Course Unit Descriptor

Study Programme: Soil, plant and genetics. Modul: Organic agriculture

Course Unit Title: Soil fertility and fertilization in organic agriculture

Course Unit Code: 19.ZB2003

Name of Lecturer(s): Prof. Maja Manojlović, Prof. Simonida Đurić

Type and Level of Studies: Master Academic Degree

Course Status (compulsory/elective): Compulsory

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: 5

Prerequisites: None

Course Aims:

The acquisition of expert and scientific knowledge about raising and maintaining of soil fertility and fertilizer application in organic production.

Learning Outcomes:

A student who successfully completes the course "*Soil Fertility Management in Organic Farming* " will be able to apply the acquired knowledge in the agricultural practices, advisory services for organic production and in scientific work.

Syllabus:

Theory

Sources of nutrients for plants and losses. Soil quality and soil fertility. Biodiversity. Alignment of mineralization of organic matter with the nutrients uptake by plants. Measures for increasing the content of organic matter in the soil. Crop rotation. Cover crops. Fertilization. Organic fertilizer (plant origin, animal origin). Characteristics of organic fertilizers. Soil improvers. Commercial fertilizers. Application of microbiological fertilizers with the aim of providing plants with nitrogen, phosphorus and other nutrients. Application of microbiological fertilizers to accelerate the transformation of crop residues. Legislation.

Practice

Field and laboratory exercises: indicators of soil quality. Estimation of the mineralization potential of different organic materials. Isolation and characterization of microorganisms used in the production of microbial fertilizer.

Required Reading:

1. Building Soil for Better Crops, 2nd ed. By F. Magdoff and H.van Es. University of Nebraska Press, Lincoln, NE, 2000.
2. Lampkin, N. H. (1994): Organic Farming. Farming Press, Ipswich, 1-540.Soil fertility and fertilizers, Havlin J.L. et al., Pearson education, Inc. Upper Saddle River, New Jersey, 2005.

Weekly Contact Hours:	**Lectures: 3**	**Practical work: 1**

Teaching Methods:

Lectures and students group work

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	5	written exam	
Practical work	10	oral exam	60
Preliminary exam(s)		…….	
Seminar(s)	25		