Renewable Energy (ONLINE)

Version **Effective from**	26/10/20 18 January 2021
Previous version	-

ECTS Credits	4,0
Teaching hours	50
Workplace learning hours	50
Total hours of student learning	144

Pre-requisites	The course is opened for Russian and foreign Bachelor, Master and PhD students with specialized background in Renewable Engineering or equivalent skills and knowledge.
Alignment to graduate profiles	This course contributes to achievement of the graduate outcomes of the following qualifications: • Bachelor in Renewable Engineering (Energy / Mechanical) • Graduate Diploma in Renewable Engineering (Energy / Mechanical) • Diploma in Renewable Engineering (Energy / Mechanical)
Core transferable skills	This course contributes towards the development of the following core transferable skills categories: Self/Others - Learning to Learn, Specialist skills, Literacy, Numeracy, Digital Literacy. Up-to-date interdisciplinary program provides an overview of technical and engineering aspects of innovative energy system design and implementation. Theoretical courses will analyze characteristics of renewable energy sources and examine the socioeconomic impact of energy transition. International professionals will boost your knowledge and skills in this highly demanded field of expertise.
Course aim	The main goal of the program is to improve knowledge and skills, increase the competitiveness of specialists in the labour market in the energy sector. In the process of implementing the program, the following tasks are solved: - familiarization with various objects of renewable energy, physical processes occurring in each of the systems; - familiarization with the methods of selecting equipment for power systems using renewable resources; - studying the experience of using renewable energy in the world.
Indicative content	Content may include but is not limited to: • Digital technologies in the Energy Industry • Renewable Energy Sources. Introduction • Heat pumps • Energy economics • Guest Speakers Day • Heat pumps. Calculation of the heat pump installation' cycle • Digital technologies in Renewable Engineering • Wind turbines • Wind turbines. Team project • Improving our living environment. Case study

LEARNING OUTCOMES

On successful completion of this course students will be able to:	
1	have an idea of the general characteristics of renewable energy facilities
2	know the features and characteristics, as well as the conditions for the use of various types of renewable resources
3	elect equipment for energy systems based on renewable energy

ASSESSMENTS

Basis of assessment	Achievement based assessment

Methods of assessment	Learning Outcomes	Pass criteria (Minimum)	% Weightings
Summative review	1, 4	40%	40%
Portfolio – summative of practices	2, 3, 5	40%	60%

REQUIREMENTS FOR SUCCESSFUL COURSE COMPLETION

Requirements	• Mark of 40% or more in every summative assessment • Gain a course result of C (50%) or higher

RESULTS

Assessment results	• Results for assessments are given in percentage marks
Course results	• Individual assessments may cover one or more of the learning outcomes. • Each summative assessment is assigned a percentage weighting. • The overall percentage mark for the course is calculated by adding the weighted results for all summative assessments. • To derive the course result the overall percentage mark is converted into a grade using Course Result Key AC-NMIT-06

LEARNING AND TEACHING

Learning and teaching approaches	Lectures, group discussions, tutorials, learner managed activities, laboratories, presentations, research, projects and case studies.
Learning and teaching resources	Textbooks, journals and Library Learning Centre resources; use of Internet; computer laboratory and specialist software.
Learner managed activities	• Completion of course work, set assignments/projects • Reading of course materials • Study group work • Preparation for classes • Homework • Research - (e.g. exploration, location and selection of relevant information, review/ evaluation/analysis of information, recording information) • Discussions with colleagues/subject matter experts • Review application of information to course work • Practicing relevant practical and technical skills/methods/techniques • Self-evaluation of course work • Gathering relevant contextual information/ issues/ideas to build knowledge of the subject