



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



Artificial Intelligence (AI), MSc

FAU Erlangen-Nürnberg • Erlangen

Overview

Degree	Master of Science
Course location	Erlangen
Teaching language	<ul style="list-style-type: none">English
Languages	<p>All compulsory courses are offered in English. Some courses and examinations may be offered in German. The Master's thesis has to be written in English.</p> <p>German language courses accompany the programme.</p>
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	<p>The application for the Master's programme is possible for the summer and winter semester. Please note that you can only apply once the application period for the respective semester has started! You can find details here. The current application periods are as follows:</p> <ul style="list-style-type: none">15 September to 30 November (applicants for the summer semester)15 February to 31 May (applicants for the winter semester)
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>The Master's programme in AI at FAU is designed to give graduates a solid understanding of artificial intelligence that is broad in application, intersecting with other disciplines, and is deep and well-founded in the academic methodologies of the field. The degree programme offers a broad variety of topics and specialisations and a wide range of applications and research groups. The Department of Computer Science provides broad opportunities for "hands-on" project work and practical sessions. In contrast to data science-oriented programmes, the AI programme focuses on the constructive modelling and implementation of algorithms, data structures, neural networks and their respective applications. The programme takes a minimum of four semesters. The main purpose of the last semester is the preparation of the Master's thesis. The thesis is intended to introduce students to research work at the university.</p> <p>Admission</p>

The central qualification factor for admission to the Master's programme in AI is a Bachelor's degree in informatics or computer science. Applications based on degrees from related fields may also be successful, but students may have to submit to an oral entrance examination to guarantee familiarity with the material necessary to successfully participate in the Master's-level courses of this programme. It is possible to start this programme either in the summer or in the winter semester. A detailed information for the application is given under the [Application Master](#) link.

Course Details

Course organisation

The programme encompasses 120 ECTS, usually split over four semesters at a rate of 30 ECTS per semester. This section will give some further details. Please also see the sites on the official [study regulations](#), especially the FPO, and the [standard study progression](#).

Electives (50 ECTS): The elective courses in this Master's programme are geared towards introducing students to academic research around artificial intelligence and its methodologies as well as offering every student the opportunity to sharpen their profile specifically towards their talents and interests. The electives are centred around the three central pillars of the AI Master's programme:

1. Symbolic AI
2. Subsymbolic AI
3. AI Systems and Applications

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 catalogue.

Projects (10 + 10 ECTS): The two required 10 ECTS projects are intended to hone and put students' acquired technical knowledge, research merit and self-organisation skills to the test. They will typically be completed in the context of a working 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 at approximately 300 hours over six months.

Seminar (5 ECTS): The seminar will allow students to connect with a topic complex of their choice, research and interact with academic information and present their findings to a relevant audience. It is intended to fill 5 ECTS credits and can be completed in a group.

Minor (15 ECTS): For this module, students will choose 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 this may form the basis for applications in future employment.

Master's Thesis (30 ECTS): The Master's thesis can be registered at the registrar's 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 the registration. The topic of the thesis must be related to subjects studied by the student during the programme. A special thesis adviser is usually assigned to each student. The thesis may involve regular meetings with the thesis adviser and also the participation in a larger research group. It needs to be written in English. An oral presentation of the results with a duration of about 30 minutes as well as a consecutive discussion are obligatory.

A Diploma supplement will be issued

Yes

Course-specific, integrated German language courses

No

Course-specific, integrated English language courses No

Costs / Funding

Tuition fees per semester in EUR None

Semester contribution FAU does not charge tuition fees. However, students must pay semester fees each semester consisting of student services fees (42 EUR) and a fee for the basic semester ticket (76 EUR).

