

Faculty of Architecture

Department of Construction of Buildings and Structures

Professional Area: Architecture, Civil Engineering and Geodesy

Major: Fire and Emergency Safety of Buildings and Structures

Educational and Qualification Degree: Master

1. Course unit title: Applied mathematics

2. Course unit code: 1170

3. Type of the course unit: compulsory

4. Cycle: Master

5. Year of study when the component is delivered: first

6. Semester: first

7. Number of ECTS credits allocated: 3

8. Name of lecturer(s): Assoc. Prof. Natasha Baklarova, PhD

9. Learning outcomes: Mathematics is used in various technical sciences. Its models find applications in all scientific fields and mostly in the exact sciences - physics, mechanics, elasticity theory.

10. Mode of delivery: face-to-face

11. Prerequisites and co-requisites: Students are required to have knowledge of mathematics acquired at the secondary school, as well as knowledge of mathematical analysis from the higher education school.

12. Course content: The course content covers the sections of higher mathematics: Functions of a complex variable; Trigonometric rows; Linear differential equations; Probability Theory. The course teaches the basic concepts and facts, as well as methods for solving types of problems from the above topics. Attention is paid to the applied aspects of the subjects taught.

13. Recommended or required reading and other learning resources/tools:

1. [https://www.math.com/](#),
2007
2. [https://www.khanacademy.org/math/multivariable-calculus](#) 4 5.
3. [https://www.khanacademy.org/math/multivariable-calculus](#)

14. Planned learning activities and teaching methods: lectures, contact hours, self-study

15. Assessment methods and criteria: The following elements are included in the assessment of the student's individual performance: 10% attendance, 1 test and / or development of a paper on an assigned topic (in case of very good performance - mark above 4.50, the student could exempt from the final exam) - 20%, final exam (test) - 70%.

16. Language of instruction: Bulgarian

17. Placement: none