



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



Hybrid Electric Propulsion Technology

Brandenburg University of Technology Cottbus-Senftenberg • Cottbus



Overview

| | |
|---|---|
| Degree | Master of Science (MSc) |
| Course location | Cottbus |
| Teaching language | <ul style="list-style-type: none">English |
| Languages | All course units are taught in English. |
| Full-time / part-time | <ul style="list-style-type: none">full-time |
| Programme duration | 4 semesters |
| Beginning | Winter semester |
| Additional information on beginning, duration and mode of study | The programme always starts in the winter semester. |
| Application deadline | EU and non-EU applicants: 15 July for the following 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 international MSc Master's degree programme in Hybrid Electric Propulsion Technology teaches the scientific approaches and techniques that enable graduates to develop technologies aimed at significantly reducing emissions in aviation and other mobility sectors. The degree programme is committed to the goal of internationality and interdisciplinarity.</p> |

As part of the Master's degree programme, students are taught state-of-the-art knowledge about

hybrid drive systems in order to prepare them for the expanding industries in the field of next-generation drive technology. In terms of content, the programme focuses on the two main areas of engine technology and electric drive technology as well as interdisciplinary study components that meet the requirements for employment in companies or scientific institutions in both fields.

In the degree programme, students acquire in-depth theoretical and practical engineering knowledge and skills in the fields of aircraft propulsion, electric propulsion technology, aerothermodynamics, combustion science, structural mechanics, design, production and approval procedures as well as life cycle analysis and control engineering. This enables students to work independently and in an interdisciplinary manner on tasks and problem solutions as well as to evaluate work results and processes, including the development of alternative courses of action and interactions with related subject areas.

Graduates of the programme will be able to work in different fields related to sustainable mobility worldwide such as academic and industrial research and development, design and manufacturing industries as well as planning and policy-making organisations.

Course Details

Course organisation

The MSc Master's degree programme in Hybrid Electric Propulsion Technology offers extensive freedom of choice with recommendations for suitable module combinations to achieve a subject specialisation.

The degree programme consists of the following:

- elective modules from the area of subject specialisation (36 CP)
- elective modules from the area of subject-specific studies from either the major field of Engine Technology or the major field of Electric Drive Technology (42 CP)
- a study project of the student's own choice (6 CP)
- interdisciplinary studies (6 CP)
- a compulsory internship (12 CP)
- the Master's thesis (18 CP)

If 42 CP from one major field have been completed and passed, this major field will be shown on the Certificate of Completion. A cross-major field selection of modules is possible, but only the major fields that have been passed will be listed on the Certificate of Completion.

The range of elective modules can be adjusted on a semester-by-semester basis if required, provided that the standard period of study is adhered to.

A compulsory internship of at least eight weeks must be completed as part of the degree programme.

Mobility windows for completing a period of study abroad are available either after the first or after the third semester, depending on the progress of studies and the adherence to the standard curriculum. Students are advised to make use of individual subject-specific study advice on how to organise their stay abroad.

Each student chooses a mentor during their studies. Eligible mentors are assigned to each year group from among the teaching staff. A change of mentor should only take place in justified cases. Within the first three weeks of the first semester, each student draws up a binding individual study plan for his or her intended further course of study. The study plan and any changes during the course of study must be discussed with the mentor and confirmed by the mentor. The confirmed study plan must then be filed with the Registrar's Office by the end of the first semester at the latest.

» [PDF Download](#)

A Diploma supplement will be issued

Yes

International elements

- Specialist literature in other languages
- Projects with partners in Germany and abroad
- International comparisons and thematic reference to the international context
- Content-related regional focus

Integrated internships

A compulsory internship of at least eight weeks must be completed as part of the degree programme. It can also be completed abroad.

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

Applicants must hold at least a Bachelor's degree in engineering that grants access to a Master's degree programme in Germany and that is subject-specifically relevant for admission to the MSc Hybrid Electric Propulsion Technology degree programme – preferably in the fields of mechanical engineering, aerospace engineering, electrical engineering, energy engineering and in related courses of study.

