

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Physiology of plants				
Head of course	PhD Vesna Kovačević, College Professor				
Study programme	Professional undergraduate study Mediterranean Agriculture				
Status of a course	Obligatory				
Year of study	1	Semester	II	ECTS credits	5
Teaching plan (L + E + S+ Pr)	(2+1+0+0)				
Goals of a course					
Introduce students to functions of the plant organism at the level of the cell, organ, plant as a whole and the life processes that take place in plants. To familiarize students with the influence of external factors on the physiological processes and growth and development of plants, and the mechanisms by which plants resist stressful conditions.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 3: Prepare a plan for the cultivation of Mediterranean crops, including economic and cultivation elements.					
Outcome 5: Design irrigation models based on water balance and apply classic and special irrigation models.					
Expected learning outcomes on a level of a course					
1. Comment on the functions of the plant at the cell and organ level, and the level of the plant as a whole.					
2. Evaluate the significance of physiological - biochemical processes that take place in plants.					
3. Link growth and development processes with yield production in plants.					
4. Analyse the resistance of plants to the stress effects of external factors.					
Content of a course					
Basic functions of cell. Water regime of plants (content inside plants, absorption, transport and extraction). Mineral substances (importance, intake and transport across plant). Photosynthesis (importance, mechanism and chemism, types, factors affecting process of photosynthesis). Chemosynthesis. Circulation of assimilates inside plant. Biological oxidations, respiration and fermentation. Heterotrophic plants. Growth and development of plants. Development of agricultural plants. Commotion of plants. Resistance to extreme factors of outdoor environment.					
Exercises:					
Causing and observing different forms of plasmolysis. Determining sucking force on basis of size changes of crop tissue. Determining dry substance of cellular juice with help of refract meter. Proving and determining intensity of transpiration. Determining leaf surface. Determining number of stoma by print method. Separation of pigments of chloroplast from leaves. Separation of carotenides from carrot root. Forming starch at CO2 assimilation.					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
Comments					
Students' obligations					
Required attendance at exercises. Students must have a notebook of completed activities (individual assignments and exercises) that are reviewed and scored.					
Grading, evaluation and monitoring of students' work continuously during lectures and exams					

Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students.

Continuous check-up:

Outcomes	Pre-exam I	Activity	Presentation	Assignment	Threshold	Max
Outcome 1	8	2		10	10	20
Outcome 2	18	2	6	4	15	30
Outcome 3	22	2	6		15	30
Outcome 4	10		6		10	20
Percentage of ECTS	2,5	0,5	1	1		
Total	62	6	18	14	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Exam term:

Outcomes	Written exam	Oral exam	Max
Outcome 1	16	4	20
Outcome 2	24	6	30
Outcome 3	24	6	30
Outcome 4	16	4	20
Percentage of ECTS	4	1	
Total	80 %	20 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Grading:

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome.

If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good(4)	B
60,00 – 74,99	Good(3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

Obligatory literature

1. Dubravec, K. i Regula, I. 1995: FIZIOLOGIJA BILJA. Školska knjiga, Zagreb

Additional literature

1. Pevalek – Kozlina, B. 2003. FIZIOLOGIJA BILJAKA. Profil, Zagreb
2. Denffer, D. i Ziegler, H., 1982: BOTANIKA – Morfologija i fiziologija. Školska knjiga, Zagreb