Costs of living According to a study by the German National Association for Student Affairs, students in former West Germany who no longer live with their parents have an average amount of more than 930 EUR per month at their disposal. However, monthly expenditures for personal lifestyle vary a lot. The study shows that approx. 25 per cent of the students asked have less than 700 EUR while 10 per cent have more than 1,300 EUR per month. For former West Germany, the study revealed the following details regarding average expenditures:

- Rent, including bills (in the Erlangen-Nuremberg area): 325 EUR (250 to 600 EUR)
- Food: 168 EUR
- Clothing: 42 EUR
- Transport (public transport and/or car): 94 EUR
- Learning materials (depending on the subject): 20 EUR
- Health insurance, doctors, medicine: 80 EUR
- Telecommunications: 31 EUR
- Leisure activities, culture, sports: 61 EUR

Funding opportunities within the university Yes

Description of the above-mentioned funding opportunities within the university There is a wide range of scholarships available for outstanding students. In addition to requiring applicants to have excellent grades, most scholarship programmes have additional conditions regarding cultural, political, religious, or social involvement. If you have any questions about the application procedure or selection criteria, you can contact the Student Advice and Career Service (IBZ) or speak directly to FAU's liaison officer for the scholarship organisation you wish to apply to.

<https://www.fau.eu/study/prospective-students/financing-your-studies>

Requirements / Registration

Academic admission requirements

Application documents

- your Curriculum Vitae (CV)
- your letter of motivation (VERY IMPORTANT, please tell us WHY you have chosen to study in the AI Master's programme at FAU)
- your secondary school leaving certificate (and English translation) (high school certificate)
- university entrance exam (if available, e.g. Iran)
- your university certificates (and English translation) – In case you do not have your Bachelor's certificate at the time of applying to FAU, we need a confirmation from your university that you will receive your Bachelor's degree soon.
- the international transcript (grades sheet) of the courses you have attended
- your university's module descriptions of the required courses (see below)
- Submit a TOEFL score report OR other comparable proof of English language ability.

(Certificates from language learning apps like Duolingo are not sufficient!) If your Bachelor's was taught exclusively in English, a confirmation of the university is sufficient.

- APS certificate (required for [India](#), [Vietnam](#) and [China](#))
- any certificates of English or German language courses you have taken part in
- The GRE is not mandatory, but if you have a GRE certificate, it is very helpful.

Incomplete applications will not be considered!

All applicants should meet the following criteria:

- 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 is required. 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
- In particular, for an external Bachelor's programme to be considered equivalent to the qualifying standards, it should include at least:
 - Courses on programming and algorithmics amounting to ≥ 20 ECTS
 - Theoretical CS and logic amounting to ≥ 15 ECTS
 - Databases and conceptual modelling amounting to ≥ 5 ECTS
 - Mathematics of CS (analysis, linear algebra, stochastics) amounting to ≥ 20 ECTS and
 - Software engineering amounting to ≥ 10 ECTS
- International students:
 - Applicants must have a solid command of the English language, as proven by a TOEFL score of at least 560 or [equivalent qualification](#), e.g. confirmation of the university that the Bachelor's programme had been taught in English.
 - Students should be interested in staying in Germany for at least two years.

Language requirements

Due to its international orientation, most courses of the Master's programme are offered in English. A language proficiency certificate of at least B2 level (CEFR) is needed for successful participation. Please see academic requirements for details.

Application deadline

The application for the Master's programme is possible for the summer and winter semester. Please note that you can only apply once the application period for the respective semester has started! You can find details [here](#). The current application periods are as follows:

- 15 September to 30 November (applicants for the summer semester)
- 15 February to 31 May (applicants for the winter semester)

Submit application to

The application for the Master's programme must be submitted online via the [campo](#) portal.

1. [Register an account in the FAU-IdM system](#).
2. Sign in at the [campo](#) portal.
3. Submit your online application (in campo).
4. Wait for notification from FAU.

