

<b>Title of the course:</b> <b>Alternative energy usage in practice I. (System of energetics – transport, residential application)</b>	<b>NEPTUN-code:</b> RKWAE1EBNE	<b>Weekly teaching hours:</b> $l+cw+lb$ 2+2+0	<b>Credit: 6</b> <b>Exam type: e</b>
<b>Course leader:</b> Konrád Lájér Dr.	<b>Position:</b> associate professor	<b>Required preliminary knowledge:</b> -	
<b>Curriculum:</b>			
<p>The purpose of the subject is to introduce alternative energy conversion drives used in transport. (LPG, CNG, hydrogen, electric drives). During the semester, students conduct an environmental risk assessment of each drive. They will learn the interactive control options that coordinate transport systems (eg public transport alternatives; 'self-driving vehicles'; 'smart' roads). It also describes the principles of operation of additional transport related infrastructures. (Street lighting ("Smart" lighting, traffic control).</p> <p>Within the framework of the course, the modern energy management capabilities of household appliances and the benefits of networked equipment (eg IOT [Internet of Things] application technology) are introduced.</p> <p>The course has the task of developing attitudes as well as learning about economics calculations used in practice.</p>			
<b>Professional competencies:</b>			
<p>Knowledge of the concepts and tools of economics and environmental economics, project and environment management in environment protection.</p> <p>Knowledge of major environmental technologies, equipment and structures associated with each technology, including the functioning and operation thereof.</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>			
<b>Literature:</b>			
1. Eds.: Management Association, Renewable and Alternative Energy: Concepts, Methodologies, Tools, and Applications, IGI Global, 2016, ISBN13: 9781522516712			
2. Editor-in-Chiefs: Ali Sayigh: Comprehensive Renewable Energy, 1st Edition, Imprint: Elsevier, Published Date: 2nd May 2012, Page Count: 4422, eBook ISBN: 9780080878737, Hardcover ISBN: 9780080878720			
3. Michaelides, Efstathios E. Stathis: Alternative Energy Sources, Springer Press, 2012, Buy eBook, ISBN: 978-3-642-20951-2			
Comment:			