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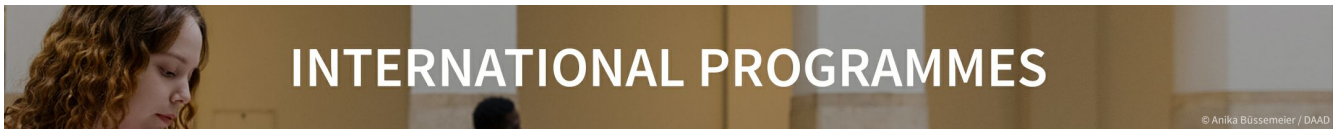

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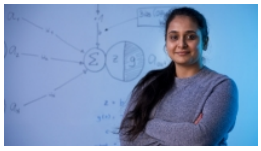
Master's degree

Artificial Intelligence

Brandenburg University of Technology Cottbus-Senftenberg • Cottbus




Overview

Degree	Master of Science
Course location	Cottbus
Teaching language	• English
Languages	The programme is designed to be completed entirely in English. It is possible, however, to take additional mandatory elective classes in German if one wishes.
Full-time / part-time	• full-time
Programme duration	4 semesters
Beginning	Winter and summer semester
Additional information on beginning, duration and mode of study	The semester begins in April for summer semester and October for winter semester.
Application deadline	• Applicants without European Union/European Economic Area citizenship: 15 July for the following winter semester and 15 January for the following summer semester • Applicants with European Union/European Economic Area citizenship: 31 August for the following winter semester and 1 March for the following summer semester Please be sure to check https://www.b-tu.de/en/artificial-intelligence-ms/admission for updates and further details.
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No

Description/content

If you want to understand and design the algorithms that underlie artificial intelligence, the international MSc in Artificial Intelligence programme is right for you. Here you will deepen your knowledge and learn to master the diverse and growing demands in the field of AI.

Such applications are, for example, autonomous driving, facial recognition, big data science, medical data analysis, robotics, cyber security, or the intelligent control of technical systems such as power plants or energy networks.

Through a combination of current knowledge and modern methods from computer science, psychology, and mathematics, you will be able to research and design complex artificial intelligence procedures. Such methods are, for example, Deep Learning, Support Vector Machines, Markov Random Fields, Wavelets, Bayesian Networks, optimal reasoning, knowledge representation, pattern recognition, multi-scale representation, programme verification, or constraint-based programming. You learn to conceptualise AI methods, to test their special properties, to validate them, to develop them further and to implement them in a targeted manner.

This degree programme places a core focus on explainable artificial intelligence. An AI procedure should not only generate a result but must also be predictable and describable, so that users can trust the system. Of course, you will also learn to assess and critically question the limits and implications of applying artificial intelligence to socially relevant problems. An increasing number of companies and research institutions are ensuring their future development by looking for specialists with innovative and creative design skills in the field of artificial intelligence. Many of our cooperation partners, such as the Lausitz Center for Artificial Intelligence (LZKI), the Leibniz Institute for High Performance Microelectronics (IHP), the German Aerospace Center (DLR), Fraunhofer Institutes, or Rolls Royce offer opportunities to work on research projects during your studies or to write your Master's thesis there.

If you are more interested in building and further developing complex hardware- or software-based systems of AI, we recommend our Master's programme in "Artificial Intelligence Engineering" (taught in German).

The courses in the international MSc degree programme in Artificial Intelligence are taught in English.

Professional Fields of Activity

- Data science
- Mathematical data analysis
- Medical data analysis
- Development of algorithms and methods of artificial intelligence, e.g. machine learning
- Mathematical and scientific treatment of questions concerning artificial intelligence
- Autonomous driving and assistance systems
- Intelligent control systems, for example, supply chains or energy and environmental sectors
- Collaboration in universities and research departments

Course Details

Course organisation

The Master's programme consists of four semesters with 30 credit points each. The core of the curriculum is in three blocks of mandatory electives:

- Advanced Methods
- Knowledge Acquisition, Representation, and Processing
- Learning and Reasoning

At least six credit points need to be taken in each of the three blocks. At least eight credits worth of seminars or laboratories need to be taken. In addition to the coursework in the three mandatory electives blocks, one course in general studies must be taken and a Master's thesis needs to be completed. Finally, each student must do an internship, which offers students the opportunity to implement the subject-related and methodical knowledge gained through their courses in an industrial environment. It serves to link practical experience with research and teaching.

