



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



Agricultural Biosciences

Technical University of Munich • Freising



Overview

Degree	Master of Science (MSc)
Teaching language	<ul style="list-style-type: none">English
Languages	English
Full-time / part-time	<ul style="list-style-type: none">full-time
Mode of study	Fully on-site with voluntary online elements
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	<p>Application period: From 1 January to 31 May (for the following winter semester)</p> <p>For international students, we strongly recommend to apply as early as possible, ideally before 31 March.</p>
Tuition fees per semester in EUR	Varied
Additional information on tuition fees	For international students from third countries, i.e. countries that do not belong to the European Economic Area, tuition fees will be charged from the winter semester 2024/25. All information on fee levels, waivers and scholarship programmes can be found on the website on tuition fees for international students .
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	How can we secure the world's food supply? How can we preserve natural resources and

mitigate the effects of climate change?

By studying Agricultural Biosciences at the TUM School of Life Sciences, you will become an expert with a set of skills needed to address these and other important challenges of our time. The MSc Agricultural Biosciences programme offers courses in biological disciplines relevant for crop and livestock production. It integrates molecular, biochemical, physiological, genetic and genomic knowledge as well as quantitative and computational approaches in a unique, interdisciplinary agricultural programme.

Are you interested in enhancing your knowledge and skills for a future in the rapidly evolving field of agricultural science?

Agricultural biosciences offer solutions to major societal challenges. They can make significant contributions to securing food supplies, preserving natural resources, and mitigating the effects of climate change.

The Agricultural Biosciences international study programme **focuses on basic biological research for an efficient and environmentally-friendly agricultural production of crop and livestock species**. It aims to understand crop and livestock species from the level of cells up to the whole organism and populations.

In contrast to other Master's programmes that have a specialised view on basic research and distinguish between plant and animal science, we at TUM believe that a generic approach is more timely, as many biological mechanisms are shared between plants and animals. A strong focus on molecular and computational methods reflects the TUM strategy to value innovation as the basis for knowledge.

The MSc Agricultural Biosciences programme deals with different organisms, namely plants, animals and microbes. The programme takes advantage of the synergistic effects created by integrated studies on plant and animal species teaching generic as well as specific biological concepts, methods and tools. It reflects the high level of innovation in agricultural biosciences and prepares graduates for a multi-path career, allowing for flexibility and migration in the job market.

As a graduate, you will...

- have a profound **understanding of the scientific basis** of biological processes relevant for agricultural production.
- be able to **perform research** in the field of Agricultural Biosciences and link your knowledge and results to other disciplines
- be aware of **societal challenges and demands** in the context of Agricultural Biosciences and possess the **social skills** to communicate across disciplines and cultures
- have developed your own **competencies** for navigating in a changing environment and managing complex projects

Upon graduating, you will be able to find employment in the national or international job market, e.g., at universities, at research institutes, in the public sector or in biotech, breeding and **life science companies**.

Furthermore, more and more young scientists with expertise in agricultural biosciences are finding employment in **smaller companies** and **start-ups in areas such as biotechnology and machine intelligence**.

Course Details

Course organisation

During the first and second semesters, five compulsory modules (Physiology, Plant and Animal Cell Biology, Immunology: Crop and Livestock Health and Disease, Genetics and Genomics as well as Statistical Computing and Data Analysis) have to be completed. After passing these core courses, students possess solid knowledge in basic biological concepts relevant for agricultural production.

Elective modules are very important in the study programme. You can choose from a list of different lab courses that cover either molecular or computational techniques. In addition, the programme offers research tool modules that allow for independent study and enable students to perform

research in the field of Agricultural Biosciences.

By virtue of the mobility window in the third semester, students are encouraged to gain international study experience through exchange programmes such as Erasmus+ or TUMexchange. If approved by the Examination Board, you will be able to take up a research internship outside TUM, e.g., with a qualified industry partner or an external research organisation.

The fourth semester is devoted to preparing the Master's thesis, which concludes the study programme. In their theses, students identify and address a research question in the Agricultural Biosciences by choosing and implementing appropriate molecular, experimental or data methods. The thesis will serve to raise your professional profile.

For more information, you can also watch our [video](#): "Agricultural Biosciences – What makes this international Master's programme so unique?"

International elements	<ul style="list-style-type: none">Integrated study abroad unit(s)
Integrated study abroad unit(s)	The Master's programme strongly encourages students to use the mobility window by spending an exchange semester at a foreign university, thereby giving students the opportunity to deepen their expertise.
Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

Online learning

Pace of course	Instructor-led (Specific due dates for lectures/assignments/exams)
Phase(s) of attendance in Germany (applies to the entire programme)	Yes, compulsory
Types of online learning elements	<ul style="list-style-type: none">Online sessionsOther

Costs / Funding

Tuition fees per semester in EUR	Varied
Additional information on tuition fees	For international students from third countries, i.e. countries that do not belong to the European Economic Area, tuition fees will be charged from the winter semester 2024/25. All information on fee levels, waivers and scholarship programmes can be found on the website on tuition fees for international students .

