**DESCRIPTION OF A STUDY COURSE – SYLLABUS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Title of a course** | **Irrigation** | | | | |
| **Study programme** | **Professional undergraduate study Winemaking** | | | | |
| **Status of a course** | Obligatory | | | | |
| **Year of study** | 3 | **Semester** | W | **ECTS credits** | 5 |
| **Goals of a course** | | | | | |
| 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. | | | | | |
| **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 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. | | | | | |
| **Expected learning outcomes on a level of a course** | | | | | |
| 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 | | | | | |
| **Content of a course** | | | | | |
| 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. | | | | | |
|  | | | | | |