

Study Programme: Biotechnology
Course Unit Title: Advances in Technology of Alcoholic Spirits
Course Unit Code: DSBI 19
Name of Lecturer(s): Ass. Prof. Uroš Miljić, PhD
Type and Level of Studies: Dostoral Academic Studies; Specialist Academic Studies
Course Status (compulsory/elective): Elective
Semester (winter/summer): Winter
Language of instruction: English
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 10
Prerequisites: Technology of Alcoholic Spirits
<p>Course Aims:</p> <p>Training and acquisition of knowledge necessary for professional and successful guidance of the production of strong alcoholic beverages from various agricultural raw materials. Special attention will be given to grapes and fruits, as traditional raw materials for production of distilled beverages in this part of the world. The course will ensure gaining of scientific and academic skills and knowledge that will include different aspects of industrial microbiology, enzymology and technological operations.</p>
<p>Learning Outcomes:</p> <p>Knowledge and understanding of the production process of different types of alcoholic spirits.</p> <p>Ability to independently manage and create the process of production of distilled beverages from different raw materials, using modern techniques for raw materials treatment, fermentation and distillation. Ability to independently solve practical problems and control the process of production. Appropriate ageing and finalization of alcoholic spirits. Knowledge of the sensory characteristics of different groups of distilled beverages.</p>
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Necessary legal and technical conditions for the production of strong alcoholic beverages. Primary processing of grapes and fruits. The most important aspects of treatments and alcoholic fermentation of fruit pomace. Types of distillation devices, specificity of distillation in the production of alcoholic spirits. Chemical composition of the distillates. Ageing of distilled beverages. Failures and defects of distilled beverages and the possibilities for corrections and quality improvement. Specifics in the production of different alcoholic spirits (whiskey, vodka, gin, liqueurs etc.). Basics of sensory evaluation of alcoholic spirits.</p> <p><i>Practice</i></p> <p>Research projects of the students</p>
<p>Required Reading:</p> <ol style="list-style-type: none"> 1. N. Nikićević, R. Paunović: Technology of Strong Alcoholic Drinks, Faculty of Agriculture, University of Belgrade, Belgrade, 2013. 2. J. Pischl: Distilling fruit brandy. Schiffer, Atglen, 2011. 3. A.J. Buglass. Handbook of Alcoholic Beverages. Technical, Analytical and Nutritional Aspects. Wiley, 2011.

Weekly Contact Hours: 6	Lectures: 4	Practical work: 2	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work		oral exam	40
Preliminary exam(s)		
Seminar(s)	50		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			