



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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# Master's degree



## Intelligent Interactive Systems

Bielefeld University • Bielefeld

### Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none"><li>English</li></ul>
Languages	<p>Courses are held in English (60%) and German (40%). Participants can choose to write their Master's theses in either language.</p> <p>This course has an English-speaking branch in which courses are guaranteed for non-German-speaking students.</p>
Full-time / part-time	<ul style="list-style-type: none"><li>full-time</li></ul>
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	15 July for the following winter semester (starting October)
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	Yes
Description/content	<p>The Master's programme in Intelligent Interactive Systems provides the training of knowledge and skills that enable students to analyse, design and develop state-of-the-art cognitive systems. Such cognitive systems are characterised by their ability to perceive a complex or open environment and to interact with it intelligently. An essential feature of such systems is their ability to learn and thus to adapt to unknown or changing environments, tasks, or users. Such systems are relevant in many areas such as robotics, autonomous agents, assistive systems, recommender systems or web information systems. Students in the programme will be increasingly enabled to work independently according to the scientific principles of machine learning and cognitive computer science. In addition to imparting knowledge, the Master's programme explicitly focuses on providing practical, professional skills as well as abilities such as interdisciplinary research methods, critical thinking, and teamwork.</p> <p>The contents of the study programme reflect the current developments towards modern intelligent systems that interact autonomously with their environment.</p>

# Course Details

<b>Course organisation</b>	<p>The programme provides three thematic blocks in which students can specialise: Interaction Technology (INT), Artificial Intelligence &amp; Machine Learning (AI), and Autonomous Systems Engineering (ASE).</p> <ul style="list-style-type: none"><li>• In the first semester, fundamental competencies can be acquired or extended in basics modules from each block.</li><li>• In the second and third semesters, specialisation takes place through advanced modules (theoretical-methodical contents) or applied modules (practical applied competencies). Both module types can be studied either as standard (5 credit points) or in-depth (10 credit points) version. Students can choose from a variety of courses offered in the respective block for the corresponding module types (basic/advanced/applied).</li><li>• In the first and second semesters, students are required to take courses from a Scientific Research Methods (SRM) module that conveys techniques of scientific work necessary for successful completion of the Master's thesis.</li><li>• In the third semester, there will be a group project (10 credit points), which is intended to involve three to five students. During this project, students will independently structure and carry out practical work. The objective is to encourage collaboration among students with diverse specialisations in the areas of INT, AI, and ASE. Assessment will consider both team performance and individual contributions separately, leading to an individual, non-graded module performance evaluation.</li></ul> <p><a href="#">» PDF Download</a></p>
<b>A Diploma supplement will be issued</b>	Yes
<b>International elements</b>	<ul style="list-style-type: none"><li>• Integrated/optional study abroad unit(s)</li></ul>
<b>Integrated/optional study abroad unit(s)</b>	<p>A double degree Master's programme combining the Master's in Computer Science (University of Bologna) and the Master's in Intelligent Interactive Systems (Bielefeld University) has been established. Up to five selected students will spend their third semester (and optionally also the fourth semester for the Master's thesis) in Bologna. If they successfully complete their studies, they will obtain both the Laurea Magistrale in Informatica delivered by the University of Bologna and the Master of Science in Intelligent Interactive Systems.</p>
<b>Course-specific, integrated German language courses</b>	No
<b>Course-specific, integrated English language courses</b>	No

## Costs / Funding

<b>Tuition fees per semester in EUR</b>	None
<b>Semester contribution</b>	<p>Since Bielefeld University does not charge tuition fees, every student only has to pay a social fee. The <b>social fee</b> includes the contribution to the <b>social ticket</b> for free public transport in the city and area of Bielefeld and on regional trains and buses in North-Rhine Westphalia for the whole semester.</p> <p>The current semester contribution is approximately 300 EUR.</p>

### Costs of living

Costs for studying in Germany are relatively high due to the living expenses.

- Rent in a room in student halls of residence or a private student hall, in a room or flat comes to approx. 280 EUR per month.
- The expected costs for student health insurance and other medical fees are about 80 EUR per month.
- Depending on your lifestyle, you might spend about 150 EUR on food each month.
- Altogether, monthly costs for food, clothes, leisure activities, social fees, travel expenses, telephone bills, and the other mentioned expenses add up to approx. 850 EUR.

There are several ways of cutting expenses in Bielefeld. For example, it is possible to rent a room in a student residence for about 230 EUR, and a meal at the student canteen (Mensa) costs only about 2.60 EUR.

