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| Study Programme: Soil and plant nutrition | | | |
| Course Unit Title: Soil Microbiology | | | |
| Course Unit Code: ZMZ1114 | | | |
| Name of Lecturer(s): Associate Professor Simonida Djuric, Assistant Professor Timea Hajnal – Jafari, Assistant Professor Dragana Stamenov | | | |
| Type and Level of Studies: Master Academic Degree | | | |
| Course Status (compulsory/elective): Elective | | | |
| Semester (winter/summer): Winter | | | |
| Language of instruction: English | | | |
| Mode of course unit delivery (face-to-face/distance learning): face-to-face | | | |
| Number of ECTS Allocated: 6 | | | |
| Prerequisites: None | | | |
| Course Aims: Introduction to the role of microorganisms in the creation and maintenance of soil fertility, distribution of microorganisms in the soil and the factors that influence soil microbial activity | | | |
| Learning Outcomes: The subject is the basis for understanding the process of pedogenesis, plant nutrition and fertilizer application. | | | |
| Syllabus: <i>Theory</i> Soil as a natural habitat for microorganisms. Microbial activity in different types of soil. Microbial activity in stress conditions. Role of microorganisms in synthesis and mineralization of organic matter in soil. Mutual relationships between microorganisms. Mutual relationships between plant and microorganisms. Role of microorganisms in the cycles of N, C, P and S. Effect of agrotechnical and melioration measures on microbial process in soil. <i>Practice</i> Isolation, growth and identification of bacteria, fungi, algae and protozoa. Isolation and determination of phyllospheric and rhizospheric microorganisms from seed and fruit. Estimation of microbial number and activity in different types of soil. | | | |
| Required Reading: Alexander, M: Soil microbiology, John Wiley & Sons, inc, 1961. Eldor A. Paul: Soil Microbiology, Ecology and Biochemistry, Elsevier, 2014 | | | |
| Weekly Contact Hours: 4 | Lectures: 2 | Practical work: 2 | |
| Teaching Methods: Lectures 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 | |
| Practical work | 10 | oral exam | 50 |
| Preliminary exam(s) | 30 | | |
| Seminar(s) | 5 | | |
| The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc. | | | |