

Bachelor of Science (B.Sc.)

„Wirtschaftsinformatik“

der Universität Mannheim

– Modulkatalog –

Appendix

Akademisches Jahr
HWS 2025 / FSS 2026

Die folgenden Veranstaltungen wurden nach Veröffentlichung des Modulkatalogs dem Kursprogramm hinzugefügt. Der vorliegende Appendix bezieht sich auf die Prüfungsordnung des Bachelorstudiengang Wirtschaftsinformatik nach der Prüfungsordnung vom 19.03.2025.

Modulübersicht

5. Vertiefungen

Modulnr.	Name des Moduls	Angebot	Sprache	ECTS
IE 685	Large Language Models and Agents (Lecture)	FSS	E	3

Modulbeschreibungen

5. Vertiefungen

IE 685	Large Language Models and Agents
Form of module	Lecture
Type of module	Specialization course
Level	Master
ECTS	3
Workload	Hours per semester: 28 h (2 SWS) Self-study: 56 h per semester <ul style="list-style-type: none"> ● 31 h: pre and post lecture studying and revision ● 25 h: examination preparation
Prerequisites	<ul style="list-style-type: none"> ● Machine learning concepts and techniques ● Knowledge about natural language processing
Aim of module	Large Language Models (LLMs) such as GPT, Llama, Gemini and Claude, have the potential to enable a wide range of new applications and to significantly improve the performance of existing systems. The course introduces students to LLMs as well as their application. The course covers the following topics: <ul style="list-style-type: none"> ● Introduction to LLMs ● Prompt engineering

	<ul style="list-style-type: none"> ● LLM-based agents ● Tool use and environment interaction ● Retrieval augmented generation ● Context engineering for LLM agents ● Safety and security of LLM agents ● Evaluation of LLM agents <p>It is highly recommended to attend the course IE 686 Large Language Models and Agents Project in the same semester as this course as the schedules of both courses are aligned to each other.</p>
Learning outcomes and qualification goals	<p>Expertise: Students will be able to identify opportunities for employing Large Language Models in business applications and will learn to select and apply appropriate prompt/context engineering techniques for solving complex tasks. (MK1, MF1)</p>
	<p>Methodological competence: Participants will acquire knowledge on the application of Large Language Models and LLM agents for solving real-world problems. (MK2, MF3, MF4, MKO3)</p>
	<p>Personal competence: -</p>
Media	Slide sets
Literature	<ul style="list-style-type: none"> ● Zhao, et al.: A Survey of Large Language Models. arXiv:2303.18223v16, 2025. ● Wang, et al.: A Survey on Large Language Model based Autonomous Agents. Frontiers of Computer Science, 2024. ● Mohammadi, et al. Evaluation and benchmarking of LLM agents: A survey. SIGKDD Conference on Knowledge Discovery and Data Mining, 2025.
Methods	The course consists of a lecture that introduces students to Large Language Models and state of the art prompt/context engineering techniques.
Form of assessment	Written examination
Admission requirements for assessment	-
Duration of assessment	60 minutes
Language	English
Offering	Spring semester

Lecturer	Prof. Dr. Christian Bizer Dr. Ralph Peeters
Person in charge	Prof. Dr. Christian Bizer Dr. Ralph Peeters
Duration of module	1 semester
Further modules	-
Range of application	M.Sc. Mannheim Master in Data Science, Mannheim Master in Social Data Science, M.Sc. Wirtschaftsinformatik, Lehramt Informatik, B.Sc. Wirtschaftsinformatik
Semester	2nd/3rd semester