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| Course: | **Mathematics 2** |
| Course id: 3OPT2I38;3ОУВ2О06;3ОАИ2О06; |
| Number of ECTS: 6; 6; 6 |
| Teacher: | **Snežana J. Matić-Kekić, Nebojša M. Dedović** |
| Course status | Elective; Mandatory ; Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 2 | Practical classes: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None |
| 1. Educational goal

Mastering the skills and knowledge of subject content, which provides the basis for mathematical modeling of agro-economic phenomena and their exploitation in practice. |
| 1. Educational outcomes

Student qualifies for mathematical modeling of agro-economic phenomena and actively pursuing them. |
| 1. Course content

Financial mathematics: percentage and promil calculus, compounded interest rate, fixed-term and continuous savings, loans payment. Matrix calculus: operations on matrices, determinant of matrices, elementary transformation, regular matrices. Gaussian elimination method, Cramér's theorem, inverse matrix. Formulation and solution of mathematical models. 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. |
| 1. Teaching methods: Lectures
 |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | Yes | 5 | *Oral part of the exam* | Yes | 45 |
| Test | Yes | 45 |  |
| Exercise attendance | Yes | 5 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Konjik S., Dedović N. | Mathematics - a collection of tasks for the students of Faculty of Agriculture (in Serbian) | Faculty of Agriculture, University of Novi Sad | 2011. |
|  | Hadzić O., Takači Đ. | Mathematics for students of natural sciences (in Serbian) | University of Novi Sad, university textbooks - Edition 76 | 1998. |
|  | Matić-Kekić S. | Economic mathematics for students of biological sciences (in Serbian) | Faculty of Agriculture, University of Novi Sad | 2006. |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationUNDERGRADUATE ACADEMIC STUDIES: *AGROINDUSTRIAL ENGINEERING; WATER MANAGEMENT AND WATER USE; AGRICULTURAL ENGINEERING*  |
| Table 5.2 Course specification |