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| Course: | **Mathematics 1; Mathematics 1; Mathematics**  |
| Course id: 3ОАИ1О01;3ОУВ1О01; 3ОПТ1О01 |
| Number of ECTS: 7; 7; 6 |
| Teacher: | **Снежана Ј. Матић-Кекић, Nebojša M. Dedović** |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 3 | Practical classes: 3 | 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

Real functions. Linear, quadratic, exponential, logarithmic, trigonometric functions and degrees. Sequences and limit values. The limit values and the asymptote function. The first copy and performs higher-order functions of one independent variable. Domen, zero growth, decline, extreme values, inflection points, concavity, convexity of real functions of one real variable. The conditional extremes of functions of two independent variables. Economic function: interval of profitability, profits, demand, supply, revenues, costs, flexibility in the point and its interpretation. Integral calculus: defined and indefinite integrals, primitive functions, integral characteristics, the shift method, the method of partial integration and the integration of rational functions. Application of definite integrals. Uncharacteristically integrals. Polynomials. ODE first order: linear, homogeneous, Bernoulli, total differential and separated variables. Homogeneous and non-homogeneous linear ODE second order with constant coefficients . |
| 1. Teaching methods: Lectures
 |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | No | 5 | *Oral part of the exam* | Yes | 40 |
| Test | Yes | 40 |  |
| Exercise attendance | No | 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 directions (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 |