Course title: Mathematics
Course code: 13035
ECTS credits: 5
Requirements: None
Basic information
Level of studies: Undergraduate applied studies
Year of study: 1
Trimester: 1 (Banking and Business Informatics, Internet Techologies), 2 (Communication Techologies, Postal Logistics Systems)
Goal: Introducing new and developing the existing mathematical knowledge, as well as expanding the theoretical and methodological bases required for attending professional courses.
Outcome: Developing clarity and precision in mathematical communication, perseverance and systematic work. Creating theoretical and methodological bases for attending professional courses.
Contents of the course
Theoretical instruction
1. Mathematical logic
2. Sets
3. Algrabraic structures
4. Number theory. The field of complex numbers
5. Matrices and determinants and their applications to systems of equations
6. Vectors. Scalar, vector and mixed product of vectors
7. Analytical geometry in space. Plane, line and their mutual relations
8. Real value function of one variable. Limits
9. Derivatives and differential calculus of higher order
10. Application of derivatives in investigation of functions
Practical instruction (Problem solving sessions/Lab work/Practical training):
Practical instructions follow theoretical by solving practical problems in all topic
1. Mathematical logic
2. Sets
3. Algrabraic structures
4. Number theory. The field of complex numbers
5. Matrices and determinants and their applications to systems of equations

6. Vectors. Scalar, vector and mixed product of vectors
7. Analitical geometry in space. Planes, lines and their mutual relations
8. Real value function of one variable. Limits
9. Derivatives and differential calculus of higher order
10. Application of derivatives in investigation of functions
Textbooks and References
1. Zorica Malović, *Matematika 1* (zbirka zadataka), Visoka ICT škola, Beograd, 2005
2. Đ. Takači, S. Radenović, *Matematika 1 za inženjere,* Akademska misao, Beograd, 2002
3. P. Miličić, *Matematika 1*, Naučna knjiga, Beograd, 2001
Number of active classes (weekly)
Lectures: 3
Practical classes: 2
Other types of classes: /
Grading (maximum number of points: 100)
Pre-exam obligations: Points
Activities during lectures: 5
Activities on practical excersises: /
Seminary work: /
Colloquium: 35
Final exam: Points
Written exam: 60
Oral exam: 0
Lecturer: Ana Anokić, PhD
Associate: Ana Anokić, PhD