

Study program: Information Technology			
Course title: ENERGY INFORMATICS			
Teacher(s): Snežana M. Dragičević			
Course status: elective			
Number of ECTS credits: 6			
Prerequisite courses: none			
Course objectives Acquiring knowledge in the field of information technology applications in energy sector. Introducing students to software tools and expertise in the necessary skills for their application in the modeling, analysis, and management of energy systems.			
Learning outcomes The student understands the technologies of energy production, conversion, and consumption; Applies information technologies in energy systems to improve energy efficiency; Functionally participates in the processes of developing new and selecting existing software solutions for the design and analysis of energy systems; Uses information systems and multidisciplinary knowledge to achieve socially responsible business practices from the perspective of energy and ecology.			
Content of the course <i>Theoretical teaching</i> Energy Concepts. Energy and ecology. Energy consumption and balances. Energy efficiency. Modeling and simulation of energy efficient systems. Information technology for the energy sector: solar thermal systems, photovoltaic systems, wind energy industry. Software tools for analysis and planning of heat and electricity production and consumption. <i>Practical teaching</i> Solving practical tasks using software tools in energy (SAM Advisor Model, PVSyst). Collection and analysis of data used to analyze and optimize energy consumption by applying existing and creating new tools.			
Literature 1. Halsey M., The Green IT Guide, A Press Berkeley, Springer Link, ISBN 978-1-4842-8057-7, 2022. 2. Appelman J., Osseyran A., Warnier M., Green ICT & Energy, from smart to wise strategies, CRC Press, Taylor & Frensis Group, ISBN 978-0-415-62096-3, 2014. 3. Luque A., Hegedus S., Handbook of Photovoltaic Science and Engineering, A John Wiley and Sons, Ltd. Publication, ISBN 978-0-470-72169-8, 2011. 4. Мирослав Ламбић, Енергетика, Универзитет у Новом Саду, Технички факултет „Михаило Пупин“ Зрењанин, ISBN 86-7672-077-4, 2007. 5. Morvaj Z., Gvozdenac D., Tomšić Ž., Sustavno gospodarenje energijom i upravljanje utjecajima na okoliš u industriji, уџбеник, ISBN-978-953-6759-62-0, Energetika marketing, 2016. 6. Микуловић Ј., Ђуришић Ж., Соларна енергетика, Академска мисао, Београд, ISBN-978-86-7466-773-6, 2019.			
Number of active teaching classes: 4	Theoretical teaching: 2	Practical teaching: 2	
Teaching methods Courses are taught face-to-face with the use of multimedia learning tools. Practical teaching is conducted in a classroom equipped with the necessary hardware and software.			
Evaluation of knowledge (maximum number of points 100)			
Pre-exam obligations	Points	Final exam	Points
Activities during teaching process	/	Final exam (written):	/
Practical teaching	60	Final exam (oral):	40