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| Course: | **Applied mathematics** |
| Course id: 3OСT1O05; 3ОВВ1И36; 3ОФМ1И40; 3ОАГ1И40; 3OOП1И46; 3ОХК1И38;3OРT1И02;  |
| Number of ECTS: 6; 6; 6; 6; 6; 6; 6 |
| Teacher: | **Snežana J. Matić-Kekić, Nebojša Dedović** |
| Course status | Mandatory (3OСT1O05)Elective (3ОВВ1И36; 3ОФМ1И40; 3ОАГ1И40; 3OOП1И46; 3ОХК1И38; 3OРT1И02) |
| 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. Proportion, direct and inverse proportion, mixing calculus, chain calculus, division calculus, time series. Matrix calculus: operations on matrices, determinant of matrices, elementary transformation, regular matrices. Gaussian elimination method, Cramér's theorem, inverse matrix, simplex method, Vogel’s and MODI method. Formulation and solution of mathematical models. Combinatorial principles, combinations, variations and permutations, binomial coefficients.  |
| 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: Animal Husbandry, Fruit Growing and Viticulture, Phytomedicine, Plant and Environment Protection, Organic Agriculture, Horticlture, Field and Vegetable Crops |
| Table 5.2 Course specification |