Apply and transfer skills and knowledge acquired during studies to new problems in a research context.  
Application of project management: ability to plan, implement, evaluate and document a research project.
- **Personal competence (social competence and self-competence):** Independently plan, carry out, evaluate and document research projects while meeting deadlines, recognise and improve one's own ability to work independently in an international context.

### Inhalte der Lehrveranstaltungen

Course Content

Depending on the respective offer.  
 The Master Thesis is carried out in the form of an independent research work coached by supervisors and supplemented by a final seminar (see module "Master Thesis Seminar").

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

### Internationalität (Inhaltlich)

Internationality

Research in an international context

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Master thesis	Written elaboration / 100 %	Professional competence, methodological competence, personal competence

## 5.2 Master Thesis Seminar

Seminar zur Masterarbeit

Zuordnung zum Curriculum Classification	Modul-ID Module ID	Art des Moduls Kind of Module	Umfang in ECTS-Leistungspunkte Number of Credits
		Master thesis	5

Ort Location	Sprache Language	Dauer des Moduls Duration of Module	Vorlesungsrhythmus Frequency of Module	Max. Teilnehmerzahl Max. Number of Participants
Amberg	English		every semester	1
Modulverantwortliche(r) Module Convenor		Dozent/In Professor / Lecturer		
Prof. Frank Späte		various		
Voraussetzungen* Prerequisites				
50 ECTS from the present course of study in the current Master's degree programme				
<b>*Note: Please also observe the prerequisites according to examination regulations law in the current version of the SPO</b>				
Verwendbarkeit Usability		Lehrformen Teaching Methods		Workload
		Seminar		150 h

### Lernziele / Qualifikationen des Moduls

Learning Outcomes

**After completing this module successfully, students will have the following professional, methodological and personal competences:**

- **Professional competence:**  
Depending on the respective topic
- **Methodological competence:**  
Apply and transfer skills and knowledge acquired during studies to new problems.  
Application of project management: ability to plan, implement, evaluate and document projects  
Presentation of project results
- **Personal competence (social competence and self-competence):**  
Independently plan, implement, evaluate and document project activities and results while meeting deadlines

### Inhalte der Lehrveranstaltungen

Course Content

Depending on the respective offer  
 The contents of the course can be taught in the presence and/or virtual.

### Lehrmaterial / Literatur

Teaching Material / Reading

Depending on the respective offer (reference books, publications, ...)

### Internationalität (Inhaltlich)

Internationality

<b>Modulprüfung (ggf. Hinweis zu Multiple Choice - APO §9a)</b> Method of Assessment		
<b>Prüfungsform</b>	<b>Art/Umfang inkl. Gewichtung</b>	<b>Zu prüfende Lernziele/Kompetenzen</b>
Präs	100 %	Professional competence, methodological competence, personal competence

## Update directory

Aktualisierungsverzeichnis

<b>Nr</b>	<b>Reason</b>	<b>Date</b>
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