### Funding opportunities within the university

No

## Requirements / Registration

### Academic admission requirements

The prerequisite for admission is a Bachelor's degree grade of at least 2.7 (according to the German grading system). In addition, the following knowledge is required to apply successfully:

- Knowledge and skills in foundations of computer science (e.g. algorithms, data structures, theoretical or technical computer science, computer architectures) of 30 ECTS or an equivalent total workload
- Knowledge and skills in mathematics (e.g. analysis, linear algebra, stochastics) amounting to 10 ECTS or an equivalent total workload
- Applicants are required to have knowledge and skills in basic technical methods for the development of intelligent systems.(e.g. machine learning, artificial intelligence, pattern recognition, robotics, image/language processing, human-machine interaction) to the extent of 30 ETCS or an equivalent total workload. Alternatively, knowledge and skills in interdisciplinary foundations of intelligent or interactive systems (e.g., from psychology, neurobiology, linguistics, philosophy) are recognised up to 10 ETCS or a corresponding total workload.
- A further condition for admission is language competency in English at a proficiency level of B2 (CEFR) or higher. You can find the details below.

When applying, each applicant needs to provide a list of courses passed successfully during their qualifying degree (Bachelor's) in each of the three areas, along with the ECTS or the overall workload for each course.

### Language requirements

Applicants are required to prove that their English is at a proficiency level of B2 (CEFR) or higher. This corresponds to TOEFL 72+ points, IELTS 5.5+, or Cambridge First Certificate (CFE). The regular German high school diploma (Abitur) qualifies for this, too.

### Application deadline

15 July for the following winter semester (starting October)

### Submit application to

<https://campus.uni-bielefeld.de/qisserver/pages/cs/sys/portal/hisinoneStartPage.faces>

## Services

### **Possibility of finding part-time employment**

Basically, with your residence permit (stamp in your passport), you will receive a work permit for 120 work days per year. This allows you to work 120 full days (eight hours per day) or 240 half days (up to four hours per day). This condition must be noted expressly in the passport by the authorities.

### **Accommodation**

Please try to secure accommodation in Bielefeld as early as possible. In Bielefeld, a broad range of accommodation options can be found at affordable prices. Students residences are run by the public "Studierendenwerk" or private organisations, and shared flats are very common.

Offers of accommodation can be found online by following the links below:

- [Studierendenwerk Bielefeld](#) (dormitories)
- [WG-gesucht.de](#) (private shared accommodation)

The International Office supports students who are searching for accommodation.

### **Career advisory service**

Career planning is a step-by-step development and clarification process that requires individual strategies. Based on a strengths- and resource-oriented approach, we support you in developing your own career prospects.

Depending on your needs, our Career Service at Bielefeld University will accompany you throughout the entire process or in individual steps.

<https://www.uni-bielefeld.de/themen/career-service>

### **General services and support for international students and doctoral candidates**

At PunktUm, our German Learning Centre, we offer a comprehensive range of academic support programmes that are designed to meet the needs of international members of the Bielefeld University. These include the Academic Mentoring Programme for Master's students, the Peer Mentoring Programme for Bachelor's students, and semester-long workshops designed to help all students and researchers with academic writing. We also offer individual consultations on academic writing in German as a Foreign Language (DaF) or German as a Second Language (DaZ).

The International Office provides an orientation programme for all international members of Bielefeld University, including degree seekers (BA and MA), double degree students, Erasmus/cooperation students, doctoral students, scholars, interns, and refugees/preparing applicants. Example of activities include Café International, campus tour, introductions to digital services and administrative procedures.

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# Bielefeld University

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As a university internationally regarded for its top-level research and innovative teaching concepts, Bielefeld University makes a significant contribution to a progressive and participatory knowledge society. It is an attractive, family-friendly place to work and study and is characterised by an open communication culture, lived interdisciplinarity, diversity and freedom for personal development.

Bielefeld University was founded in 1969 with an explicit research assignment and a mission to provide high-quality research-oriented teaching. With more than 24,000 students, the University encompasses 14 faculties, covering a broad range of disciplines in the humanities, natural sciences, social sciences and technology. In addition, a medical faculty is in the process of establishment – a decisive step for Bielefeld University on its way to becoming a "Volluniversität" (full university) that offers a comprehensive range of disciplines.



## Contact

**Bielefeld University**  
Faculty of Technology

Inspiration 1  
33615 Bielefeld

✉ [iisy@techfak.uni-bielefeld.de](mailto:iisy@techfak.uni-bielefeld.de)

🌐 Course website: <https://www.uni-bielefeld.de/fakultaeten/technische-fakultaet/studium/master/iisy/index.xml>

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

🐦 <https://twitter.com/unibielefeld/>

📷 <https://www.instagram.com/bielefelduniversity/>

📺 <https://www.youtube.com/user/BielefeldUniversity>

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# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

DAAD - Deutscher Akademischer Austauschdienst e.V.  
German Academic Exchange Service  
Section K23 – Information on Studying in Germany  
Kennedyallee 50  
D-53175 Bonn  
[www.daad.de](http://www.daad.de)

## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://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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