



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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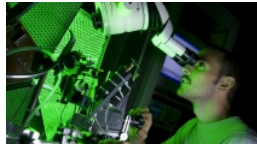
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Master's degree



Behaviour: From Neural Mechanisms to Evolution, MSc

Bielefeld University • Bielefeld



Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none">English
Languages	Courses are held in English (100%). The Master's thesis has to be written in English.
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	Online application between 1 June and 15 July
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>Brains are among the most complex systems in nature. They control perception, cognition and eventually the behaviour of animals and humans. Understanding the mechanisms that allow animals and humans to behave adaptively in complex environments is one of the most fascinating, but also most challenging tasks in science.</p> <p>The graduate programme "Behaviour: From Neural Mechanisms to Evolution" provides the relevant interdisciplinary scientific training for a comprehensive education. It introduces concepts, fundamental experimental techniques, and theoretical approaches that are required to perform research at the frontiers of this ambitious scientific field.</p> <p>The study programme aims to provide a comprehensive understanding of the fundamental principles underlying autonomous adaptive behaviour in animals and humans. It bridges the gap from neurophysiology to behavioural ecology. This goal is reached by relating two basic aspects that are usually treated separately.</p> <ul style="list-style-type: none">Computational Aspect: Behaviour is the result of computations performed by the nervous system of the organism at all relevant levels of complexity. These comprise the cellular and network level as well as the cognitive and behavioural performance of the entire system.

- **Evolutionary Aspect:** Brain morphology and function as well as the innate and learnt behaviours of animals and humans emerge from the developmental and everyday interactions of the organism with its environment. They have been shaped by selection in the course of evolution.

As a distinguishing characteristic, this study programme focuses on both computational and evolutionary explanations of behaviour and highlights their mutual relationship.

Although the interdisciplinary study programme is centred in the Faculty of Biology, a selection of curricular modules may also be selected from other fields such as psychology, computer science, robotics or linguistics. Some of the groups involved in the graduate programme are affiliated with the Centre for Cognitive Interaction Technology (<http://www.cit-ec.de>).

Course Details

Course organisation

Throughout the first year, basic concepts and current topics of mechanisms and evolution of brain and behaviour are taught in a comprehensive study programme. This combines both seminars and lectures with lab courses and small scientific projects. During the first year, emphasis is put on individual tutoring and intensive training in small groups.

Semesters 1 and 2:

- Module A "Probing Behaviour" (10 ECTS)
- Module B "Neural Mechanisms of Behaviour" (10 ECTS)
- Module C "Control of Behaviour" (10 ECTS)
- Module D "Perception and Action" (10 ECTS)
- Module E "Evolution of Behaviour" (10 ECTS)
- Module F "Function of Behaviour" (10 ECTS)

In the second year, students carry out independent projects in two of the participating research groups. These projects will eventually lead to the six-month Master's thesis project.

Semesters 3 and 4:

- Supplementary module (10 ECTS)
- Two research modules (A, B): Small research projects in preparation for the Master's thesis project (10 ECTS each)
- Participation in a weekly seminar series

It is recommended that at least the supplementary module will be done in a research group outside Germany.

Thesis: The Master's thesis project comprises original and independent research. Research projects are accompanied by training in scientific writing and oral presentation skills. The Master's thesis will be written in the format of international scientific journals (30 ECTS).

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A Diploma supplement will be issued

Yes

International elements

- Integrated study abroad unit(s)

Integrated study abroad unit(s)

It is recommended that students spend the summer break of their first year as well as the period of the supplementary module at a research lab outside Germany. During the third semester, up to 30 ECTS can be obtained at a non-German university (e.g., within the ERASMUS programme). Students receive support in selecting an appropriate international research group, e.g., from cooperating institutions.

Course-specific, integrated German language courses	No
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Course-specific, integrated English language courses	No
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Costs / Funding

Tuition fees per semester in EUR	None
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Semester contribution	Currently approx. 322 EUR per semester, including a public transport pass for the city of Bielefeld and the whole state of North Rhine-Westphalia.
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Costs of living	Rent (amounting to approx. 300 EUR in student halls of residence, private halls, rooms, or flats) and food (a meal in the students' canteen costs about 3-4 EUR) make up the largest part of the monthly living costs. However, other expenses are also often overlooked, such as learning materials, travel costs, insurance contributions / medical expenses, telephone/Internet/radio/television fees, and costs for leisure activities / cultural events / sports. These also have to be taken into account. Therefore, it is very difficult to indicate any lump sums, as the latter often depend on age, gender, and, above all, personal preferences and practices.
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Funding opportunities within the university	No
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Requirements / Registration

