Zurich University of Applied Sciences

School of Engineering

t.EREN1 - Erneuerbare Energien 1 - Renewable Energy 1

Person responsible for the course:	Joachim Borth, bthj
Responsible OU:	
ECTS:	4
Valid for:	2012/2013
Last saved:	22.04.2013 23:03

Expertise:

-

Methodological skills:

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Social skills:

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Personal skills:

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Learning objectives:

The students are aware of the limits of non-renewable energy sources and the impact of fossil fuels on the environment and on the climate. They are informed about the availability of renewable energy and the different forms of alternative energy supply. The participants are familiar with facilities using renewable energy sources. They know how they work. The students are familiar with planning and dimensioning, with operating and with economic and ecological aspects of systems for the use of renewable energies.

Course content:

Lectures

- Energy statistics and economic efficiency of renewable energies
- The CO2 problem, the 2000-Watt-society
- Wind and water power
- Power systems for the usage of renewable energies
- Solar thermal power stations
- Solar energy for domestic hot water
- Heat pumps
- Geothermal Energy
- Minergie- and low-energy houses
- Seasonal storage of energy
- Biomass for power-, fuel- and heat-production

Practice

- Calculation exercises, case studies
- Laboratory Experiments on "Solar Energy", "Heat Pump"

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	12x4L
Tutorial/Practicum	2x4L
Block instruction	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

description	type	form	scope	assessment	weighting
Performance records during school hours	2 Report	written		grading	20%
Semester end exam	Examination	written	2 Lectures	grading	80%

Language of instruction:

English

Instruction material:

hand-outs

Additional literature:

Volker Quaschning

RENEWABLE ENERGY AND CLIMATE CHANGE

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Comments:

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