Information on the recognition of European and international higher educational qualifications can be found on [anabin](#), which is the database of the German authorities.

Language requirements

Certificate of proficiency in English must be provided. Accepted tests and minimum scores are:

- TOEFL (internet based 79 points)
- IELTS (minimum 6.0)
- Cambridge Certificate in Advanced English (min. B)
- Cambridge Certificate of Proficiency in English (min. C)
- UNICert (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 a 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, which shows English language skills at least at level B2 of the Common European Framework of Reference for Languages (CEFR). This proof is 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 confirming 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

EU and non-EU applicants: 15 July for the following winter semester

Submit application to

International applicants must submit their application online to the University Application Service for International Students, [uni-assist](#).

Applicants with a German higher education degree should apply via BTU's [Online Application Portal](#).

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...



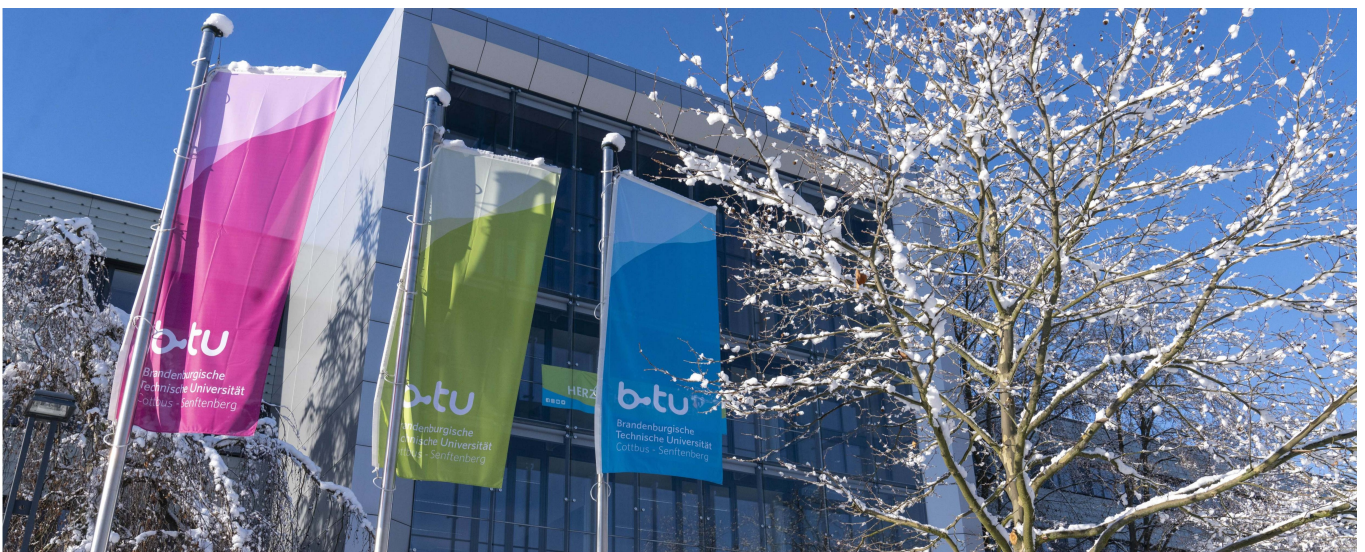
Study and Research at a High Level in Germany: BTU Cottbus-Senftenberg

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 60 [study 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 our [international partner universities](#), BTU offers a wide range of [double degree and joint degree programmes](#)



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

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🌐 Course website: <https://www.b-tu.de/en/hybrid-electric-propulsion-ms/>

📘 <https://www.facebook.com/btucs/>

🐦 https://twitter.com/BTU_CS

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

📺 <https://www.youtube.com/c/btucottbussenftenberg>

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International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

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Disclaimer

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