

ODESSA I.I. MECHNYKOV NATIONAL UNIVERSITY
FACULTY OF MATHEMATICS, PHYSICS AND INFORMATION TECHNOLOGIES
DEPARTMENT OF MATHEMATICAL SUPPORT OF COMPUTER SYSTEMS

Syllabus of professional research practice

Amount	the total number of: credits – 6; hours - 180
Semester	autumn
Days, Time, Place	daily during working hours of the practice base
Teacher(s)	supervisors of practice, academic supervisors of qualification works
Contact phone number	(048)7340723
E-mail	mssc@onu.edu.ua
Workplace	department of mathematical support of computer systems
Consultations	face-to-face consultations: according to the managers' schedule online consultations: ZOOM (link is generated at the beginning of classes)

COMMUNICATION

Communication with students will be carried out by e-mail, in the classroom or via ZOOM.

COURSE ABSTRACT

Subject of the practice is scientific research of masters and qualification work.

Course prerequisites

The practice is based on the knowledge, practical skills and skills previously acquired by the students from the topics and areas of the educational program of the second (master's) level of higher education in the specialty 126 "Information systems and technologies".

Post-requisites of the course

This course is the basis for the OK "Performance of master's qualification work" in specialty 126 "Information systems and technologies".

Purpose of the professional research practice is deepening, consolidating and applying the acquired knowledge of a master's student, acquiring skills in practical and research work together with professional researchers in the field of information analysis, development of information technologies and their implementation in the development of information systems and control systems, approbation of research results on real data, as well as to clarify the content of the qualification work.

Tasks of professional research practice

Methods and recommendations regarding:

- a) is defined task for qualifying work:
- examination of the subject area (object of research) and setting a task for research;
 - analysis of existing methods and technologies designed to solve similar problems;
 - development of new or improvement of existing methods of solving problems, as well as information technologies based on these methods;
 - development of an information system or software modules that implement the proposed methods and technologies and ensure their approbation on real data;

6) provides for:

- familiarization with the activities of the practice base and its divisions, which provide information analysis and information support for decision-making;
- familiarization with the problems of the subject area of the practice base;
- mastering skills in collecting, analyzing information and presenting research results;
- studying the experience of creating and applying specific modern information technologies and information support systems for solving the problems of organizational and managerial activities of the practice base.

EXPECTED RESULTS

As a result of studying the course, the student must

know: basic rules and approaches for planning research, structuring master's theses, scientific articles and public reports.

be able: form presentations of the results of scientific research, conduct discussions on scientific topics, evaluate reports.

Competencies that the student receives as a result of the internship:

- *the ability to communicate in a foreign language*
- *the ability to evaluate and ensure the quality of the work performed*
- *the ability to develop and apply ICT necessary for solving strategic and current tasks*
- *the ability to design information systems taking into account the specifics of their purpose, incomplete/insufficient information and conflicting requirements*

Depending on the topic of the qualification work, professional research practice is aimed at the formation of other special competencies.

Learning outcomes: at the end of the internship, the student will have the skills

- *search for necessary information in scientific and technical literature, databases, other sources, analyze and evaluate this information*
- *communicate freely in national and foreign languages in scientific, industrial and social spheres of activity*
- *justify the choice of technical and software solutions, taking into account their interaction and potential impact on solving organizational problems, organize their implementation and use*
- *to choose the most expedient for the company the option of organizing the marketing of software products and to present in general the sequence of works on the organization and functioning of any channel for the sale of software products and information technologies*

Professional research practice allows to improve other program learning outcomes taking into account the topic of the qualification work.

FORMS AND METHODS OF TEACHING

Practice is conducted in the form of laboratory classes (48 hours), organization of students' independent work (132 hours).

The main focus of the training is on students' independent work on the analysis of the subject area of research, the implementation of proposed methods and technologies for solving the problems of the subject area, and the approbation of research results based on practice.

During the teaching of the course, the following teaching methods are used: verbal (explanation); visual (PowerPoint presentation); practical (laboratory works); work with literary sources (independent work of students).