**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

| | | | | | |
|---|---|---|---|---|---|
| **Title of a course** | **Winemaking II** | | | | |
| **Head of course** | **PhD Mario Staver, College Professor** | | | | |
| **Study programme** | **Professional undergraduate study Winemaking** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 2. | **Semester** | III | **ECTS credits** | 7 |
| **Teaching plan (L + E + S+ Pr)** | 2 + 2 + 0 + 2 | | | | |

**Goals of a course**

By mastering the course material, students are able to link the biochemical process and microbiological impact on alcoholic fermentation and carry out the stabilization and finalization of wine.

**Conditions for enrolling course**

No conditions

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

Outcome 5: Interpret the role of microorganisms and apply adequate cultures in wine production.
Outcome 6: Analyse the basic chemical composition of grape must and make corrections of crushed grapes, grape must and wine.
Outcome 8: Apply the appropriate vinification technology for white, rose and red wine with monitoring and determining technological processes, and carry out physic-chemical and biological stabilization of wine.
Outcome 9: Finalize the wine by selecting the appropriate equipment and packaging and bottling the wine.

**Expected learning outcomes on a level of a course**

1. Explain the importance of individual groups of chemical constituents in grapes, grape must and wine and interpret their characteristics
2. Perform independent wine vinification.
3. Perform chemical analysis of grape must and basic chemical analysis of wine.
4. Perform physical, chemical and biological stabilization of wine.
5. Select the appropriate wine filtration process.
6. Choose the appropriate wine bottling equipment and packaging.
7. Use the legislation (Act and Regulations on wine).

**Content of a course**

Alcoholic fermentation: chemise of fermentation, primary and secondary products of fermentation, more important representatives of yeasts, selected yeasts, activation of yeasts, yeast nutrition. Malolactic fermentation: changes of chemical composition and sensor characteristics of wine, influences on quality, provoking and preventing malolactic fermentation. Care and maturation of wine (inox, wood), wine protection - SO2, ascorbic acid, inert gases, infusion, racking. Oxido-reproduction processes of wine: oxidation, redox potentials, oxidation and redox potential. Wine deposits: iron, copper, tartars, proteins. Wine stabilisation: stabilisation of proteins, stabilisation of tartars, stabilisation of deposited metals, biological stabilisation. Wine clarification: purpose of clarification, types of clarifying agents (organic and mineral), application, trials, ways of adding. Filtering and centrifuging: filters (panel, deposit, membrane and cross-flow), centrifuges. Bottling: preparation of wine for bottling, bottling equipment, types of bottling machines and corking machines, corks.

| | | |
|---|---|---|
| **Teaching modes** | ☒ lectures<br>☐ auditory exercises<br>☒ seminars and workshops<br>☐ distance learning<br>☐ field classes | ☒ individual assignments<br>☐ multimedia and network<br>☐ laboratory<br>☐ supervisor's work<br>☐ 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 | Laboratory exercises | Sensory analysis | Practical work | Threshold | Max |
|---|---|---|---|---|---|---|
| Outcome 1 | 10 | / | / | / | 5 % | 10 % |
| Outcome 2 | / | 5 | 5 | 10 | 10 % | 20 % |
| Outcome 3 | / | 20 | / | / | 10 % | 20 % |
| Outcome 4 | 5 | 15 | / | / | 10 % | 20 % |
| Outcome 5 | 5 | / | / | 5 | 5 % | 10 % |
| Outcome 6 | 5 | / | / | 5 | 5 % | 10 % |
| Outcome 7 | 5 | / | 5 | / | 5 % | 10 % |
| Percentage of ECTS | 2,0 | 3,0 | 0,5 | 1,5 | - | - |
| Total | 30 % | 40 % | 10% | 20 % | 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 | 15 | / | 7,5 % | 15 % |
| Outcome 2 | 5 | 10 | 7,5 % | 15 % |
| Outcome 3 | 10 | 5 | 7,5 % | 15 % |
| Outcome 4 | 10 | 5 | 7,5 % | 15 % |
| Outcome 5 | 10 | 5 | 7,5 % | 15 % |
| Outcome 6 | 10 | 5 | 7,5 % | 15 % |
| Outcome 7 | 10 | / | 5 % | 10 % |
| Percentage of ECTS | 5 | 2 | - | |
| Total | 70 % | 30 % | 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 |

**Obligatory literature**

1. Mario Staver, Kristijan Damijanić, Siniša Petrović Vinarstvo II, Skripta za studente stručnog studija Vinarstva i stručnog studija Mediteranske poljoprivrede, Nakladnik: Veleučilište u Rijeci, 2017. ISBN 978-953-6911-90-5

| |
|---|
| 2. Zoričić, M. (1996): Podrumarstvo, Hrvatsko obiteljsko gospodarstvo, Zagreb<br>3. Zoričić, M. (1998): Crna i ružičasta vina, Hrvatsko obiteljsko gospodarstvo, Zagreb |
| **Additional literature** |
| 1. Mario Staver, Sanja Radeka, Vinarstvo I, Skripta za studente stručnog studija Vinarstva i stručnog studija Mediteranske poljoprivrede, Nakladnik: Veleučilište u Rijeci, 2011. ISBN 978-953-6911-65-3 |