

INTERNATIONAL SUMMER SCHOOL

„RENEWABLE AND ALTERNATIVE ENERGY SOURCES“

22.6.-26.6.2020

VSB-TU OSTRAVA, 17.LISTOPADU 15, OSTRAVA PORUBA
CZECH REPUBLIC



Keywords: energy, consumption, ecology, renewable, alternate, sun, solar and PV systems, geothermal, hydrogen technologies, accumulation, aspects, relations.

Graduation: 2ECTS credits

Fee: 300 €

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Info: www.vsb.cz/summer-school

Annotation:

The course is oriented on the use and future implementation of renewable and alternate energy sources for a sustainable future of family homes and small communities. The academic programme offers interdisciplinary knowledge in the fields of energy sources, accumulation techniques, electromobility for independence and sustainability. This course is designed for students and wide public in the field of energetics, electrical and mechanical engineering, civil engineering, architecture and urban planning, safety engineering, municipal development and engineering. The summer school offers an intensive course for all of those who are interested in sustainable development, permaculture, sustainable energetics, particularly photovoltaic and geothermal systems, hydrogen technologies and energy accumulation techniques and future independence from non-renewable energy sources. The programme is based on lectures and site visits together with a workshop on a selected topic and presentations of course participants. Lectures will consist of theoretical fundamentals followed by practical exercises that will demonstrate methods and tools for development, planning, measuring and evaluation renewable and alternate systems. The laboratory experiments will be based on equipment of Laboratory of photovoltaic solar systems, Fuel cells laboratory, Heat pump laboratory, Prototype laboratory and Common Research and Monitoring Centre TRIANON.

Time schedule:

Monday

09:00	ISS introduction, organization, University history, campus, FV systems operated by University
11:30-12:30	Lunch
13:00-15:00	Lecture Ing.Bařinka: „Photovoltaic solar systems“
15:00-16:00	Exkursion FillFactory „Production of solar photovoltaic panels“
17:00-18:00	Conclusion, key-words, tasks, discussion „Energy independent family homes“.

Tuesday

09:00-10:30	Lecture Ph.D. Pavlík: „Heat pumps“
10:30-11:30	Excursion 1: HP system of New aula building (VSB-TUO)
11:30-12:30	Lunch
13:00-15:00	Exkursion 2: Hot-Jet HP producer, Bolatice
17:00-18:00	Conclusion, key-words, tasks, discussion „Energy independent family homes“.

Wednesday

08:00	Excursion TATRA, Kopřivnice (ISS participants common program)
18:00-21:00	Social party (start from C112 laboratory), discussion „Industrial region / knowledge region – technological, ecological and social aspects“.

Thursday

09:00-10:30	Lecture Ph.D. Minařík: „Hydrogen technologies“, „Ostrava-hydrogen region“
10:30-11:30	Excursion 1: Energy accumulation with hydrogen byproduction (VSB-TUO, FC laboratory)
11:30-12:30	Lunch
13:00-15:00	Excursion 2: Centre ENET Hydrogen laboratory, Ostrava Vítkovice
17:00-18:00	Conclusion, key-words, tasks, discussion „Hydrogen society“, „CO2 sequestration“. Students presentations finalization.

Friday

09:00-10:00	Lecture 1: Assoc.prof. Horák, Ph.D.: „Electric cars history“
10:00-10:30	Lecture 2: Mr.Kavan, Renault: „Renault electric cars“
10:30-11:00	Lecture 3: Ing.Burkovič, ASEP: „Why electric car“
11:00-11:30	Excursion 1: VSB-TUO electric cars (KAIPAN VoltAge, KAIPAN415, BETA, R-Twizy), VSB-TUO AC charging station, DC charging/discharging
	Excursion 2: Renault electric cars
11:30-12:30	Lunch
12:30-15:00	ISS students workshop, presentations of ISS participants. Certificate handover.
15:00-17:00	Electric cars presentation, discussion „Economical, ecological and social aspects of the electromobility“ Official ISS closing.

Notice:

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