**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

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| **Title of a course** | **Soil science** | | | | |
| **Study programme** | **Professional undergraduate study Winemaking** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 1. | **Semester** | S | **ECTS credits** | 4 |
| **Goals of a course** | | | | | |
| To acquaint students with the physical, chemical and biological characteristics of soil, on the basis of which they will be able to select measures that improve soil fitness and fertility and the production of vines. To equip students to sample the soil and calculate the amount of macronutrients required for grapevine production. Introduce students to the soil evaluation process for grapevine production | | | | | |
| **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 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 5: Interpret the role of microorganisms and apply adequate cultures in wine production. | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 1. Predict the influence of physical, chemical and biological properties of soil on its production potential and fertility 2. Recommend soil repair measures to promote viticulture production 3. Conduct field research and sample soil for laboratory analysis 4. Recommend fertilization on the basis of chemical analysis of the soil of a particular production area 5. Evaluate soil for viticulture production | | | | | |
| **Content of a course** | | | | | |
| Definition of soil, ground and pedosphere. Factors of soil genesis. Mother substrate and mother rock, climate, relief, time, organisms. Soil genetic processes. Soil morphology. Specific wine yard soils. Physical features of soil. Texture, structure, density, porosity, consistency, water in soil, air in soil, heat characteristics. Chemical features of soil. Mineral substance, organic substance, fertility elements – macro and micro nutrients, oxido-reduction processes in soil, sorption, soil solution, puffers and puffing characteristic of soil. Microbiological features of soil. Soil classification. FAO classification. Soil classification in Croatia with particular consideration of soil types appropriate for agricultural production. Soil spread according to Pedological map Scale 1:300.000. Soil degradation. Erosion. Saltening of soil. Decrease in soil fertility. Soil survey for vinicultural production. | | | | | |
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