

# SUSTAINABLE ENERGY SYSTEMS

MASTER'S DEGREE PROGRAMME, FULL-TIME 

## Come join us in pioneering the future

Sustainability is the key to future development, especially when it comes to energy utilisation and consumption. As natural resources become more and more limited or can only be explored by complicated and expensive processes, the utilisation of energy in a sustainable way is becoming more important and lucrative. This degree programme combines an education in energy systems with respect to sustainable energy resources, energy efficiency, the continuous replacement of traditional energy systems by sustainable and energy efficient systems as well as the management of (international) energy-related projects. Special emphasis is placed on learning and working in multicultural teams.

## Career Profile

There is a wide field of career prospects. These include the technical implementation of international projects, e.g. the construction of large-scale PV or wind power plants, project management, energy efficiency for energy systems (in-service behaviour, optimising operations ...), energy efficiency procedures (especially for industrial production processes) or energy distribution (renewable energy, energy distribution including smart grids and energy storage). Possible jobs would be among other things: engineer for energy systems (design, construction, maintenance and retrofit), technical consultant, expert for project financing and management, technical adviser for banks and insurance companies.

## Focus of Studies

- » Interdisciplinary, technical programme with focus on: energy utilisation of sustainable energy resources, energy storage, energy distribution, energy efficiency and ecology, energy markets, energy management
- » Business administration and intercultural management
- » International project management and development
- » International study groups
- » English as language of tuition

## Praxis and Research

For our students we offer the possibility of a semester abroad at one of our many partner universities worldwide. Furthermore, we encourage our students to write their Master's project in the 3<sup>rd</sup> semester or their Master's thesis in the 4<sup>th</sup> semester with a university or a company abroad.

## Essential Information

**Degree:**

Master of Science in Engineering (MSc)

**Duration:**

4 Semesters (120 ECTS)

**Annual Intake:**

23

**Admission Requirements:**

Completed Bachelor's degree (180 ECTS or equivalent) in Engineering or technical field; good English language skills

**Application:**

Online. Deadlines: Non-EU Citizens May 30<sup>th</sup>; EU-Citizens June 30<sup>th</sup>  
[www.fh-ooe.at/application](http://www.fh-ooe.at/application)

**Admission Procedure:**

Personal interview (e.g. Skype)

**Language of tuition:**

100% English

**Semester abroad:**

Semester abroad recommended;  
more information: [international@fh-wels.at](mailto: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.

## Curriculum

1 <sup>st</sup> Semester			
Course Name	Course Type	SH/W	ECTS
Engineering Basics	LE	2	2
Applied Statistics	LSP	2	3
Renewable Energy Resources I	LE	3	4
Renewable Energy Resources I	SP	2	3
High Performance Buildings	LE	3	4
High Performance Buildings	SP	2	3
Environmental Indicators	LSP	2	3
Programming for Scientific Work	LSP	2	3
Intercultural Communication	SP	2	2
Language Skills 1	SP	2	3
<b>Total</b>		<b>22</b>	<b>30</b>

2 <sup>nd</sup> Semester			
Course Name	Course Type	SH/W	ECTS
Renewable Energy Resources II	LE	2	3
Renewable Energy Resources II	SP	2	2
Cogeneration of Heat and Power	LE	2	3
Cogeneration of Heat and Power	SP	2	2
Modern Energy Transport and Distribution	LE	2	3
Modern Energy Transport and Distribution	SP	2	3
Large-Scale Wind and Solar Power Plants	LSP	4	5
Financing	LSP	2	2
Interdisciplinary Project	PW	2	4
Language Skills 2	SP	2	3
<b>Total</b>		<b>22</b>	<b>30</b>

3 <sup>rd</sup> Semester			
Course Name	Course Type	SH/W	ECTS
Process Modelling and Optimization Methods	LSP	2	3
Energy Markets and Energy Law	LSP	3	3
Energy Meteorology	LSP	2	3
International Project Development	LSP	2	2
Conventional Energy Resources	LE	2	2
Project	PW	2	9
Solar Laboratory	LA	2	4
Intercultural Leadership	SP	2	2
Language Skills 3	SP	2	3
<b>Total</b>		<b>19</b>	<b>31</b>


4 <sup>th</sup> Semester			
Course Name	Course Type	SH/W	ECTS
International Project Management	LSP	2	2
Intercultural Management	SP	2	2
Master's Seminar	SE	1	2
Master's Thesis	TH	0	23
<b>Total</b>		<b>5</b>	<b>29</b>

All non-German native speaking students of the degree programme will participate in German language classes. German native speakers will learn a new language. The type of language will be selected by the students in a team decision.

LE = Lecture, SP = Skills Practice, LSP = Lecture with Skills Practice, LA = Laboratory, SE = Seminar, PW = Project Work, TH = Master's Thesis, SH/W = Semester hours per week

## Study Abroad

It is the goal of the degree programme that students will become part of a lifelong network of experts. International partners distributed all over the whole world guarantee the presence of international lecturers and experts, the possibility of international internships and exchange semesters.



Sustainability is the key to guaranteeing everyone the same quality of life enjoyed in the developed world by revolutionising energy supply. This would, in turn, create new markets, products and innovation and significantly increase the demand for engineers capable of developing such solutions! Sustainable Energy Systems aims to educate such internationally-active experts.

**Prof. DI Dr. Robert Höller, Programme Coordinator**

## Did You Know that ...

... solar energy is the largest energy resource in the world, even larger than fossil resources. Utilising wind means to cause very low environmental impact. Utilising energy efficiency potentials is the most effective way to save energy, protect the environment and become independent from other countries.

## Contact

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