

Study Programme: <i>AGRICULTURAL ENGINEERING AND INFORMATION SYSTEMS</i>			
Course Unit Title: Mathematics 2			
Course Unit Code: 19.PTII37			
Name of Lecturer(s): Full professor Snežana Matić-Kekić, Associate professor Nebojša Dedović			
Type and Level of Studies: Undergraduate academic studies			
Course Status (compulsory/elective): elective			
Semester (winter/summer): summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 6			
Prerequisites: -			
Course Aims: To acquaint students with basic characteristics of mathematical modeling of economic phenomena and their exploitation, as well as with active application of the elements of financial mathematics in economic practice.			
Learning Outcomes: Student will be trained for mathematical modeling of economic phenomena and their exploitation, as well as for active application of elements of financial mathematics in economic practice.			
Syllabus:			
<i>Theory</i>			
- financial mathematics: percentage and per mille calculations, compound interest calculations, conform interest rate, savings account and loan repayment account			
- matrix calculations (operations, determinant, regular matrix)			
- formulation and solution of mathematical models			
- tools for solving mathematical models: Gaussian elimination, Cramer's rule, inverse matrix			
- geometric transformation in space: translation, rotation and scaling			
- vectors: inner, vector and mixed product, collinearity, orthogonality, coplanarity			
- analytic geometry: algebraic and vector equations of line and plane, mutual relation.			
<i>Practice</i>			
Solving the problems rose from the theory.			
Required Reading:			
1. Matić-Kekić, S., Business mathematics (in Serbian), Faculty of Agriculture, University of Novi Sad, Serbia, 2015.			
2. Matić-Kekić, S., Applied mathematics for students of biological sciences (in Serbian), Faculty of Agriculture, University of Novi Sad, Serbia, 2015.			
3. Konjik, S., Dedović, N., Mathematics - Math Problems for Agricultural Majors (in Serbian), 2 nd edition, Faculty of Agriculture, University of Novi Sad, Serbia, 2011.			
Weekly Contact Hours:	Lectures: 2	Practical work: 2	
Teaching Methods: Theory and practical classes, consultations if needed.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	50
Practical work	5	oral exam	40
Preliminary exam(s)		

Seminar(s)			
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The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.