

Course Unit Descriptor

Study Programme: Fruit science, viticulture and horticulture – module Fruit science and viticulture		
Course Unit Title: Fruit drying and processing		
Course Unit Code: 19.VI1030		
Name of Lecturer(s): Assistant Professor Zoran Stamenković, PhD		
Type and Level of Studies: Undergraduate		
Course Status (compulsory/elective): Elective		
Semester (winter/summer): Winter		
Language of instruction: Serbian		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 6		
Prerequisites: None		
Course Aims: Introducing students to different technologies of fruit drying and processing and the necessary equipment. Introduction to the basics of legislation governing the production of dried fruit		
Learning Outcomes: Enabling students to make the right choice of technology and equipment for drying fruit in relation to the fruit type and the final product that needs to be obtained. Enabling students to independently lead the process of drying and finishing fruits, from fresh fruit to packaged for sale. Enabling students to properly set the technical and technological basis for the formation of plants and start the production of dried fruit in accordance with legal regulations		
Syllabus: <i>Theory</i> Basic physical properties of fruit fruits. Introduction to the theory of drying and humid air. Fruit drying techniques: convective, osmotic, vacuum drying, lyophilization, spray drying. Construction solutions and principles of fruit dryer operation. Equipment for receiving, and preparing fruit for drying. Drying technology: apricots, nectarines, peaches, pears, quinces, cherries, plums, strawberries, raspberries, blueberries and blackberries. Storage of dried fruits and equipment. Finishing of dried fruit and packaging and equipment. Packaging and packaging materials. Regulations and standards in food safety and fruit production by drying. <i>Practice</i> Laboratory exercises in: basic physical properties of fruit, determination of mechanical composition of fruit, measurement of fruit moisture, measurement of water activity, measurement of liquid density, measurement of water-soluble substance, kinetics of convective drying of fruit, combined drying of fruit. Calculation tasks from: liquid density, binary systems, mass balance of drying of different fruit species.		
Required Reading:		
Weekly Contact Hours: 4	Lectures: 2	Practical work: 2
Teaching Methods: Theoretical classes are performed with the help of computer presentations and video clips with oral presentation. To support students, the Moodle e-learning system is used, which provides an additional opportunity for students to access all information and learning content online. During the exercises, the laboratory makes measurements important for		

understanding the technology of fruit drying, and computational tasks are performed with the help of teachers and assistants. Laboratory exercises are performed in the laboratory in group and individual work on measuring the required quantities.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Practical work	10	oral exam	50
Preliminary exam(s)	-	
Seminar(s)	10 (Optional in order to increase the number of points to the maximum 100)		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.