

Study programme: Food Processing			
Type and level of study: Bachelor's degree (240 ECTS) – First cycle			
<b>Course title: Carbohydrate Technology 2</b>			
<b>Lecturer:</b> Ass. Prof. Mirjana Radovanović, PhD			
<b>Language of instruction:</b> English			
ECTS credits: 5			
Prerequisite:			
Semester: winter			
<b>Course objective</b> Acquiring the knowledge regarding the production and application of starch, starch hydrolyzate and modified starch.			
<b>Learning outcomes</b> The student will have knowledge needed to manage the process of starch production, development of starch products which is used in other industrial branches and will be able to adjust products to the required quality.			
<b>Course contents</b> Theoretical lessons Plant crops as raw materials for the starch production (corn, wheat, potato, rice, tapioca); physical and chemical characteristics of starch; corn starch production (reception, cleaning, steeping, separation of grain components, washing, drying and storage of starch, by-products of wet corn processing). Producing starch from potatoes (reception, peeling potatoes, extraction starch from potatoes cells, washing, concentrating, refining and drying of starch). Producing starch from wheat (Martin's process and dough formation process). Production of starch from rice and tapioca. Starch hydrolysis: acid, enzymatic and acid-enzymatic. Production of starch syrups, crystalline glucose, fructose syrups and other sweeteners. Modified starch. Practical laboratory work Starch production, starch hydrolysis, starch retrogradation, quality control starch products and industrial exercises			
<b>Recommended reading</b> James N. BeMiller, Roy L. Whistler -(2009): Starch: Chemistry and Technology.			
<b>Hours of active teaching</b>			<b>Other classes</b>
Lectures: 3x15=45	Practicals: 2x15=30 teaching	Other forms of Tutorials:	Individual work:
<b>Teaching methods</b> Lectures are interactive and held in classrooms and laboratories using modern devices. Practical sessions involve individual student work. Individual consultations related to problems arising in theoretical and practical classes.			
<b>Assessment (maximum points 100)</b>			
<b>Examination requirements</b>	<b>Points</b>	<b>Final examination</b>	<b>Points</b>
Class participation	5	oral examination	45
Practical sessions/tests	20	written examination	
Term paper assignments/homework		.....	
Project			
Other (tests)	30		
<b>Grading system</b>			
<b>Grade</b>	<b>ECTS</b>	<b>Description</b>	
<b>10</b>	<b>91-100</b>	Excellent	
<b>9</b>	<b>81-90</b>	Exceptionally good	
<b>8</b>	<b>71-80</b>	Very good	
<b>7</b>	<b>61-70</b>	Good	
<b>6</b>	<b>51-60</b>	Passing	
<b>5</b>	<b>≤50</b>	Failing	