	The mandatory electives blocks contain modules that can be used by students whose previous degree is from a programme close to the AI to shore up essential knowledge in AI that their previous degree may not have contained. Of these modules, a maximum of 18 credit points can be used for the Master's programme. Modules that have been used by the student as part of their Bachelor's degree programme cannot be used again as part of the Master's programme. » PDF Download
International elements	• Projects with partners in Germany and abroad • International comparisons and thematic reference to the international context
Integrated internships	The programme includes a mandatory internship.
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	Apart from a few degree programmes, education offered at the BTU Cottbus-Senftenberg is without tuition fees. However, the university does charge a semester fee each semester (currently: winter semester 2024/25: 341.40 EUR). This covers costs for student services organisation, the Student Council as well as the semester ticket.
Costs of living	Studies abroad often have different types of expenses from the ones you know from your home country. You are responsible for covering your own living expenses. Accommodation and other essential living expenses will amount to around 700–950 EUR/month. Of course, this amount depends entirely on individual lifestyle. The following list gives you an idea of some fixed and variable costs that you should take into account for your stay in Germany. Monthly costs: rent (including utilities): 200–450 EUR groceries: approx. 170 EUR health insurance, medical fees, medication: approx. 120 EUR miscellaneous (clothing, study materials, other activities): 200–300 EUR total: 700–950 EUR The so-called "Deutschlandticket" included in the semester ticket allows you to travel using all local public means of transportation throughout Germany.
Funding opportunities within the university	Yes
Description of the above-mentioned funding opportunities within the university	Studying at BTU is mostly free of (tuition) fees. Because of this, there are only limited scholarship opportunities for international students. The International Relations Office is nonetheless pleased to be able to award a limited number of scholarships to international students already enrolled at BTU. You can find more information on BTU scholarship opportunities on our websites: https://www.b-tu.de/en/international/international-students/during-studies/scholarships

Requirements / Registration

Academic admission requirements	Admission requirements include a first qualifying degree (at least a Bachelor's degree) or a qualification equivalent to this in a programme closely related to computer sciences, such as artificial intelligence or mathematics with a focus on computer sciences. The theoretical, applied, and technical computer science and mathematics degree programmes should be comparable to the Bachelor's programme in Artificial Intelligence offered at BTU.
Language requirements	A certificate of proficiency in English must be provided. Accepted tests and minimum scores include: • a TOEFL certificate, minimum score of 79 points (iBT) • an IELTS certificate, minimum 6.0 • a Cambridge Certificate in Advanced English (minimum grade B) • a Cambridge Certificate of Proficiency in English (minimum grade C) • a UNIcert certificate, minimum grade II Applicants with a higher education entrance qualification from Australia, Canada, Ireland, New Zealand, Great Britain including Northern Ireland, or the United States of America do not have to submit separate proof of English language skills. Applicants who completed a secondary level degree in English in Germany or in one of the above mentioned countries are also exempted from presenting a formal English language certificate. Applicants who have acquired their higher education entrance qualification in Germany or at a German school abroad can also submit a certificate of higher education entrance qualification that shows English language skills at least at level B2 of the Common European Framework of Reference for Languages (CEFR). This proof can be provided, for example, by presenting an A-level certificate with corresponding confirmation from the school or by providing a document issued by the Ministry of Education in the respective federal state. This certificate must confirm that the required level of English (minimum of B2/CEFR) has been achieved. German language skills are not required for admission to this study programme.
Application deadline	• Applicants without European Union/European Economic Area citizenship: 15 July for the following winter semester and 15 January for the following summer semester • Applicants with European Union/European Economic Area citizenship: 31 August for the following winter semester and 1 March for the following summer semester Please be sure to check https://www.b-tu.de/en/artificial-intelligence-ms/admission for updates and further details.
Submit application to	International applicants must submit their application via the uni-assist online application platform: my.uni-assist.de. The application is submitted entirely online. Thus, no hard copies are required.

Services

Possibility of finding part-time employment	There are job opportunities both in town and on campus. Nevertheless, please do not come to Germany expecting to be able to finance your entire studies by working. The study load is high, and it is not always easy to find a part-time job. Students from non-European countries are allowed to work either 120 whole days or 240 half days annually. The 120-day rule is not affected by mandatory internships or student assistance jobs at university. Students from EU member

countries, the European Economic Area (EEA) and Switzerland can work without restrictions during their studies in Germany.

