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| Course: | *Soil* |
| Course id: 3МЗИ1О01 |
| Number of ECTS: 6 |
| Teacher:  | Milivoj Belic, PhD, full professor; Ljiljana Nesic, PhD, asossiated professor; Simonida Djuric, PhD, assistant professor; Vladimir Ciric, PhD, assistant professor; Timea Hajnal, PhD, assistant professor |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures: 3 | Practical classes: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None/navesti ako ima |
| 1. **Educational goal** of the course is to students acquire knowledge about the soil and microbiology.
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| 1. **Educational outcomes** of the course are education and training of students for professional and scientific work in the field coneceted to the soil and plant nutrition.
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| 1. Course content

*Theoretical classes:* Pedogenic factors and basic pedogenetic processes - External and internal morphology of the soil - soil as a dispersed system. Mechanical composition of the soil. Clay as the active fraction of the soil. The structure of the soil. The density and bulk density of the soil. The porosity of the soil. Water and water-soil regime. Air and air regime of soil. Thermal properties and thermal regime of soil. Physical and mechanical properties of soils. The chemical properties of the mineral component of the soil. The chemical properties of the organic component of soil. Organic-mineral compounds. Absorptive capacity of the soil. The chemical properties of the liquid phase of soil. Principles and criteria of national and world classification of the soil. Application of chemical amelioration measures for repairing acidic and alkaline soils.Abundance of sistematic group of microorganisms in soil. Abiotic and biotic factors. The role of microorganisms in sinthesys and mineralisation of organic matter in soil.*Practical classes:* Field research area: Collecting soil samples in disturbed and undisturbed natural condition for the purposes of laboratory tests. Laboratory analysis of samples: Determination of salinity and alkalinity, the analysis of the properties of the soil adsorption complex, calculate the necessary amount of chemical reclamation funds for the repair of acidic and alkaline soils, determining the constants of water, total and differential porosity. Determination of microbial number and activity in different types of soil. Isolation, growth and identification of bacteria, fungi, algae and protozoa. |
| 1. Teaching methods

Lectures, Practice/ Practical classes, Consultations, study |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | Yes | 5 | *Written part of the exam-tasks and theory* | Yes | 30 |
| Colloquium | Yes | 10 | *Oral part of the exam/* | Yes | 30 |
| Exercise attendance | Yes | 5 |  |
| Seminar paper | Yes | 20 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Miljković N. | Osnovi Pedologije | Prirodno –matematički fakultet institut za geografiju Novi Sad | 1996 |
|  | Belić M., Nešić LJ., Ciric V. | Praktikum iz Pedologije |  Poljoprivredni fakultet, Novi Sad | 2014 |
|  | Goran J. Dugalić, Boško A. Gajić | Pedologija  | Univerzitet u Kragujevcu, Agronomski fakultet u Čačku | 2012 |
|  | Eldor A. Paul | Soil Microbiology, Ecology and Biochemistry | Elsevier | 2014 |
|  | Jarak, M., Čolo J. | Mikrobiologija zemljišta | Poljoprivredni fakultet, Novi Sad | 2007 |
|  | Hillel, D | Introduction to Environmental Soil Physics | Elsevier, Amsterdam, Netherlands | 2004 |
|  | Alexander, M. | Soil microbiology | John Wiley & Sons, inc | 1961 |
|  | Robert E. White | Principles and practice of soil science | Blackwell Publishing | 2006 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationMASTER ACADEMIC STUDIES: SOIL SCIENCE AND PLANT NUTRITION |
| Table 5.2 Course specification |