UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA
OBERÖSTERREICH

Campus Wels

EE

BSc

Electrical Engineering

Full-time,
English Language

Powering the World!

One of the leading trends today is the shift towards environmentally friendly electrical energy supply. This degree program 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 program 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 program is highly practical and includes an internship, and excursions to renowned companies, 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).

Study Focus

- Foundations of Electrical Engineering and Information Technology (IT)
- Electrical Apparatuses, Machines and Drives
- Modern Electrical Systems for Energy Transport and Distribution, including Smart Grid Technology
- High Voltage Engineering
- Power Electronics and Electrical Drives, e.g. for E-Mobility
- Control Engineering and Automation Engineering
- Measurement Engineering and Measurement Data Processing

Practical Experience 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.

Degree
- Bachelor of Science in Engineering (BSc)

Duration
- 6 semester (180 ECTS)

Admission Requirements
- A-level/high school diploma or equivalent
- English at B2 level (IELTS or TOEFL)

Application
- Online, details & deadlines on fh-ooe.at/application

Language of Instruction:
- English

Admission Procedure
- Online application
- Online interviews with pre-selected candidates

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). Scholarship available as of the 2nd semester (merit-based)

fh-ooe.at/ee

Curriculum

Course Name	SH / W	ECTS
→ 1st Semester		
Mathematics I	4	5
Mathematics I (Skills Practice)	2	2.5
Circuit Analysis	2	3
Circuit Analysis (Skills Practice)	2	3
Circuit Analysis (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
Summe	**23**	**30**

Course Name	SH / W	ECTS
→ 2nd Semester		
Mathematics II	4	5
Mathematics II (Skills Practice)	2	2.5
Electronic Circuit Design	2	3
Electronic Circuit Design (Skills Practice)	1	2
Electronic Circuit Design (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**

Course Name	SH / W	ECTS
→ 3rd Semester		
Electrical Machines	2	3
Electrical Machines (Lab)	1	2
Electromagnetic Fields	3	4
Electromagnetic Fields (Skills Practice)	2	2
Electromagnetic Fields (Lab)	1	1
Measurement Engineering for Electrical Energy Systems	2	3
Measurement Engineering for Electrical Energy Systems (Lab)	2	3
Measurement Data Processing (Skills Practice)	2	2
Programmable Logic Control	2	2
Programmable Logic Control (Lab)	2	4
Language III (Skills Practice)	2	2
Project Management	2	2
Total	**23**	**30**

Course Name	SH / W	ECTS
→ 4th Semester		
Electrical Drive Systems	2	3
Electrical Drive Systems (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**

SH / W = semester hours per week
All non-German native speaking students will participate in German language classes. German native speakers will be enrolled in a foreign language class.

Course Name	SH / W	ECTS
→ 5th Semester		
Power Electronics	3	3
Power Electronics (Lab)	2	2
Electrical Power Grids and Systems	4	5
Power System Analysis (Skills Practice)	2	2
Power System Analysis (Lab)	2	2
Control Engineering	3	4
Control Engineering (Lab)	2	3
Business Administration	2	2
Business Administration (Skills Practice)	2	2
Patents and Standardisation	1	1
Project	2	4
Total	**25**	**30**

Course Name	SH / W	ECTS
→ 6th Semester		
Basics of Academic Research	1	1
Statutory Directives for Electrical Engineering	1.5	3
Internship	0.5	15
Bachelor Thesis	0.5	8
Bachelor Exam	0	1
Teamwork and Conflict Management	2	2
Total	**5.5**	**30**

Subsequent Master's Degree Program at Wels Campus

→ Electrical Engineering (English Language)
→ Sustainable Energy Systems (English Language)

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.

Good to Know

→ 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

Head of Studies
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