

Energy Efficiency and Sustainable Development (ONLINE)

Version	26/10/20
Effective from	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 Energy Engineering, Sustainable Engineering, Ecology or equivalent skills and knowledge.
Alignment to graduate profiles	This course contributes to achievement of the graduate outcomes of the following qualifications: <ul style="list-style-type: none"> • Bachelor in Energy Engineering (Sustainable / Mechanical / Environmental) • Graduate Diploma in Energy Engineering (Sustainable / Mechanical / Environmental) • Diploma in Energy Engineering (Sustainable / Mechanical / Environmental)
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. This program offers training in the field of energy efficiency technologies and renewable energy. You will gain essential technical skills in this area as well as study financial, marketing and managerial aspects of modern business. Multidisciplinary approach, critical review of existing practice throughout the program will enable you to come up with original and creative solutions to problems within the energy sector.
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 field of energy efficiency. In the process of implementing the program, the following tasks are solved: <ul style="list-style-type: none"> - acquaintance with various methods of controlling the consumption of energy resources by objects; - familiarization with the methodology for conducting an energy survey; - study of modern aspects of design and construction of facilities with increased energy efficiency.
Indicative content	Content may include but is not limited to: <ul style="list-style-type: none"> • Digital technologies in the Energy Industry • Renewable Energy Sources. Introduction • Energy & SDG • Energy economics • Guest Speakers Day • Energy efficiency and sustainable development. Introduction. • Energy-efficient labels and standards for equipment and appliances. Green building standards and certification systems • «Cradle to Cradle» concept. Waste management policy. • Improving our living environment. Case study

LEARNING OUTCOMES

On successful completion of this course students will be able to:	
1	have an idea of modern approaches to the design and construction of energy-consuming facilities
2	know the methods of monitoring the indicators of energy efficiency of objects
3	carry out energy surveys of objects that consume energy resources

ASSESSMENTS

Basis of assessment	Achievement based assessment
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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	<ul style="list-style-type: none"> • Mark of 40% or more in every summative assessment • Gain a course result of C (50%) or higher
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RESULTS

Assessment results	<ul style="list-style-type: none"> • Results for assessments are given in percentage marks
Course results	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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