

# **INFORMATICS**

(name of discipline)

## **OUTLINE TO THE HIGHER EDUCATION PROGRAM**

**Specialty 1-54 01 02 «Methods and devices for quality control and diagnostics of objects»**

Qualification of Specialist: engineer

	<b>Форма обучения</b>
	<b>Очная (дневная)</b>
Course	1
Semester	1
Lectures, hours	34
Laboratory classes, hours	34
Classroom hours in the educational discipline	68
Exam, Semester	1
Independent work, hours	40
Total hours of the discipline/ credit units	108/3

### 1. Summary of the contents of the study discipline

The discipline studies the main modern operating systems and software environments, packages of applied programs for scientific and engineering calculations, computer design and construction, the basics of programming, methods of mathematical modeling, general questions of algorithmization and acquisition of skills in solving problems using computer technology.

### 2. Learning outcomes:

know:

- composition, purpose and structure of modern means of computer technology;
- composition, purpose and basic components of the Microsoft Windows operating system;
- functionality of text and table processors, the basic principles of working with them;
- functionality of basic programs for scientific and technical calculations;
- basics of algorithmization of applied problems.

be able to:

- work in the environment of the Microsoft Windows operating system;
- work with a word processor Microsoft Word in Windows;
- solve the problems of the specialty with the use of a Microsoft Excel spreadsheet processor;
- solve the problems of the specialty with the MathCAD mathematical package;
- develop algorithms and programs in algorithmic C language.

possess:

- methods of computer modeling of technical systems and technological processes;
- Programming methods, using standard programs for solving problems of professional activity.

### 3. Formable competences

BPC-2 - To master the basic methods, ways and means of obtaining, storing, processing information, skills of working with the computer as a means of information management, to be able to work with information in computer networks.

Requirements and forms of current and intermediate attestation.

When studying the discipline the module-rating system of knowledge assessment is used. To study

different topics the following forms are used: traditional, multimedia, using. Forms of certification: protection of laboratory work, intermediate control of progress, the exam.