Services

Possibility of finding part-time employment

According to a study by the German National Association for Student Affairs, around 63 percent of all "first-time students" have a regular job – and not just during the holidays. On average, they work around eight hours a week for an average wage of 10 EUR per hour. Students can have a "450-EUR job" or work as a student trainee in a company or as a student assistant in the university – both during and outside the lecture period. Information on the legal conditions relating to part-time jobs for students is available in the "Jobben" brochure ("Jobben" refers to part-time jobs) published by the German National Association for Student Affairs. FAU's [job portal](#) is also updated regularly with new advertisements for part-time jobs.

Accommodation

The cities of Erlangen, Fürth, and Nuremberg offer a very good standard of living. They are popular places to live, meaning that accommodation is in high demand but often in short supply. This is particularly the case during the period before the start of a new semester. We therefore recommend that you start looking for accommodation as soon as possible. If you are flexible and also look in the surrounding area, you will have a better chance of finding somewhere affordable to live. The region has an excellent public transport system, so you should not have any problems getting to your place of study or work.

It is worth checking the available accommodation on the Internet every day, as new accommodation becomes available on a day-to-day basis. It pays to be flexible when it comes to the price, location, and available facilities of your accommodation.

Student Services Erlangen-Nürnberg runs its own [student accommodation](#) in Erlangen and Nuremberg. You will be informed about how to apply for a room in Student Services accommodation while you are in the process of applying to be admitted to FAU.

Support for international students and doctoral candidates

- Welcome event
- Tutors
- Specialist counselling

FAU Erlangen-Nürnberg

Founded in 1743, FAU has a rich history. It is a strong research university with an international perspective and one of the largest universities in Germany with 39,657 students, [272 degree programmes](#), 4,000 academic staff (including over 624 professors), [243 million EUR third-party funding](#), and partnerships with universities all over the world. Teaching at the university is closely linked to research and focuses on training students in both theory and practice to enable them to think critically and work independently. The research itself also strikes the perfect balance between a theoretical approach and practical application.

FAU's outstanding research and teaching is reflected in top positions in both [national and international rankings](#) as well as the high amount of [DFG funding](#) that its researchers are able to secure.



University location

FAU's two main sites, the cities of Erlangen and Nuremberg, are located at the heart of the Nuremberg Metropolitan Region. Both Erlangen and Nuremberg have their own unique charms. Erlangen is a city of 100,000 inhabitants, was the former home of the Huguenots, and it is a key location for Siemens. Nuremberg is a city with a metropolitan flair and a population of half a million. The opera, theatre, and museums, along with a lively pub scene and nightlife, offer plenty of opportunities to relax after a day in the lecture theatre, lab, or library. The highlights of the cultural calendar in Erlangen include the "Hörkunstfestival" (acoustic art festival), International Comic Salon, "figuren.theater.festival" (puppet theatre festival), "Poetenfest" (poetry festival), and the "ARENA... of the young arts" theatre and performance festival. A wide range of cultural institutions open their doors to visitors during the Blue Night in Nuremberg, and once every two years, the Long Night of Sciences gives the public a chance to take a look inside research institutions in Erlangen, Nuremberg, and Fürth. In summary, the mixture of academia, innovative companies, art, and culture makes the region the perfect place for creative minds. There is also plenty on offer for keen athletes and nature lovers. Fränkische Schweiz, a paradise for climbers and walkers, is located to the north of Erlangen and is at FAU's doorstep. Water sports enthusiasts will love the Franconian lakes and the university's water sports centre, which is located just south of Nuremberg.

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🌐 Course website: <https://www.ai.study.fau.eu>

📘 <https://www.facebook.com/fauenglish/>

🌐 <https://www.linkedin.com/company/fau-erlangen-n%C3%BCrnberg/>

📷 https://www.instagram.com/uni_fau/

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International Programmes in Germany - Database

www.daad.de/international-programmes

www.daad.de/sommerkurse

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German Academic Exchange Service

Section K23 – Information on Studying in Germany

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www.daad.de

GATE-Germany

Consortium for International Higher Education Marketing

www.gate-germany.de

Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

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