Accommodation	BTU Cottbus-Senftenberg is a university with three locations where numerous student dormitories are provided. Students can choose between different room types. The room capacities in our dormitories are limited, thus we recommend to apply as early as you receive your admission letter for an apartment in the dormitories. In Germany, it is also very common for students to live alone or with friends. If three or more people share an apartment together, this is called a "WG" in German ("Wohngemeinschaft", which means a shared flat).
Career advisory service	The BTU Career Center (https://www.b-tu.de/en/careercenter) offers extensive support to international students and graduates, ensuring that students experience a smooth transition into the job market. We help students on their journey to a successful career path by offering seminars, workshops and career advisory services to ensure students succeed in their job application processes, and land a great position. Our offers include: • BTU Job Portal: online job board for students • BTU Campus-X-Change and BTU Matching Day: annual job fair and online recruiting event to connect students with employers • FIT@BTU: a DAAD-funded project that helps students make the transition to a successful career • Start up your Career in Brandenburg: a project co-financed by the EU and Brandenburg, with the aim of preparing international students for the Brandenburg job market
Support for international students and doctoral candidates	• Welcome event • Buddy programme • Support with registration procedures • Accompanying programme
General services and support for international students and doctoral candidates	The BTU offers a wide range of support during your preparation for your stay in Germany, your first days on campus and throughout your whole study programme. Among others, the International Relations Office offers the following services: • Welcome and Registration Point to support during the start of the semester • Onboarding Info Sessions to inform about important topics regarding the preparation for your studies • different excursions and events to take part and get to know the area • and much more...

Study and Research at a High Level in Germany: BTU Cottbus-Senftenberg

At BTU Cottbus-Senftenberg, we are passionately researching the questions of the future. Good teaching conditions are as important to us as conducting outstanding basic research and facilitating effective knowledge transfer into practical applications for industry and medium-sized businesses.

» more:
https://www.youtube.com/watch?v=cQ7klU54eM4&t=2s

Brandenburg University of Technology Cottbus-Senftenberg

The BTU welcomes you to start your academic journey!

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Located on three campuses and with about 60study programmes, BTU Cottbus-Senftenberg offers a broad spectrum of market-oriented programmes as well as traditional degree programmes.

From the natural sciences and engineering to economics, cultural studies, and even health sciences, BTU offers a wide range of courses. Our 17 study programmes taught exclusively in English are very popular among both German and international students from all over the world.

BTU is partnered with over 220 universities throughout the world, which provides students with a multitude of excellent opportunities to spend part of their time studying or conducting research abroad. Furthermore, in cooperation with ourinternational partner universities, BTU offers a wide range of double degree and joint degree programmes.

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Brandenburg
University of Technology
Cottbus - Senftenberg

University location

Cottbus is located in the north-east of Germany, between the country's capital, Berlin (100 km), and Dresden (120 km). With a population of approx. 100,000 inhabitants, Cottbus is the second largest city after Potsdam in the federal state of Brandenburg. The Polish border is only approx. 30 km away. The location of Cottbus offers a convenient starting point for trips into the picturesque region of Lower Lusatia. The landscape of Lower Lusatia is characterised by the Spreewald with its small canals and waterways as well as by the Slavonic minority called Sorbs or Wends. Their language, similar to Polish, is still used and spoken in Lower Lusatia. For this reason, many of the road signs and informational boards in Cottbus and the surrounding region are written in both Sorbian and German. Cottbus gained importance as a trade centre in the 12th century. Parts of the original city wall from the 14th century as well as the beautiful townhouses around the old market square are proof of the city's early splendour. Additionally, the city is characterised by buildings from the "Wilhelminian" times of rapid industrial growth in Germany, which occurred towards the end of the 19th century. The city that first rose to prominence with its cloth and linen weaving industry soon evolved into a growing centre of brown coal mining. Today, Cottbus is in the midst of a structural transformation. The BTU supports this development with its engagement in the Lausitz Science Park megaproject, which aims to build an appealing innovation landscape.

Senftenberg is the centre of the Lusatia Lake District. Former excavation and mining pits have been flooded in order to create the largest artificial lake system in Europe, with a total of 23 large lakes. The water sports area "Senftenberger See", with its water surface of 1,300 hectares, offers exceptional sailing and surfing opportunities, and it is suitable for all kinds of water sports. Senftenberg has thus become a tourist attraction within the region.

Contact

Brandenburg University of Technology Cottbus-Senftenberg
Department for Graphical Systems

Prof Dr Douglas Cunningham

Platz der Deutschen Einheit 1
03046 Cottbus

Tel. +49 355693881
artificial-intelligence-ms@b-tu.de
Course website: https://www.b-tu.de/en/artificial-intelligence-ms/

https://www.facebook.com/btucs/

https://www.linkedin.com/school/btu-cottbus-senftenberg/

https://www.youtube.com/c/btucottbussenftenberg

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Kennedyallee 50
D-53175 Bonn
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