

## SYLLABUS

<b>Basic data of the subject</b>	
<b>University/Faculty:</b>	<b>University of Applied Sciences in Ferizaj</b>
<b>Title of the subject:</b>	<b>Renewable Energy Sources</b>
<b>Code:</b>	
<b>Level:</b>	<b>Bachelor</b>
<b>Course status:</b>	<b>Elective</b>
<b>Year of studies:</b>	<b>III</b>
<b>Number of hours per week:</b>	<b>2+2</b>
<b>Value of Credits - ECTS:</b>	<b>6</b>
<b>Time/ location:</b>	<b>9.00 – 12.15 / Lecture hall</b>
<b>Course lecturer:</b>	<b>Mr.sc. Ismet Malsiu</b>
<b>Contact details:</b>	<b>Kabineti nr.1, tel. 044 225 208, <a href="mailto:ismetmalsiu@hotmail.com">ismetmalsiu@hotmail.com</a>, <a href="mailto:ismet.malsiu@uni-pr.edu">ismet.malsiu@uni-pr.edu</a></b>
<b>Course description</b>	
	<p><i>Energy and work; Man and machines. Historic notes; Availability and energy requirements, conversions or transformations; Energy distribution. Sources and consumers; Natural energy sources; The process of energy requirement; World energy sources; Demand and consumption of energy; Worldwide distribution of flammable substances;</i></p> <p><i>Renewable energy sources. Basic information; Information on wind energy (eolic source); Urban waste as an energy source; Information on marine energy; Geothermal energy; Hydropower; Solar power; characteristics and development of the technology for deriving energy from the wind, solar radiation, water potential, waste and biomass in particular; Nuclear energy. Fission and fusion; Life cycle costs and the environmental impact on the above mentioned forms of energy; Procedures for obtaining environmental permissions for wind equipment and hydroelectricity, national and international financial mechanisms that encourage the usage of low-carbon energy sources. Procedures of verifying the affordability, especially the cost of equipment that convert carbon to fossil fuel; Reasons why the usage of various forms of carbon energy should be reduced (climate change).</i></p>
<b>Course objectives:</b>	<p><i>Introducing students to renewable energy sources. Availability and energy requirements, conversions or transformations.</i></p> <p><i>Procedures of verifying the affordability, especially</i></p>

	<p><i>when it comes to the cost of equipment that converts carbon to fossil fuel.</i></p> <p><i>Alternative tools for the usage of renewable energy.</i></p> <p><i>Life cycle costs and the environmental impact on various forms of energy;</i></p> <p><i>Reasons why the usage of various forms of carbon energy should be reduced (climate change).</i></p>		
<b>Expected learning outcomes:</b>	<p><i>Upon completion of this course the student will be know about:</i></p> <ol style="list-style-type: none"> <li><i>1. Renewable energy sources.</i></li> <li><i>2. Alternative tools for the usage of renewable energy.</i></li> <li><i>3. Life cycle costs and the environmental impact on various forms of energy.</i></li> <li><i>4. Procedures of verifying the affordability, especially the cost of equipment that converts carbon to fossil fuel.</i></li> <li><i>5. Reasons why the usage of various forms of carbon energy should be reduced (climate change).</i></li> </ol>		
<b>Contribution to the student load (which must correspond with learning outcomes)</b>			
<b>Activity</b>	<b>Hours</b>	<b>Days/weeks</b>	<b>Total</b>
Lectures	2	15	30
Theoretical exercises / laboratory	2	15	30
Internship	-	-	-
Contacts with teacher / consultations	0.5	15	7.5
Field exercises	0,5	15	7.5
Midterm, seminars and projects.	2	2	4
Homework	1	15	15
Studying (at the library or at home)	2	15	30
Final preparation for the exam	2	15	30
Time spent on evaluation (tests, quiz and final exam)	1	2	2
Projects and presentations	0.5	2	1
<b>Total</b>			<b>157 hours</b>
<b>Teaching methodology:</b>	<b><i>lectures, seminars, discussions, group work</i></b>		
<b>Assessment methods:</b>	<p><i>First written assessment: 15 %</i></p> <p><i>Second written assessment: 20 %</i></p> <p><i>Homework and other assignments: 15 %</i></p>		

	<p><i>Attendance:</i> 5 %</p> <p><i>Final exam:</i> 45 %</p> <hr/> <p><i>Total:</i> 100 %</p>
<b>Literature</b>	
<b>Basic Literature:</b>	<i>Prof. Luan Voshtina, Prof. Fejzullah Krasniqi</i> <b>MENAXHIMI I DHE PRODHIMI I KOMBINUAR I ENERGJISË</b>
<b>Additional literature:</b>	<p>1. <i>Prof.dr. Fejzullah Krasniqi „NGROHJA DHE KLIMATIZIMI – 1 ( Ngrohja )”, Universiteti i Prishtinës, Prishtinë 1997</i></p> <p>2. <i>Voshtina , L: NGROHJA, VENTILIMI DHE KLIMATIZIMI I NDËRTESAVE, BT,Tiranë 2002</i></p> <p>3. <i>Recknagel, Šprenger, Henman: GREJANJE I KLIMATIZACIJA, përkthim nga gjermanishtja, GK, Beograd, 1972.</i></p> <p>4. <i>Zrnić, S.; Čulum, Ž.: GREJANJE I KLIMATIZACIJA, NK, Beograd, 1991</i></p>
<b>Designed learning plan:</b>	
<b>Week:</b>	<b>Lecture</b>
<b>Week one:</b>	Energy and work; Man and machines. Historic notes; Availability and energy requirements, conversions or transformations
<b>Week two:</b>	Energy distribution. Sources and consumers;
<b>Week three:</b>	Natural energy sources; The process of energy requirement;
<b>Week four:</b>	World energy sources; Demand and consumption of energy;
<b>Week five:</b>	Worldwide distribution of flammable substances; Renewable energy sources.
<b>Week six:</b>	Information on wind energy (eolic source);
<b>Week seven:</b>	Urban waste as an energy source;
<b>Week eight:</b>	Information on marine energy; Geothermal energy; Hydropower;
<b>Week nine:</b>	Solar power;
<b>Week ten:</b>	Characteristics and development of the technology for deriving energy from the wind, solar radiation, water potential, waste and biomass in particular;

<b>Week eleven:</b>	Nuclear energy. Fission and fusion;
<b>Week twelve:</b>	Life cycle costs and the environmental impact on the above mentioned forms of energy; Procedures for obtaining environmental permissions for wind equipment and hydroelectricity.
<b>Week thirteen:</b>	National and international financial mechanisms that encourage the usage of low-carbon energy sources.
<b>Week fourteen:</b>	Procedures of verifying the affordability, especially the cost of equipment that convert carbon to fossil fuel;
<b>Week fifteen:</b>	Reasons why the usage of various forms of carbon energy should be reduced (climate change).

<b>Academic policies and rules of conduct:</b>
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Attendance, appropriate behavior in class, participation in class activities, as well as visits to enterprises are mandatory. Students are also requested to either turn off their mobile phones or put them on silent mode, so as not to interrupt the learning process.
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