



SYLLABUS OF THE COURSE

PHISICS

Degree of higher education: Bachelor
Specialty: 185 Oil and Gas Engineering and Technologies
Educational and professional program: Oil and gas engineering and technologies
Lecturer: Professor Sergey Fedosov, Doctor of Physical and Mathematical Sciences
Department: Physical and Mathematical Sciences, tel. 712-41-80
Teacher profile **Contact:** e-mail: snfedosov@ukr.net,
 048-712 40 17

1. General information

Course type – compulsory **Language of instruction** –English

The discipline is taught in the first year in the first and second semesters

Number of credits - 8, hours - 240

Classroom classes, hours:	all	lectures	laboratory
day training	88	40	48
Individual work, hours	day training– 152		

Lessons schedule

2. Abstract of the discipline

This "Physics" course introduces the fundamental concepts, laws and theories of classical and modern physics. You will get acquainted with the basic methods of solving physical problems, the peculiarities of the basic physical processes that take place in the field of oil and gas production. This will ensure the effective mastery of special disciplines and the further possibility of using new physical principles in the field of oil and gas engineering and technology.

The technological level of production depends on the development of physics. The rapid pace of development of physics, its growing links with technology indicate a significant role of the physics course in higher education – this is a fundamental basis for the theoretical training of an engineer, without which his successful work is impossible.

3. The purpose of the discipline

To promote the intellectual development of higher education, to form students with a wide range of training in physics, mastering the fundamental concepts, laws and theories of classical and modern physics, which provides them with effective mastery of special disciplines and further use of new physical principles in electrical engineering

As a result of studying a physics course, students must

know:

- physical meaning and units of measurement of basic physical quantities, mechanisms of basic physical phenomena, processes and their theoretical interpretation;
- possible ways of applying basic physical phenomena and research methods in the study of special disciplines and in practice;

- the principle of operation of the most important devices used in the experimental study of various physical phenomena;

be able:

- apply knowledge in the field of physics for independent solution of various physical problems, as well as problems of special and general engineering profiles;
- give a scientific interpretation of various natural phenomena, use various physical concepts in the study of social disciplines, phenomena and laws as an example of the manifestation of general philosophical laws and categories;
- conduct an experiment to study the physical process, present graphically the results and estimate the measurement error.

4. Program competencies and learning outcomes in the discipline

5. The content of the discipline

6. Evaluation system and information resources

Types of control: current, final.

Scoring

Information resources


7. Discipline policy

The policy of all academic disciplines in ONAFT is unified and determined taking into account the legislation of Ukraine, the requirements of ISO 9001: 2015, "Regulations on academic integrity in ONAFT" and "Regulations on the organization of the educational process."

Teacher _____ S. N. Fedosov


signature

Head of the Department _____ A. E. Sergeeva


signature