Learning outcomes - International Interdisciplinary Summer School "Energy-efficient, user-friendly and environmentally friendly construction_2" - SPINAKER_2026 (IISS)

Form: summer course

Symbol	Learning outcomes
Knowledge: knows and understands	
K_IISS_W01	EU standards, rules and guidelines for the design of sustainable building structures and their components
K_IISS_W02	the construction, principles of operation and use of modern equipment used in refrigeration, heating, ventilation, air conditioning and lighting
K_IISS_W03	methods and tools, including advanced information and communication technologies, together with computational and statistical methods
K_IISS_W04	selected issues in the field of specific knowledge – necessary for understanding thermal, flow, refrigeration, ventilation and air conditioning processes in environmental engineering
K_IISS_W05	the latest developments and technologies in engineering
K_IISS_W06	contemporary trends in construction technologies, including those derived from the principles of sustainable and vernacular construction, and their impact on the architectural form of buildings
K_IISS_W07	the impact of climatic conditions on the technical conditions for shaping the architecture of a building
K_IISS_W08	modern solutions and building materials used in energy-efficient buildings
K_IISS_W09	basic methods of analysis and modelling of thermal and flow processes in buildings
K_IISS_W10	selected issues in the field of modern interior lighting technology, taking into account energy efficiency, the use of daylight and the non-visual effects of light
K_IISS_W11	selected issues in the design of energy-efficient buildings, including life cycle analysis of building materials and buildings.
K_IISS_W12	IoT tools for improving building functionality and energy savings
Skills: able to	
K_IISS_U01	properly plan research, carry it out, interpret its results and draw correct conclusions on this basis
K_IISS_U02	use their knowledge for critical analysis, synthesis, creative interpretation and presentation of issues in the field of environmental engineering and sustainable construction
K_IISS_U03	properly use current information about innovations in environmental engineering / construction / architecture / lighting / IoT technologies
K_IISS_U04	select data appropriately in order to design networks, systems and technologies in buildings

K_IISS_U05	use scientific, popular science and industry literature, subject standards, legal acts and online databases in English; properly use the information obtained, as well as formulate and present opinions
K_IISS_U06	select the appropriate technical conditions for building design in relation to climatic conditions in order to design selected building elements
K_IISS_U07	assess the needs and propose lighting system solutions in accordance with the latest state of knowledge and requirements
K_IISS_U08	apply calculation methods to assess the energy, economic and environmental efficiency of investments based on renewable energy sources
Social competences: is ready to	
K_IISS_K01	analyse content obtained from various sources and critically evaluate its potential use in professional work
K_IISS_K02	consciously apply non-technical aspects of engineering activities and take into account their impact on the environment and the associated responsibility for decisions made