

Module: AI Applications – Seminar

Level	Bachelor	Short Name	AIS
Responsible Lecturers	Prof. Dr. André Drews, Prof. Dr. Henrik Botterweck		
Department, Facility	(Unspecified)		
Course of Studies	International Track		
Compulsory/elective	Elective	ECTS Credit Points	2,5
Semester of Studies	(Unspecified)	Semester Hours per Week	2
Length (semesters)	1	Workload (hours)	75
Frequency	WiSe	Presence Hours	30
Teaching Language	German/English	Self-Study Hours	45

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Portfolio Exam	Exam Language	German/English
Exam Length (minutes)		Exam Grading System	One-third Grades
Learning Outcomes	<p>The students get insights into current topics in Artificial Intelligence in research and economics on a basic scientific level.</p> <p>The participants acquire a solid knowledge on the basic ideas and principles of AI.</p> <p>The students know how to structure a scientific and/or practical problem in AI within a team on a basic theoretical level, work on it systematically and present the results.</p>		
Participation Prerequisites			

The previous section is filled only if there is **exactly one** module-concluding exam.

Consideration of Gender and Diversity Issues	<ul style="list-style-type: none"> ✓ Use of gender-neutral language (THL standard) ✓ Target group specific adjustment of didactic methods ✓ Making subject diversity visible (female researchers, cultures etc.)
Applicability	The module can be combined with the more practically oriented module "AI Applications – project". It is intended to give a general background in AI applications across disciplines and hence shall broaden the view for participants of possibly all study programs.
Remarks	The seminar is intended to provide abilities in current topics of Artificial Intelligence, which are introduced by members of the universities expert group for AI applications and external speakers from science and economics. In the related project module students work on a topic practically, resulting in a scientific treatise, in advanced cases (not necessarily on Bachelor level) in a publication for example for the annual students conference, including a poster session discussion. The module is

structured in a flexible manner according to the competences and interests of the participants. According to their individual background and interests, participants in bachelor programs may work together with Master students, but they work on a more basic level on specified adequate sub-topics.

Module Course: AI Applications – Seminar

(of Module: AI Applications – Seminar)

Course Type	Project Work	Form of Learning	Online supported with presence hours
Mandatory Attendance	no	ECTS Credit Points	2,5
Participation Limit		Semester Hours per Week	2
Group Size		Workload (hours)	75
Teaching Language	German/English	Presence Hours	30
Study Achievements ("Studienleistung", SL)		Self-Study Hours	45
SL Length (minutes)		SL Grading System	One-third Grades

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	<p>The detailed content is adapted each semester according to the participants' needs and speakers' fields of expertise. The Bachelor level requires a more basic and general approach. Topics are related to, but independent of the AI Applications seminar. Examples are:</p> <ul style="list-style-type: none"> Edge AI (Applications, Neuromorphic Computing, ...) Image segmentation in different applications Image processing/Object detection in various applications Typical applications of Large Language Models Reinforcement Learning and its usage AI in the Cloud AI for optimizing economic work-flow and processes.
Literature	<p>Given by lecturers / speakers. General background is found in: Deep Learning, Goodfellow, Bengio, Courville, MIT Press 2016(online: www.deeplearningbook.org)</p>
Remarks	<p>The seminar is intended for the fall semester. Individual solutions may be found in spring semester.</p>