Study Programme: Phytomedicine

Course Unit Title: Diagnostics of plant pathogenic microorganisms

Course Unit Code: 19.FT1018

Name of Lecturer(s): Dragana B. Budakov, Mladen Petreš

Type and Level of Studies: Undergraduate Academic Studies

Course Status (compulsory/elective): elective

Semester (winter/summer): winter

Language of instruction: Serbian/English

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 6

Prerequisites: General Phytopathology

Course Aims: To acquire basics methods for detection and identification in plant pathology, as well as analyses of similarity among plant pathogens (symptoms, classic and modern serological and molecular methods).

Learning Outcomes: Knowledge of the necessary techniques required for the detection and identification of pathogens, which represent a logical extension of classical determination methods based on the assessment of morphological, cultural, pathogenic, and other characteristics of plant pathogens. Competence to work in modern phytopathology laboratories.

Syllabus:

Theory
Symptoms of plant diseases. Latent infections. Sampling of plant material with and without disease symptoms. Conventional, serological, and molecular methods for the detection and identification of plant pathogens (oomycetes, fungi, viruses, bacteria, phytoplasmas).
Practical lessons
Sampling of plant material with and without disease symptoms. Preparation of samples for analysis. Procedures for isolating pathogens from infected plant material. Detection of pathogens using modern methods directly from plant tissue. Detection and identification of pathogens using serological and molecular methods.

Required Reading:

Agrios, G.N. (2005): Plant Pathology. Elsevier, Academic Press, USA.

Babović, M. (2003): Basics of plant pathology (in Serbian). University of Belgrade, Faculty of Agriculture.

Vico, I. (2018): Phytopathology (in Serbian). University of Belgrade, Faculty of Agriculture, Zemun.

Weekly Contact Hours:	**Lectures: 1**	**Practical work: 2**

Teaching Methods:

Lectures – oral lectures with visual method of presentation using computer, usage of others didactic methods (demonstrations, illustrations, board visuals).
Practical classes - lectures with visual method of presentation using computer, managing independent work of students, usage of different laboratory and other experimental phytopathological methods in pathogen identification, consultations.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	10	Seminar(s)	
Practical work	20	written exam	
Preliminary exam(s)	20	oral exam	50

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