

<b>Title of the course:</b> <b>The source of renewable energies II. (The application of wind power)</b>	<b>NEPTUN-code:</b> RKWMF2ABNE	<b>Weekly teaching hours:</b> $l+cw+lb$ 2+1+0	<b>Credit:</b> 4 <b>Exam type:</b> e
<b>Course leader:</b> Lóránt Szabó, Dr.	<b>Position:</b> senior lecturer	<b>Required preliminary knowledge:</b>	
<b>Curriculum:</b>			
Repeating the basic terms of energetics. Energy chain, energy transformation, efficiency. Possibilities for application of renewable energy sources (sun and wind power). Historical overview of wind turbines. Types of wind power plants (horizontal, vertical axis). The parts and the operation of wind turbines. The calculation of the efficiency and the payback time of wind power plants. The advantages and disadvantages of wind power plants.			
<b>Professional competencies:</b>			
<p>Knowledge of general and specific mathematical, natural and social scientific principles, rules, relations, and procedures as required to pursue activities in the special field of environment protection.</p> <p>Knowledge of the learning, knowledge acquisition, and data collection methods of the special fields of environment protection, their ethical limitations and problem solving techniques.</p> <p>Comprehensive knowledge of the basic features and interrelations of environmental elements and systems, as well as of the environmentally harmful substances affecting them.</p> <p>Knowledge of the concepts and tools of economics and environmental economics, project and environment management in environment protection.</p> <p>Knowledge of the basics of energy management, options for energy production, their advantages and disadvantages, as well as the concept and feasibility options of sustainable development.</p> <p>Able to participate in project and proposal implementation and audit tasks based on their knowledge.</p> <p>Able to participate creatively in engineering work based on their multidisciplinary skills, as well as to adapt to continuously changing circumstances.</p> <p>Able to take part in environment expertise, advisory, and decision preparation work.</p> <p>Efforts to improve knowledge by on-going self-education and continuously update their knowledge of the world.</p> <p>Monitoring regulatory, technical, technological, and administrative changes related to the special field and enforcing them in their professional work.</p>			
<b>Literature:</b>			
1. Michaelides, Efstathios E. Stathis: Alternative Energy Sources, ISBN 978-3-642-20951-2			
Comment:			