DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	**Plant protection**				
Head of course	**PhD Ivana Dminić Rojnić, Senior Lecturer**				
Study programme	**Professional undergraduate study Winemaking**				
Status of a course	Obligatory				
Year of study	2.	**Semester**	IV	**ECTS credits**	6
Teaching plan (L + E + S+ Pr)	3+2+0+1				

Goals of a course

Through theoretical and practical classes, students gain knowledge and learn about the importance and importance of plant protection in plant production, plant pests, measures and methods of protection, the distribution of plant protection products, their application, mechanism of action, hazards and risks of application, and environmental protection. Acquired general knowledge in the field of plant protection will help in understanding the special part in the identification of vine pests, their biology and ecology, characteristic types of damage and methods and measures for their monitoring and control, all in accordance with ecological and sustainable development.

Conditions for enrolling course

No conditions

Learning outcomes on a level of a study programme which includes course

Outcome 1: Plan the planting of vineyards with regard to the ecological and agro-climate conditions of the production unit.
Outcome 2: Interpret soil analysis results and optimize pedological soil properties.
Outcome 3: Perform the care of the grapevine plantations in accordance with the cultivation form and maintain the vineyard in view of the technological and ecological conditions of production.
Outcome 4: Determine the economically significant grapevine pests and implement preventative and curative methods of plant protection.
Outcome 5: Interpret the role of microorganisms and apply adequate cultures in wine production.
Outcome 11: Present the wine professionally, using professional terminology in describing and evaluating the wine, and lead wine tasting by interpreting the sensory experiences of the wine.
Outcome 12: Use the legislation (Act and Regulations on wine).

Expected learning outcomes on a level of a course

1. Determine the term plant protection.
2. Know plant protection products, methods and measures of application, the impact of the application of protection measures on humans, animals and the environment.
3. Distinguish between abiotic and biotic causes of plant diseases, plant pests and weeds.
4. Determine the harmfulness threshold based on the pest and crop based on the condition of the plantation.
5. Define economically the most significant pests of Mediterranean crops.
6. Recommend methods and measures for the protection of Mediterranean crops.

Content of a course

Introduction and legal regulations. General terms related to plant pests. Plant protection (phytomedicine). Plant protection agents (Phyto pharmacy) – general part. Plant protection agents (Phyto pharmacy) – special part. Mechanical and physical aids in plant protection. Plant pathology – term, definition, diseases and their agents. Abiotic agents of diseases. Epidemiology and prediction of plant diseases. Importance and task of applied entomology. Morphology, anatomy and physiology of insect. Systematics. Class: Insecta, Arachnoidae, Myriapoda, Nemathelminthes, Gastropoda, Mammalia, Aves. Methods of checking entomofauna. Polyfagous pests. Definition of weed, classification of weed, damages caused by weed. Systems of integrated plant protection. Integrated plant protection according to OILB suggestion. Integrated protection of: vine, apple, pear, peach, apricot, plum, sweet cherry, sour cherry, strawberry, almond, hazel, oak, citrus fruits, olive. Preparation of plant protection plan by crops.

Teaching modes	☒ lectures ☐ auditory exercises ☒ seminars and workshops ☐ distance learning ☐ field classes	☒ individual assignments ☐ multimedia and network ☐ laboratory ☐ supervisor's work ☐ other _____
Comments		

Students' obligations

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	Pre-exam 2	Pre-exam 3	Assignment	Practical Teaching Report	Design and determination of entomological collection	Threshold	Max
Outcome 1	5			5	2	5	8,5	17
Outcome 2	5			10	6		10,5	21
Outcome 3		10		10		5	12,5	25
Outcome 4			10		2		6	12
Outcome 5			10		2		6	12
Outcome 6			10		3		6,5	13
Percentage of ECTS	1	1	1	1	1	1		
Total	10	10	30	25	15	10	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	5	12	17
Outcome 2	15	6	21
Outcome 3	10	15	25
Outcome 4	10	2	12
Outcome 5	10	2	12
Outcome 6	10	3	13
Percentage of ECTS	4	2	
Total	60	40	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. Ciglar, I. (1998.): Integrirana zaštita voćaka i vinograda, Zrinski d. d. Čakovec
2. Igrc Barčić, J.,Maceljski, M., (2001): Ekološki prihvatljiva zaštita bilja od štetnika. Zrinski, Čakovec
3. Grupa autora (2015): Priručnik za sigurno rukovanje i primjenu sredstava za zaštitu bilja. Ministarstvo poljoprivrede i HCPHS- Zavod za zaštitu bilja
4. Kišpatić, J. (1988): Opća fitopatologija. Liber, Zagreb
5. Maceljski, M., Cvjetković, B., Ostojić, Z., Barić, B. (2006.): Štetočinje vinove loze, Zrinski d. d. Čakovec.
6. Maceljski, M. (2002.): Poljoprivredna entomologija, Zrinski d.d. Čakovec
7. Oštrec, Lj, Gotlin Čuljak, T. (2005): Opća entomologija, Zrinski, Čakovec

Additional literature

1. Grupa autora (svakogodišnje izdanje broj 1-2): Glasilo biljne zaštite, HDBZ, Zagreb
2. Ivezić, M. (2003.): Štetnici vinove loze i voćaka. Veleučilište u Požegi; Veleučilište u Rijeci.
3. Jurković, D., Ćosić, J. (2003.): Zaštita vinograda i voćnjaka od uzročnika bolesti. Veleučilište u Požegi