UNIVERSITY OF TECHNOLOGY
IN THE EUROPEAN CAPITAL OF CULTURE
CHEMNITZ

Faculty of Mechanical Engineering
Bachelor‘s degree programme
Sports Engineering

“The interface between human being and technology has a decisive significance especially in the sports area. The combination of two fields of knowledge with totally different requirements and methods makes the course very fascinating and imparts cross-sectional knowledge which is demanded for the design of each technical facility operated by humans.” (Prof. Dr. Stephan Odenwald, holder of the professorship Sports Equipment & Technology)

What characterises the Bachelor‘s degree programme Sports Engineering?

Every Athlete depends on his sport equipment, whether it is a sport shoe with special damping characteristics, a state-of-the-art racing bike or an individually adapted tennis racket. The Sports Engineering program takes into account the raising significance of the interaction human being with equipment in the area of sports and links two fascinating research fields: Human Movement and Engineering Sciences. Within the programme students will be enabled to think and act in a transdisciplinary way. The studies will focus on challenges which can only be solved by a joint contribution of sports science and technology.

“I can highly recommend this transdisciplinary course to everyone who is fascinated by technologies for practice and support of human movement. I appreciate especially the broad teaching of engineering sciences and their junction with sports sciences at Chemnitz University of Technology.” (Dr. Peter Wolf, Graduate, Sensory-Motor Systems Lab, ETH Zürich)

Degree Structure

Basic Modules (1st - 5th semester)

- Mathematics and natural sciences: Higher Mathematics, Experimental Physics, Introduction to MATLAB
- .Engineering: Technical Mechanics, Engineering Design/Mechanical Components, Materials, Basics of Polymer Technology, Electrical engineering/Electronics, Manufacturing engineering, Mechanism Design, Basics of Measurement Technology
- .Human Movement Science: Basics of biomechanics and movement science, anatomy and physiology

In-depth Modules of Sport Technology (1st - 6th semester)

- Introduction to the design of sports equipment
- Microcontrollers and electronics in sport
- Sports in practice
- ports equipment and materials in practice

- MATLAB in Sports
- Project
- Research areas in the field of sensorimotor technology

Complementary Module (4th - 6th semester)

- compulsory module: Basics of research methodology and data analysis, applied statistics
- Choice of subjects: e. g. Technical Mechanics, Higher Mathematics, Technical Thermodynamics, Mechanics of Fluids, Human-Technology-Interaction, Fibre Reinforced Construction

Module Bachelor Thesis

Along with studies in the 6th semester

Career Opportunities

Graduates will find a great variety of interesting occupational areas on the German as well as on the international job market, for example:

- Development of equipment technology for leisure time, prevention and fitness
- Development and maintenance of apparatus for diagnostics and rehabilitation
- Operation and maintenance of technical equipment in training centres
- Employment at institutions for certification, standardization and testing
- Implementation of R&D-projects at scientific institutions and in enterprises

After the successful completion of the Bachelor‘s degree programme it is possible to deepen and enlarge the acquired knowledge in Master‘s degree programmes. Chemnitz University of Technology offers a Master degree program in Sports Engineering.

General information

Faculty of Mechnical Engineering

Admission requirements: usually general qualification for university entrance; proof of a 6-week basic industrial internship no later than the start of the 6th semester

Standard period of study: 6 semesters (part-time study possible)

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Degree: Bachelor of Science (B.Sc.)

Start of the degree programme: usually winter semester

Language of tuition: German

Further information

Studying in Chemnitz

www.study-in-chemnitz.com

Online application

www.tu-chemnitz.de/studienbewerbung

FAQ - Frequently Asked Questions

www.tu-chemnitz.de/studierendenservice/faq.php.en

Student Service Point

Straße der Nationen 62, room A10.043
+49 371 531-12125
admission@tu-chemnitz.de

Central Course Guidance Service

Straße der Nationen 62, room A10.046
+49 371 531-55555
studienberatung@tu-chemnitz.de

Academic Course Guidance

For an overview of all academic counsellors
www.tu-chemnitz.de/studienberater

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