Academic admission requirements	BSc degree in biology, neuroscience, psychology, computer science, or any related subject
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Language requirements	Fluency in English is required. Evidence of English language skills: e.g. English as first language, first degree obtained at an English-speaking institution, TOEFL test (paper-based: TOEFL ITP® with a score record of at least 543; Internet-based: TOEFL iBT® with a score record of at least 87), IELTS (International English Language Testing System) with an overall band score of at least 5.5 or any other equivalent test (level B2 according to the Common European Framework of Reference for Languages) International students: working knowledge of German is necessary for daily private activities, German courses are strongly recommended.
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Application deadline	Online application between 1 June and 15 July
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Submit application to	https://campus.uni-bielefeld.de/qisserver/pages/cs/sys/portal/hisinoneStartPage.faces
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Services

Possibility of finding part-time employment

Basically, international students are allowed to work parallel to their studies for 120 full days or 240 half days per year without a work permit once they have successfully completed preparations for their studies and started a course.

A limited number of jobs are available at the university; however, jobs for students can also be found in companies in and around Bielefeld.

Accommodation

In Bielefeld, there are about 17 halls of residence run by the Association for Student Affairs (Studierendenwerk) at Bielefeld University (for further details, please see: <http://www.studierendenwerk-bielefeld.de/en/accomodation/our-residences/in-bielefeld.html>.) or by private organisations. Additionally, both single apartments and rooms in flatshares with other students are available on the private market. The rent for a room in Bielefeld amounts to about 200 to 280 EUR per month. The cost of furnished accommodation ranges between 200 and 380 EUR per month. The International Office assists students in their search for accommodation. For further information, please see: <https://www.uni-bielefeld.de/studium/studieninteressierte/informationen/wohnen/index.xml>.

Support for international students and doctoral candidates

- Welcome event
- Tutors
- Accompanying programme
- Specialist counselling

Bielefeld University



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Bielefeld University was founded in 1969 with an explicit research assignment and a mission to provide high-quality, research-oriented teaching. Today it encompasses 13 faculties covering a broad spectrum of disciplines in the humanities, natural sciences, social sciences, and technology. With around 25,000 students in more than 100 degree programmes, it is one of Germany's medium-sized universities. Since its foundation, the university has been guided by the principle of interdisciplinarity. A shining example is the Center for Interdisciplinary Research.

A transparent course structure with great permeability between subjects, flexibility of subject combinations, and elective elements allows each student to create an individual profile that paves the way to an excellent career in new occupational and research fields.

As an architectural expression of its interdisciplinarity, the university unites almost all its departments in only two adjacent buildings. This striking structure brings people working in different disciplines together in close proximity. The culture of communication is characterised by a great openness to new ideas. The central services are just a short distance away - this is true for the student guidance centre, the counselling centre, the computer centre, and the university library. All major rankings and evaluations confirm that it is one of the best and most service-oriented university libraries in Germany.

Bielefeld University is infinitely networked. Through this, people from more than 100 countries invest their cultural potential in research, teaching, and study. Another important building block in the Bielefeld network for excellence is the promotion of young scientists. Numerous junior research groups make Bielefeld even more interesting for young scientists.



University location

With around 340,000 inhabitants and an area of 258 square kilometres, Bielefeld is one of the 20 largest cities in Germany and the economic and cultural metropolis of East Westphalia-Lippe, located in the heart of Germany. Globally operating companies, such as Dr. Oetker, Miele, and Bertelsmann, have their headquarters in the city of Bielefeld. Historical industrial planning and building has left a lasting impression on the city to this very day. This is complemented by modern architecture and a wealth of intentionally created green areas. Over 60% of the city consists of green areas, parks, and woods. The city of Bielefeld is varied and colourful. Culture and sports fans will find a wide range of tempting offers here. These include an independent theatre culture, cabaret, and local concerts as well as large international cultural events. The heights of the Teutoburg Forest stretch from the south-east to the north-west of the town, offering hundreds of kilometres of walking trails. As one of the safest metropolises in Germany, Bielefeld offers a high quality of life.

Contact

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🌐 Course website: <https://www.uni-bielefeld.de/fakultaeten/biologie/studium/studieninteressierte/master/bfnme/>

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International Programmes in Germany - Database

www.daad.de/international-programmes
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Editor

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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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