Course Unit Descriptor

Study Programme: Agronomy

Course Unit Title: Plant Molecular Physiology

Course Unit Code: 3DAI2054

Name of Lecturer(s): Full professor Maksimović V Ivana, (practice) Assistant professor Marina I. Putnik-Delić

Type and Level of Studies: Doctoral Academic Studies

Course Status (compulsory/elective): Elective

Semester (winter/summer): Summer

Language of instruction: English

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

Number of ECTS Allocated:10

Prerequisites: Passed exam in Plant physiology at the undergraduate level

Course Aims:

The acquisition of advanced knowledge in plant molecular physiology.

Learning Outcomes:

Capability to follow and use the latest literature in the field of plant molecular biology and the application of modern achievements in the field and in scientific research.

Syllabus:

Theory

The study of molecular physiology chapters directly related to agriculture: Molecular responses of plants to water and osmotic stress, Molecular responses to temperature stress and lack of oxygen. Molecular response of plants to pathogens, modes of defense plants, systemic resistance, control of genetically engineered pathogens. Study of selected review papers, presentations by the students and discussions.

Practice

Presentation of selected papers from the recent literature and preparing, presenting and discussing those papers

Required Reading:

Taiz L, Zeiger E, Møller IM, Murphy A (2014) Plant Physiology and Development, Sixth Edition, Sinauer Associates.

Alberts B, Bray D, Lewis J, Raff M, Roberts K, Watson JD (1994) Molecular biology of the cell, Garland Publishing, Inc., USA.

Kozlowski TT, Pallardy SG (1997) Growth control in woody plants, Academic Press, USA

Buchanan B, Wilhelm Gruissem W, Jones RL (2002) Biochemistry & Molecular Biology of Plants, American Society of Plant Biologists

Weekly Contact Hours: 8	**Lectures:** 30	**Practical work:** 90

Teaching Methods:

Classes are conducted with the use of modern technology (computer, video beam). The theoretical part of teaching is done in university classrooms. All lectures are computer processed and presented.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	
Practical work	40	oral exam	60

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