DESCRIPTION OF A STUDY COURSE – SYLLABUS

<table>
<tr><td>Title of a course</td><td colspan="5">Irrigation</td></tr>
<tr><td>Head of course</td><td colspan="5">PhD David Gluhić, Senior Lecturer</td></tr>
<tr><td>Study programme</td><td colspan="5">Professional undergraduate study Winemaking</td></tr>
<tr><td>Status of a course</td><td colspan="5">Obligatory</td></tr>
<tr><td>Year of study</td><td>3</td><td>Semester</td><td>V</td><td>ECTS credits</td><td>5</td></tr>
<tr><td>Teaching plan
(L + E + S+ Pr)</td><td colspan="5">2 + 1 + 0 + 0</td></tr>
<tr><td colspan="6">Goals of a course</td></tr>
<tr><td colspan="6">By mastering the course material, students will acquire basic theoretical and practical knowledge about the application of irrigation in viticulture production and the possibility of designing irrigation systems on small holdings.</td></tr>
<tr><td colspan="6">Conditions for enrolling course</td></tr>
<tr><td colspan="6">No conditions</td></tr>
<tr><td colspan="6">Learning outcomes on a level of a study programme which includes course</td></tr>
<tr><td colspan="6">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.</td></tr>
<tr><td colspan="6">Expected learning outcomes on a level of a course</td></tr>
<tr><td colspan="6">1. Determine the needs of plants for water and evaluate the use of water from different sources for irrigation purposes
2. Water balance (the need of plants for water)
3. Application of combined irrigation and fertilization system of agricultural crops
4. Design of agricultural crops irrigation systems</td></tr>
<tr><td colspan="6">Content of a course</td></tr>
<tr><td colspan="6">Introduction. Definition of irrigation. History of development and current position of irrigation in Croatia and in the world. Requirements for applying irrigation. Relation soil – plant – water in conditions of irrigation. Benefits and problems considering irrigation. Water dosage. Portion of irrigation. Starting point of irrigation. Source and quantity of water for irrigation. Quality of water used for irrigation. Basic elements of irrigation designing. Methods, types and systems of irrigation. Surface irrigation. Underground irrigation. Rain irrigation. Localised irrigation. Fertirrigation. Selection of method, type and system of irrigation. Regulation of water shortage in substrate in protected area. Water economy in protected area.</td></tr>
<tr><td>Teaching modes</td><td colspan="2">☒ lectures
☐ auditory exercises
☒ seminars and workshops
☐ distance learning
☐ field classes</td><td colspan="3">☒ individual assignments
☐ multimedia and network
☐ laboratory
☐ supervisor’s work
☐ other _____</td></tr>
<tr><td>Comments</td><td colspan="5"></td></tr>
<tr><td colspan="6">Students’ obligations</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td colspan="6">Grading, evaluation and monitoring of students’ work continuously during lectures and exams</td></tr>
</table>

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	Assignment	Independent task	Threshold	Max
Outcome 1	20			10 %	20 %
Outcome 2		20		10 %	20 %
Outcome 3	10			5 %	10 %
Outcome 4			50	25 %	50 %
Percentage of ECTS	1	1	2	-	-
Total	30 %	20 %	50 %	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	Threshold	Max
Outcome 1	20		10 %	20 %
Outcome 2	20		10 %	20 %
Outcome 3	10		5 %	10 %
Outcome 4		50	25 %	50 %
Percentage of ECTS	2	2	-	-
Total	50 %	50 %	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.

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

Assessment of the learning outcomes of the course at the (full) exam includes the written and oral exam, which includes **a pre-compulsory assessment of the teaching activity "Designing a project for irrigation of agricultural cul- tures".** Students without assessment of the teaching activity "Creating a project of irrigation of agricultural crops" cannot take the full exam during the exam periods.

Obligatory literature

1. Tomić, F.: Navodnjavanje, Fakultet poljoprivrednih znanosti Sveučilišta u Zagrebu, Zagreb, 1988

Additional literature

1. Dasberg S., Or D.: Drip Irrigation, Springler-Verlag, Berlin, 1999
2. D'Itri F.M., Howard W.: Subirrigation and Controlled Drainage, CRC Press, 1995