

Study program: Information technology			
Type and level of studies: Undergraduate Academic Studies			
Course unit: Energy Informatics			
Teacher in charge: Snežana Dragičević; Teaching assistant Milan Marjanović			
Language of instruction: English			
ECTS: 6			
Prerequisites: -			
Semester: Summer			
Course unit objective: 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 of Course unit: 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.			
Course unit contents: Theoretical classes Energy Concepts. Energy and ecology. Energy consumption and balances. Energy efficiency. Modelling 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. Practical classes 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.			
Number of active teaching hours: 4		Lectures: 2	Practice: 2
Teaching methods: Theoretical classes encompass verbal presentations using computers, presentations, demonstrations, and discussions. Practical teaching is conducted in a classroom equipped with the necessary hardware and software.			
Evaluation (maximum number of points 100)			
Exam prerequisites:		No. of points:	Final exam:
Seminars/Homework		60	Oral Examination
			No. of points:
			40