

Study Programme: Food engineering			
Course Unit Title: Application of starch hydrolysates in food			
Course Unit Code: DUHI404			
Name of Lecturer(s): Prof. Ljubica Dokić, PhD; Ass. Prof. Ivana Nikolić, PhD			
Type and Level of Studies: master academic degree			
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: 7			
Prerequisites: none			
Course Aims:			
Getting knowledge on starch hydrolysates, their characteristics and application in food production			
Learning Outcomes:			
Gaining knowledge about application of starch hydrolysates in food formulations			
Syllabus:			
<i>Theory</i>			
Definition of starch hydrolysates. Physical and chemical properties of starch hydrolysates and their role as food sweeteners. Specific properties and usage of maltodextrin, corn syrup, HFCS, glucose, fructose and polyols in formulation of different food products. Enzymes used for starch hydrolysis. Industrial processes of acid and enzyme hydrolysis of starch. Unit operation for production of corn syrups, glucose, high fructose corn syrups, fructose and sorbitol. Physical and chemical properties of sweeteners and their application in food and nonfood products.			
<i>Practice</i>			
Different analytical methods for characterization of sweeteners. Written seminars and its presentation on course topic.			
Required Reading:			
Starch: Chemistry and Technology, Ed. BeMiller J. Whistler R., Elsevier, 2009			
2. Alexander R.J., Sweeteners:Nutritive, Eagan Press handbook Series, St. Paul, Minnesota, USA.			
Weekly Contact Hours: 5	Lectures:3	Practical work: 3	
Teaching Methods: Lecture and laboratory work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work	10	oral exam	60
Preliminary exam(s)		
Seminar(s)	20		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			