Course Unit Descriptor

Study Programme: Field and vegetable crops

Course Unit Title: Meliorative pedology

Course Unit Code: 3ORT5I05

Name of Lecturer(s): Vladimir I. Ciric, assistant professor

Type and Level of Studies: Bachelor 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: Passed pedology

Course Aims:

Previous findings indicate that a considerable part of the land area in agriculture is still insufficiently used, as they require previous amelioration. For this reason, this subject is aimed at studying the anormal soil in three basic meliorative directions: the application of hydromeliorative, agromeliorative and chemical interventions.

Learning Outcomes:

Students who choose this course will acquire the necessary knowledge that will help them to be included in the practice in solving problems related to different types of soil melioration in order to increase its productivity.

Syllabus:

Theory: Introduction, genesis and soil evolution, pedogenetic factors, general pedogenetic processes, soil properties (morphological, physical and chemical). Soil classification, geography of soil. Melioration of agricultural land in Serbia and in the world. Ways of land melioration. Hydrotechnical reclamation (drainage and irrigation), land division into drainage classes, land classification according to irrigation benefits, water quality assessment for irrigation). Agromeliorations, melioration of acid and halomorphic soils, in order to increase the fertility of agricultural land. Meliorative application of organic and mineral fertilizers (humidification, phosphatization). Landscape monitoring of soil properties after the application of meliorative measures. Pedological research as a basis for drainage projects, irrigation, for construction and other engineering needs.

Practice: Field land survey. Density of soil. Soil texture. Waterpermeability and capillary rise. Land Consistency. Determination of CaCO3 content, humus and dangerous and harmful elements in the soil. Determination: active and potential acidity and amount of lime for melioration of acidic soils. Determination of soil salinity, qualitative and quantitative composition of cations and anions and the required amount of gypsum for repair of alkaline soils. Determination of ground water quality and its effect on soil salinity and / or alkalinity.

Required Reading:

1.Nikola Miljković, Meliorativna Pedologija , Poljoprivredni fakultet, Novi Sad, 2005.
2.Vučić N. : Higijena zemljišta, Vojvođanska akademija nauka i umetnosti, Novi Sad 1992.
3.Sekulić P., Kastori R., Hadžić V. : Zaštita zemljišta od degradacije. Naučni institut za ratarstvo i povrtarstvo Novi Sad, 2003.
4.Milivoj Belić, Ljiljana Nešić, Vladimir Ćirić: Praktikum iz pedologije, Poljoprivredni fakultet Novi Sad, 2014.
5. Maslov, B. S. (2005). Agricultural land improvement: Amelioration and reclamation. Russian Academy of Agriculture Sciences, Russia, 1, 1-9.

Weekly Contact Hours:	**Lectures: 30**	**Practical work: 30**

Teaching Methods:

Theoretical teaching using video presentations and practical teaching in the laboratory

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	5	written exam	30
Practical work	5	oral exam	30
Preliminary exam(s)		…….	
Seminar(s)	30		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.