The international Master's program in Artificial Intelligence (AI) is based on a solid foundation and education in the field of Computer Science. The program consists of three main pillars: symbolic AI (such as Expert Systems and Logical Calculi), subsymbolic AI (such as Deep and Machine Learning) and AI systems and applications.
The degree course offers a broad variety of topics and specializations. The wide range of applications and research groups in the Department of Computer Science provides broad opportunities for "hands-on" project work and practical sessions. In contrast to Data Science oriented programs, AI focuses on the constructive modelling and implementation of algorithms, data structures, neural networks and their respective applications.
The desired goal that is to be achieved by the study of Artificial Intelligence at the Faculty of Engineering is the education of thoroughly skilled computer scientists with a specifically formed profile. Using the methodical skills and knowledge acquired during their education, graduates should be able to solve engineering tasks which are located at any of the intersections of the areas of computer science, applied mathematics, and an engineering discipline independently and responsibly. They should also be able to develop new perspectives on their field of activity and to judge applied tools and methodologies critically.
Goals of the Master's Program
Demand Graduates of our Master's program have excellent job prospects. During your studies, subjects you were first introduced to during your qualifying degree can be given more breadth and depth, according to your individual goals and preferences. Students are introduced to current topics of academic or industrial research. A successfully completed Master's degree will be acknowledged as a prerequisite for being admitted to doctoral programs at German universities. Actual admission to a doctoral program, however, also requires proof of high research potential, as preferably demonstrated by an outstanding Master's thesis.
International Orientation The program complies with the internationally accepted Bachelor's-Master's structure. The majority of the courses are in English, thus making it attractive for foreign students who do not speak German. At the same time, German students in the program benefit from working with English as an international scientific language. That way it also becomes easier for German students to work or study abroad afterwards. The possibility of studying abroad is additionally enhanced by the program's compatibility with the Anglo-American university system.
Flexibility The integration of many different specialized fields requires a flexible organization of study plans. Following the Anglo-American pattern, students are encouraged to choose an individualized study plan from a wide selection of fields to suit their individual interests. The program is modular, as defined by the examination regulations (Prüfungsordnung). In order to ensure optimal support students are assisted by special academic advisors (Studienberater) for the AI program.
The program encompasses 120 ECTS credits, usually split over four semesters at a rate of 30 ECTS credits per semester. This section will give some further detail. Please also refer to the official study regulations, especially the FPO, and the standard degree program structure.
Electives [50 ECTS]: The elective courses in this Master's program are geared towards introducing students to academic research around artificial intelligence and its methodologies as well as offering every student the opportunity to shape their profile specifically towards their talents and interests. The electives are centered around the three central pillars of the AI Master's program:
Students will have to take a total of 50 ECTS credits worth of elective courses, with no less than 10 of them in each of the central pillars.

Which courses are available for each of these tracks is announced on a semester-by-semester basis in the module catalog.
Projects [10 + 10 ECTS]: The two required 10 ECTS projects are intended to hone and put to the test students' acquired technical knowledge, research ability and self-organization skills. They will typically be completed in the context of a work group related to artificial intelligence and will require the students to independently tackle a more complex problem or question. Both projects have to be associated with one of the central pillars discussed above and cannot both be associated with the same pillar. Each project is planned to take approximately 300 hours over six months.
Seminar [5 ECTS]: The seminar will allow students to connect with a topic complex of their choice, conduct research and interact with academic information, and present their findings to a relevant audience. It is intended to account for 5 ECTS credits and can be completed in a group.
Minor [15 ECTS]: For this module, students will chose 15 ECTS credits worth of courses that have a practical or topical connection to artificial intelligence (but are not already included in the electives discussed above). The goal is to work on connecting the gained knowledge to a broad array of subjects that interface with artificial intelligence and may form the basis for applications in future employment.
Master's Thesis [30 ECTS]: The Master's thesis can be registered at the Examinations Office as soon as the student has successfully collected 70 ECTS credits. It has an extent of around 900 hours and has to be completed within six months after registration. The topic of the thesis must be related to subjects studied by the student during the program. A special thesis supervisor is usually assigned to each student. The thesis may involve regular meetings with the thesis supervisor and also participation in a larger research group. It needs to be written in English. An oral presentation of the results lasting about 30 minutes and a consecutive discussion are obligatory.
31.05.
30.11.
Completion of an excellent Bachelor's degree or a corresponding qualification in Computer Science, in a related scientific or technical field, or in Mathematics. Proficiency and experience in both using and programming computers. Besides familiarity with the basic concepts of computers and Computer Science, we expect that you have solid programming experience. A well-rounded education in Mathematics.
International Students
Our Student Advice and Career Service (IBZ) is the central point of contact for all questions about studying and starting a degree programme. Our Student Service Centres and subject advisors support you in planning your studies.

Degree: Master of Science
Duration of studies in semester: 4
Start of degree program: Summer semester, Winter semester
Study location: Erlangen
Number of students: 250-600
Subject group: Engineering sciences
Special ways to study: International degree program, Part-time degree program
Teaching language: completely in English
Admission Requirements: Qualification assessment
Admission requirements (first semester): Qualification assessment
Application deadline winter semester: 31.05.
Application deadline summer semester: 30.11.
Content-related admission requirements: Completion of an excellent Bachelor's degree or a corresponding qualification in Computer Science,

in a related scientific or technical field, or in Mathematics.
Proficiency and experience in both using and programming computers.
Besides familiarity with the basic concepts of computers and Computer Science, we expect that you have solid programming experience. A well-rounded education in Mathematics.
International Students

A solid command of the English language – TOEFL score of at least 560 or equivalent qualification, e.g. confirmation of the university that the Bachelor´s program was taught in English.
Students should be interested in staying in Germany for at least two years.
German language skills for international applicants: No DSH, English (level B2, CEFR)