



ELECTRICAL ENGINEERING

BSc
Full-time 
Campus WELS 

Electrical Engineering: Powering the World!

One of the leading trends today is the shift towards environmentally friendly electrical energy supply. This degree programme is focused on the design, operation and production of devices for modern electrical power supply, electrical energy distribution and transport, as well as power conversion. This covers components for smart grids, renewable energy utilisation and electric cars. The aim of the Electrical Engineering degree programme is to provide graduates with the skills and know-how required to be able to meet the demands of international electrical energy engineering in the future. Our degree programme is highly practical and includes an internship, in addition to the possibility of an exchange semester with one of our worldwide partner universities.

Career Profile

The future tasks of our graduates cover the development, manufacturing, maintenance, operation and technical support of devices for electrical energy systems, as well as technical consulting. They will also find themselves in the planning and discovery of new and modern energy supply concepts and technologies (such as electrical cars).

Focus of Studies

- » Fundamentals of electrical engineering and mechanical engineering
- » Electrical apparatuses, machines and drives
- » Electrical systems for energy transport and distribution
- » Modern electrical systems, including smart grid technology
- » High voltage engineering
- » Power electronics and electrical drives, e.g. for electrical mobility
- » Control engineering

Praxis and Research

Students will spend approximately 50% of the class time in labs and skills practice classes, preparing them for hands-on application of their acquired theoretical knowledge. Additionally, a strong cooperation with local industry enables our students to obtain real-world experience during their project work and mandatory internship.

Students are also invited to join in R&D activities at the University in the form of student projects or as research assistants. Electrical storage systems, PV systems, e-mobility, power electronics, high voltage and high current engineering, switching devices and lightning protection are a few examples of the areas of principle interest.

Essential Information

Degree:
Bachelor of Science in Engineering (BSc)

Duration:
6 Semesters (180 ECTS)

Annual Intake:
30

Admission Requirements:
A-level/high school diploma or equivalent, English at B2 level

Application:
Non-EU Citizens: May 30th
EU-Citizens: June 30th
www.fh-ooe.at/application

Admission Procedure:
online application, personal/ MS Teams interviews with pre-selected candidates

Language of Instruction:
English

Mandatory Internship:
minimum 10 weeks in Austria or abroad

Semester Abroad:
Semesters abroad and internships are encouraged and actively supported.
international@fh-wels.at

Tuition Fees:
EU/EEA citizens: 363.36 EUR per semester (plus Austrian Student Union fee).
Citizens from non-EU/EEA countries: 726.72 EUR per semester (plus Austrian Student Union fee). Scholarships available as of the 2nd semester (merit-based)

Curriculum

1 st Semester		
Course Name	semester hours per week	ECTS
Mathematics I	4	5
Mathematics I (Skills Practice)	2	2,5
Electrical Engineering I	2	3
Electrical Engineering I (Skills Practice)	2	3
Electrical Engineering I (Lab)	2	4
Data Analysis	2	3
Information Technology	1	2
Information Technology (Skills Practice)	1	1
Powerplants for Electrical Power Generation	3	3
Language I (Skills Practice)	2	2
Communication with Intercultural Aspects	2	1,5
Total	23	30

2 nd Semester		
Course Name	semester hours per week	ECTS
Mathematics II	4	5
Mathematics II (Skills Practice)	2	2,5
Electrical Engineering II	2	3
Electrical Engineering II (Skills Practice)	1	2
Electrical Engineering II (Lab)	2	2
Physics for Engineering	2	4
Physics for Engineering (Skills Practice)	2	4
Programming C++	2	4
Language II (Skills Practice)	2	2
Presentation Techniques	2	1,5
Total	21	30

3 rd Semester		
Course Name	semester hours per week	ECTS
Electrical Machines I	2	3
Electrical Machines I (Lab)	1	2
Electrical Engineering III	3	4
Electrical Engineering III (Skills Practice)	2	2
Electrical Engineering III (Lab)	1	1
Measurement Engineering for Electrical Energy Systems	2	3
Measurement Engineering for Electrical Energy Systems (Skills Practice)	2	2
Measurement Engineering for Electrical Energy Systems (Lab)	2	3
Programmable Logic Control Basics	2	2
Programmable Logic Control Basics (Lab)	2	4
Language III (Skills Practice)	2	2
Project Management	2	2
Total	23	30

4 th Semester		
Course Name	semester hours per week	ECTS
Electrical Machines II	2	3
Electrical Machines II (Lab)	1	1
Components of Electrical Systems	3	5
Components of Electrical Systems (Skills Practice)	1	1,5
Components of Electrical Systems (Lab)	1	2
Microcontroller	2	2
Microcontroller (Lab)	3	3
High Voltage Engineering	3	3
High Voltage Engineering (Skills Practice)	1	2
High Voltage Engineering (Lab)	2	2
Printed Circuit Board Design	1	2
Language IV (Skills Practice)	2	2
Intercultural Competence for the Workplace	2	1,5
Total	24	30

5 th Semester		
Course Name	semester hours per week	ECTS
Introduction to Power Electronics	3	3
Introduction to Power Electronics (Lab)	2	2
Electrical Power Grids and Systems	4	5
Electrical Power Grids and Systems (Skills Practice)	2	2
Electrical Power Grids and Systems (Lab)	2	2
Control Engineering	3	4
Control Engineering (Lab)	2	3
Business and Economics	2	2
Business and Economics (Skills Practice)	2	2
Patents	1	1
Project	2	4
Total	25	30

6 th Semester		
Course Name	semester hours per week	ECTS
Basics of Scientific Work	0,5	1
Statutory Directives for Electrical Engineering	2	3
Internship	0,5	15
Bachelor Thesis I	0,5	8
Bachelor Exam	0	1
Teamwork and Conflict Management	2	2
Total	5,5	30

All non-German native speaking students will participate in German language classes. German native speakers will be enrolled in a foreign language class.

Subsequent Master's Degree Programme at Wels Campus

» Electrical Engineering 

International

Electrical Engineering is taught exclusively in English. Being able to not only communicate, but work in English automatically gives our students an advantage in an internationally-competitive industry. Additionally, we take pride in our international atmosphere, with staff and students representing over 50 different nationalities.

Did You Know that ...

... Electrical Energy is THE backbone of a modern society? No other form of energy plays such an important role. With the development of more and more efficient electrical energy supplies, engineers are in high demand. Our graduates are positioned to become members of a network of experts tasked with creating the future of electrical energy supply.

Contact

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