Semester contribution	<p>The semester fee is a combination of the student union fee and the solidarity fee for the semester ticket.</p> <p>Learn more on the current amount</p>
Costs of living	<p>You will find a rough estimate on costs of living on the website of the student union.</p>
Funding opportunities within the university	<p>Yes</p>
Description of the above-mentioned funding opportunities within the university	<p>Germany Scholarship at TUM:</p> <ul style="list-style-type: none"> • Who can qualify: currently enrolled undergraduates and graduates with university entrance certificates from Germany or abroad • Scholarship amount: 300 EUR per month • Qualification requirements: academic achievement and aptitude, social engagement, a sense of responsibility and special circumstances such as physical handicaps or a minority status <p>Scholarships for international students:</p> <ul style="list-style-type: none"> • Who can qualify: currently enrolled undergraduates and graduates with non-German university entrance certificates • Scholarship amount: one-time financial aid of 500 to 1,500 EUR per semester • Qualification requirements: Good academic record (merit), proven need (low income)

Requirements / Registration

Academic admission requirements	<p>Admittance to the Master's programme requires a Bachelor of Science degree of at least six semesters awarded by a German or foreign university, or at least an equivalent degree in the field of life sciences with a focus on plant and/or animal sciences. In particular, this degree should be from a study programme in Agricultural Sciences, Horticultural Sciences, Life Sciences Biology or Molecular Biotechnology, or it should be from a comparable study programme.</p>
Language requirements	<p>Applicants must provide proof of their English skills before the end of the application period.</p> <p>Presumed English language proficiency: TOEFL with at least 88 points or IELTS with at least 6.5 points</p> <p>Learn more about recognised certificates and other ways to prove your language skills.</p>
Application deadline	<p>Application period: From 1 January to 31 May (for the following winter semester)</p> <p>For international students, we strongly recommend to apply as early as possible, ideally before 31 March.</p>
Submit application to	<p>In order to apply at TUM, you need to open a TUMonline account. Our application wizard will guide you through the online application procedure step by step.</p>

Services

Possibility of finding part-time employment

Student jobs are offered regularly within the departments and institutes of the university. Some students work at the nearby airport. Student assistant positions are also available.

Accommodation

It's not easy to find a place to live in Munich – but it's not impossible either! The Technical University of Munich (TUM) supports students and staff in their search for accommodation, providing personal advice, listings for housing and useful information to ensure that you can quickly find a place to call your own.

[Click here to learn more.](#)

Career advisory service

The [TUM Career Service](#) offers students, graduates, doctoral candidates and alumni individual counselling appointments. The consultations range from application portfolio checks and decision-making assistance to career orientation and classic career counselling/planning.

Support for international students and doctoral candidates

- Welcome event
- Buddy programme

General services and support for international students and doctoral candidates

Fit for TUM – service fair for newcomers



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Sukhmanpreet Kaur
MSc Agricultural Biosciences

The programme helps students to gain experience in agro-biotechnology and genetic engineering in order to bring innovations in the crop and livestock agribusiness.



Agricultural Biosciences – What makes this international Master's programme so unique?

The TUM School of Life Sciences has developed a unique international Master's programme in Agricultural Biosciences. This new course of study uniquely combines the different disciplines of animal and plant sciences and creates excellent conditions for committed young scientists.

Come and join us. Study Agricultural Biosciences. You can make a difference!

» more:

<https://www.youtube.com/watch?v=HLajnyi0ZfA>

Technical University of Munich



Green campus: TUM School of Life Sciences

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The Technical University of Munich (TUM) is one of Europe's leading research universities, with around 550 professors, 41,000 students, and 10,000 academic and non-academic staff. Its focus areas are the engineering sciences, natural sciences, life sciences and medicine, combined with economics and social sciences. TUM acts as an entrepreneurial university that promotes talents and creates value for society, in that it profits from having strong partners in science and industry. It is represented worldwide with the TUM Asia campus in Singapore as well as offices in Beijing, Brussels, Cairo, Mumbai, San Francisco, and São Paulo. Nobel Prize winners and inventors such as Rudolf Diesel, Carl von Linde, and Rudolf Mößbauer have done research at TUM. In 2006, 2012 and 2019, it won recognition as a German "Excellence University". In international rankings, TUM regularly places among the best universities in Germany.

The Technical University of Munich has concentrated its expertise in life sciences in the TUM School of Life Sciences at the modern Weihenstephan campus in Freising. From molecules to plants and animals to ecosystems and landscapes, Molecular Life Sciences, Life Science Systems and Life Science Engineering are explored and taught under the motto of "One Health".



University location

Munich is a city with a cosmopolitan, international outlook. In all areas of life – from economy to science, culture to sport, night-life to nature – people from all over the world are drawn to Munich's creative, dynamic lifestyle.

Freising is located approx. 35 kilometres north of Munich on the Isar River. Freising is renowned for its ancient history, the bishop's cathedral on Cathedral Hill (Domberg) and the oldest working brewery of the world on Weihenstephan Hill. This is where the TUM School of Life Sciences is situated. From the viewing terrace of TUM's Weihenstephan campus, the Alps look close enough to touch, and the clear waters of the Bavarian lakes are just an hour away.


Contact

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 Course website: <https://www.ls.tum.de/en/ls/studies/courses-and-programs/agricultural-biosciences-msc/>

 <https://www.facebook.com/TU.Muenchen/>

 https://twitter.com/tu_muenchen

 <https://www.linkedin.com/school/technische-universitat-munchen/mycompany/>

 <https://www.instagram.com/tu.muenchen/>

 <https://www.youtube.com/user/TUMuenchen1>

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Disclaimer

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