**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Mechanisation in wine growing and wine making** | | | | |
| **Study programme** | **Professional undergraduate study Winemaking** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 1. | **Semester** | S | **ECTS credits** | 5 |
| **Goals of a course** | | | | | |
| By successfully completing the course, students are familiar with the machines and appliances used in viticulture and winemaking, can identify most parts, distinguish good from bad work, and can make basic adjustments to improve the quality of the machine, soil, plant, armature, final product in the winery. They are oriented towards rationalization and efficiency of agrotechnical measures as well as the use of equipment in winemaking to achieve the expected quality of products. | | | | | |
| **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 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 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.  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. Select machines and equipment for soil preparation and vineyard planting. 2. Describe basic tractor parts and recommend tractor models for viticulture production. 3. Describe soil tillage machines, basic and supplementary fertilization and protection of vineyards. 4. Describe the machinery and equipment for harvesting and transporting grapes to the cellar. 5. Select machines and equipment for grape processing, production, processing and finishing of wine | | | | | |
| **Content of a course** | | | | | |
| Internal-combustion engines: types, operation principle, ways of using them. Fuels and lubricants. Main parts of tractor. Models of tractors in vine growing and wine making. Machines and devices for arranging grounds, preparing planting and vine planting. Equipment for production of vine planting material. Machines for tillage, basic and additional fertilisation in vineyards and orchards. Methods, machines and devices for applying pesticides in vineyards and orchards. Methods and systems for irrigation in vine growing and fruit growing. Machines and equipment for picking and transporting grapes to cellars. Maintaining agricultural machines and devices. Organisation of wine cellar. Accepting grapes and controlling their quality. Machines and equipment for grape processing: line for processing white varieties; line for processing red varieties; Grape crushers; Drainers; Discontinuous and continuous presses; Pumps and systems for mass transfer; Devices for fermentation control. Machines and equipment for wine doctoring: Filters; Stabilizers; Lines for washing and filling bottles; Sterilisation systems, corking and labelling | | | | | |
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