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| Course: | *MICROBIOLOGY*  |
| Course id: ZORT1O02 |
| Number of ECTS:6 |
| Teacher: | Ass. Prof. Simonida Djuric, PhD  |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures:45 | Practical classes:30 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None |
| 1. Educational goal

To acquaint students with basic characteristics and strains of microorganisms and their role in the cycling of matter, the creation and maintenance of soil fertility, role in crop production and the possibilities of their application. |
| 1. Educational outcomes

Acquired knowledge in microbiology are the basis for understanding and monitoring teaching of agrochemicals, plant physiology, plant protection, general husbandry, farming, and forage crops |
| 1. Course content

Lectures:General part: Morphology of microorganisms. Ecology of microorganisms, systematic groups – viruses, bacteria, algae, protozoa, fungi, lichen. Microbial metabolism – absorption of nutrients, growth and reproduction, variability of microorganisms. Special part: Soil natural habitat for microorganisms. Diversity of microorganisms in soil. Relationships between microorganisms and between microorganisms, fauna and plants. Formation and composition of organic matter in soil. Microbial transformation of C, N, P, S, K, Fe and Mn. Microorganisms involved in synthesis and mineralization of humus. Effect of agrotechnical measures on microorganisms. Application of microorganisms in plant production. Biofertilizers, biopesticides, biostimants, bioremediation of soil.Practical classes:Microscopic techniques. Morphology and determination of protozoa, algae, fungi and bacteria. Methods for isolations and getting pure culture of microorganisms. Estimation of abundance and determination of microorganisms in soil. Microorganisms involved in cycles of N, C, F and S. Effect of pesticides on microorganisms. Characterization of microorganisms used in biopreparates production |
| 1. Teaching methods

Lectures and Practical classes, Consultations if needed. |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Lecture attendance | No |  | *Written part of the exam-tasks and theory* *Oral part of the exam* | YesYes | 3040 |
| Test | No |  |  |
| Exercise attendance | Yes | 2 - 10 |
| *Test* | Yes | 20 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Prescott, L. M | Microbiology, 5th edition | 5th edition, McGraw Hill, NY | 2002 |
|  |  | Free Microbiology Books | http://www.wsmicrobiology.com/alcamos-fundamentals-of-microbiology/ | 2014 |

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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  *FIELD AND VEGETABLE CROPS* |
| Table 5.2 Course specification |