

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Chemistry				
<b>Head of course</b>	PhD Siniša Petrović, College Professor				
<b>Study programme</b>	Professional undergraduate study Mediterranean Agriculture				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	1	<b>Semester</b>	I	<b>ECTS credits</b>	4
<b>Teaching plan (L + E + S+ Pr)</b>	2 + 1				
<b>Goals of a course</b>					
Introduce students to the structure, properties and chemical changes of substances and the basics of chemical calculus. Specify in particular the compounds and reactions used in the processing of Mediterranean cultures. Exercises allow developing the ability to solve tasks, experiment, record results, and draw conclusions from the measurements performed.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 8: Conduct correction of crushed grapes, grape must and wine on the basis of chemical composition and apply new technologies in wine production, care, stabilization and finalization Outcome 9: Recommend raw materials, tools and method of preserving Mediterranean crops and bee products. Outcome 10: Interpret virgin olive oil production technology.					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>1. Adopt basic chemical terms and solve computational problems.</li> <li>2. Distinguish types of solutions and carry out measurements in a chemical laboratory.</li> <li>3. Use methods to analyse the composition of solutions.</li> <li>4. Describe the properties of chemical reactions and their significance in the processing of agricultural products.</li> <li>5. Describe the properties and state the use of the elements and their inorganic compounds based on their chemical properties.</li> <li>6. Distinguish organic compounds by their constitution and properties.</li> <li>7. Evaluate the properties and use of selected organic compounds</li> </ol>					
<b>Content of a course</b>					
Introduction to chemistry: matter and its chemical transitions. Structure of an atom and periodical system of elements. Chemical laws of bonding related to mass and volume. Characteristics of solid matter, liquid and gaseous substances. The relative atomic and molecular mass and definition of mol as a measure of matter quantity. The chemical bond and structure of molecules. Types of solutions and quantitative definitions of their content. Colloids, electrolytes, acids and bases. pH of solution and buffers. Methods of purification and chemical analysis used in vine and olive oil production technology. Types of chemical reactions. Redox-reactions and redox potential of vine. The equilibrium, velocity and energetic of chemical reactions. Chemical composition of earth and biogenic elements. Properties of important elements and compounds used in viticulture and vine and olive oil production. Types and properties of hydrocarbons. Organic compounds with different functional groups: composition and properties. Common organic compounds found in main Mediterranean growing plants and agriculture products.					
<b>Teaching modes</b>	<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 _____		
<b>Comments</b>					

## 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	Laboratory exercises	Home assignment	Threshold	Max
Outcome 1	16			4	10	20
Outcome 2	16		6	2	12	24
Outcome 3	8		6	2	8	16
Outcome 4		10			5	10
Outcome 5		8			4	8
Outcome 6		12			6	12
Outcome 7		10			5	10
Percentage of ECTS	1.6	1.6	0.48	0.32		
Total	40%	40%	12%	8%	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	20	4	24
Outcome 3	14	2	16
Outcome 4	8	2	10
Outcome 5	6	2	8
Outcome 6	8	4	12
Outcome 7	8	2	10
Percentage of ECTS	3.2	0.8	
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

<b>Obligatory literature</b>
1. Filipović, I., Lipanović, S. Opća i anorganska kemija I i II. Školska knjiga, Zagreb. 2. Biffl: Osnove kemije za studente šumarskog fakultet. Školska knjiga, Zagreb. 3. Sikirica, M. Stehiometrija. Školska knjiga, Zagreb. 4. Amić, D. Organska kemija za studente agronomске struke. Školska knjiga, Zagreb.
<b>Additional literature</b>

