**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Microbiology of must and wine** | | | | |
| **Study programme** | **Professional undergraduate study Winemaking** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 2. | **Semester** | W | **ECTS credits** | 4 |
| **Goals of a course** | | | | | |
| Introducing students to the role and importance of microorganisms important in winemaking, their metabolism, growth and reproduction. Adopt the foundations of chemistry during vinification. | | | | | |
| **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 7: Recommend and implement methods of eliminating disease and wine defects.  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 10: Apply basic technologies in the production of sparkling wine, liqueur wine and dessert wine by selecting the appropriate equipment and packaging for the production, processing and finalization of these wines | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Adopt the basic concepts of microbiology. 2. Distinguish different types of microorganisms and their metabolism. 3. Adopt microorganisms important in winemaking. 4. Distinguish the impact of using selected or native microflora. 5. Adopt the foundations of chemistry during vinification. | | | | | |
| **Content of a course** | | | | | |
| Introduction into role and importance of microorganisms. Structure of procariotic and eucariotic ones. Metabolism of microorganisms (catabolitic and anabolitic reactions, catabolism of carbohydrates, aerobic respiration, anaerobic respiration, fermentation). Growth and propagation of microorganisms (ways of their nourishing, bacterial growth curve). Microorganisms important in wine making (yeasts, moulds and bacteria). Yeasts: Classification of yeasts. Characteristics of most important types of yeasts. Selected yeasts. Autochthonous flora and alcoholic fermentation. Selection of autochthonous yeasts. Current knowledge about role and importance of autochthonous yeasts in emphasising so-called ‘typical’ features of wine in some terroir. Bacteria. Bacteria of malolactic fermentation. Impact of malolactic fermentation on wine quality. Causing and preventing malolactic fermentation. Acetic bacteria. Some more important representatives. Prevention of acetification bacteria growth. Moulds, mould-agents of negative changes in wine. | | | | | |
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