

HIGHER MATHEMATICS

COURSE SYLLABUS ABSTRACT of higher education institution

Specialty 1-36 07 02 Manufacture of products based on three-dimensional technologies

| | STUDY MODE | |
|---|------------|----------------------------------|
| | full-time | part-time (shortened program) |
| Year | 1, 2 | 1, 2 |
| Semester | 1, 2, 3 | 1, 2, 3 |
| Lectures, hours | 136 | 22 |
| Practical classes (seminars), hours | 136 | 14 |
| In-class test (semester, hours) | - | (1, 2, 3 sem, 6 hours) |
| Exam, semester | 1, 2, 3 | 1, 2, 3 |
| Contact hours | 272 | 42 |
| Independent study, hours | 160 | 390 |
| Total course duration in hours / credit units | 432/12 | |

1. Course outline: linear algebra and analytic geometry, vector algebra, introduction to mathematical analysis, differential and integral calculus of functions of one and many variables, differential equations, numerical and functional (power) series, probability theory and elements of mathematical statistics.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know – the basic concepts, definitions and methods of linear and vector algebra, analytic geometry, differential and integral calculus, the theory of numerical and functional (power) series, the theory of differential equations, the theory of probability;

be able to – analyze and apply theoretical knowledge in solving typical educational tasks and tasks of increased complexity, draw reasonable conclusions;

possess – mathematical provisions and tools of the discipline in solving practical problems that may arise in the study of natural science academic disciplines and in solving applied engineering and construction problems.

3. Competencies.

BPK - 1 – be able to use the basic laws of the natural sciences in professional activities.

4. Requirements and forms of midcourse evaluation and summative assessment.

Intermediate certification: IHW – individual homework; CW – control work; ICP – intermediate control of progress. Current certification: exam, test. The development of this academic discipline will ensure the formation of the required competence of BPK-1.