Master's Degree Programmes at Bern University of Applied Sciences School of Engineering and Information Technology

▸ School of Engineering and Computer Science

The master's degree programmes at a glance

	Master of Science in Engineering (MSE)	Master of Science in Biomedical Engineering (BME)	Master of Science in Precision Engineering (PE)
Institution	Cooperation master's degree programme run jointly by all Swiss universities of applied sciences	University of Bern in cooperation with BFH-TI	Master's degree programme run jointly by Bern University and BFH-TI
Title/degree	Master of Science BFH in Engineering with a specialisation in…	Master of Science in Biomedical Engineering with special qualification in…	Master of Science in Precision Engineering with qualification in…
Scope	90 ECTS credits	120 ECTS credits	120 ECTS credits
Duration/modes of study	3 semesters (full-time) Max. 7 semesters (part-time)	4 semesters (full-time), extensions and part-time possible	4 semesters (full-time), part-time possible
Tuition languages	German/French/English	English	English
Location	Zurich, Biel, Burgdorf, Lausanne, Lugano	Bern, Biel (only for the Electronic Implants specialisation)	Bern, master's thesis in Bern, Biel or Burgdorf
Course fees	CHF 750 per semester	Approx. CHF 805 per semester	Approx. CHF 805 per semester
Start date	Week 38 (autumn semester) Week 8 (spring semester)	Week 38	Week 38
Admission	Bachelor's or master's degree (university or university of applied sciences) with good to very good academic standard (see 'Eligibility + Entry' at bfh.ch/mse for information on how qualifications are assessed). The degree must be related to the area of expertise of the chosen specialisation.	Uncond.: bachelor's/master's degree (university/university of appl. sciences) in engineering, physics or related discipline. Only graduates with a very good standard of academic achievement are capable of meeting the requirements of the programme. Graduates of the BSc in Medical Informatics, Industrial Engineering and Mgmt. Science or other disciplines can apply based on academic background and performance ('sur dossier').	Bachelor's or master's degree (university or university of applied sciences; minimum grade 4.5 or Grade D on the ECTS grading scale, with interview) and a background in a relevant scientific or technical field.
Degree programme structure	1/3 basic training, 2/3 technical specialisation including thesis	1/3 basic training, 2/3 technical specialisation including thesis	1/4 basic training, 3/4 technical specialisation including thesis
Basic training	– Technical scientific modules – Extended fundamental theoretical principles – Context modules (management, communication, culture)	– Basics in Human Medicine – Basics in Applied Mathematics – Basics in Biomedical Engineering	– Ultraprecision Engineering – Precision Optics – Physics and Structural Mechanics – Materials and Analytics – Modelling and simulations – Control and Automation
Specialisations	– Business Engineering – Computer Science – Data Science – Electrical Engineering – Energy and Environment – Mechanical Engineering – Mechatronics and Automation – Medical Engineering – Photonics	– Biomechanics – Electronic Implants – Image-Guided Therapy	– Optical Engineering – Ultraprecision Engineering
Choice of specialisation	At start of course (with registration)	After 1st semester	After 1st semester
Choice of course/ specialisation	In consultation with an adviser	Compulsory subjects worth 18 ECTS credits. Free choice of elective subjects, although there are recommendations for each specialisation.	Compulsory subjects worth 24 ECTS credits, including 12 Creative Engineering Lab ECTS credits. Optional courses worth 6 ECTS credits chosen from provided course list.
Master's thesis	30 ECTS credits	30 ECTS credits (6 months)	30 ECTS credits (6 months)
Special features	– Industry Fellowship programme: Placement as a working student at a company. – Employment as a research associate at BFH-TI. Students work on company projects. – Research Fellowship programme: Employment at BFH-TI research laboratory – Part-time study with employment as a part-time assistant in a BFH-TI research lab	– Facilitated access to university master's programmes for UAS graduates – Option to pursue a doctorate – Entire programme in English – Part-time study allows students to work part-time as assistants at a University of Bern/BFH-TI research lab – Course takes place on three weekdays	– Creative Engineering Lab – Entire programme in English – Option to pursue doctorate – Facilitated access to university master's programmes for UAS graduates – Part-time study allows students to work part-time as assistants at a University of Bern/BFH-TI research lab
Practical focus	Active collaboration on current research projects	– Lecturers from industry and clinical practice involved in tuition – Range of practice-oriented courses and block internship programmes – Active collaboration on current research projects in the master's thesis	– Lecturers from industry involved in tuition – Work on real-world problems in the Creative Engineering Lab – Active collaboration on current research projects in the master's thesis
International	Option to spend a semester studying abroad	Option to spend a semester studying abroad	Under certain circumstances, master's theses can be completed abroad.

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Graduation theses

Master of Science in Biomedical Engineering
bme.master.unibe.ch
Study coordination:
+41 31 632 25 34
bme@artorg.unibe.ch

Annual report

Master of Science in Precision Engineering
precision-engineering.unibe.ch
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Key details about the study

UNIVERSITÄT BERN

MASTER OF SCIENCE IN ENGINEERING

02/2022