

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KHERSON STATE MARITIME ACADEMY
SCIENCE PARK “MARITIME INDUSTRY INNOVATIONS”
CENTER FOR LIFELONG EDUCATION

APPROVED

Director of the Science Park

“Maritime Industry Innovations”
of Kherson State Maritime Academy

A. Leshchenko

« 07 January 2021 »



SYLLABUS OF THE COURSE

for professional development of academic and teaching staff, laboratory
assistants, students

Fluke Electrical Measurements Safety

I. GENERAL INFORMATION	
Course comprises	1 credit (30 hours)
Course format	face-to-face/blended
Number of people in a group	minimal – 5 maximal – 15
Language of teaching	Ukrainian, Russian, English
Type of document	certificate
Page of the course	
II. AIM AND OBJECTIVES OF THE COURSE	
Aim of the course	Professional development of academic and teaching staff in terms of conducting safe measurements during the educational process, as also metrological measurements.
Objectives of the course	1. Familiarize with global standards on work with electric power supplies. 2. Form the ability to work with measuring equipment. 3. Form the skills in metrological processing of

	measurement data.
Prospects	<p>As a result of mastering the course, participants will acquire knowledge and skills in safe work with measuring equipment and will gain the ability of metrological data processing.</p> <p><i>The course is intended for:</i></p> <ul style="list-style-type: none"> - scientists whose scientific topic is related to the use of measuring equipment and processing of measuring data; - teachers who teach disciplines related to the use of equipment or want to use equipment during classes; - laboratory assistants and heads of laboratories whose work is related to the maintenance of equipment; - students who in the future will use knowledge and skills during sea voyages and / or perform scientific and qualification works using equipment and processing of measurement data.

III. DESCRIPTION OF THE COURSE

Topic	Form of learning and number of hours		
	Lectures	Laboratory practicals	Individual work
ISO 17025 Standards	0,5		2
Method of secure wireless measurements	0,5		2
Work with digital multimeters		2	2
Work with current clamp		2	2
Flash arc and parasitic voltages	1		2
NFPA 70 Standard	1		3
IEC 61010-031 Standard	1		2
Metrological support of devices and metrological processing of measurements		2	3
Allocation of hours	Classroom work – 10 hours Individual work – 18 hours Control measures – 2 hours		

IV. COMPETENCES

1. Ability to select and apply suitable mathematical, scientific and technical methods, computer technology, as well as approaches to standardization and certification in order to solve tasks in the field of metrology and information and measurement technology.
2. Knowledge and understanding of scientific facts, concepts, theories, principles and methods of experimental informatics.
3. Ability to solve complex professional tasks and problems based on an understanding of the technical aspects of product quality control.

4. Ability to apply a comprehensive approach to solving experimental problems using means of information and measurement equipment and application software.
5. Ability to comply with legal and ethical standards on intellectual property issues.

V. LEARNING OUTCOMES AND METHODS TO EVALUATE THEM

Learning outcome	Evaluated through
Know and understand the basic concepts of measurement theory.	Survey, testing
Apply in practice and in computer modeling of objects and phenomena.	Defense of a laboratory work
Be able to perform analysis of engineering products, processes and systems according to the established criteria, select and apply the most appropriate analytical, computational and experimental methods for research, interpret the results of research.	Defense of a laboratory work
Be able to formulate and solve problems related to procedures for monitoring objects, measuring, controlling, diagnosing and forecasting, taking into account the importance of social constraints (society, health and safety, environmental protection, economy, industry, etc.).	Testing, doing a case study
Master modern methods and techniques of design, research, and analysis of the obtained results.	Testing, doing a case study
Have the skills to organize and conduct technical tests of engineering products.	Defense of a laboratory work
Freely present and discuss scientific results in the national and English languages in oral and written forms, as well as conduct a scientific discussion.	Doing a case study. Defense of a presentation

V. RESOURCING OF THE COURSE

Course tutor	<p><i>Anastasiia Novikova</i>, PhD (PhD in Technical Sciences, specialty - Biological and Medical Devices and Systems), Associate Professor of Department of Navigation and Electronic Navigation Systems. She is a specialist in physical and biomedical electronics and management.</p> <p><i>Research interests:</i> study and modeling of the influence</p>
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	of a person's psycho-emotional state on the functional state.
Material and technical support	classrooms equipped with a computer that has access to the Internet, a multimedia projector, a screen, acoustic systems; computers with licensed software installed, with peripherals and equipment connected to them; Fluke 15B + multimeter, a projector, current clamp, T150 voltage tester
Teaching methods and techniques that will be used during the course	- presentation materials on course topics; - work with equipment; - information and educational environment of distance learning of KSMA (MOODLE); - testing.

Head, Center for Lifelong Education _____


O. Bezlutska