

<b>Subject name</b>	<b>Physical Chemistry of Macromolecular Food Carbohydrates</b>	
<b>Subject code</b>		
<b>Department</b>	<b>Department of Carbohydrate Technology/Department of Engineering and Machinery in Food Industry</b>	
<b>Faculty</b>	<b>Food Technology</b>	
<b>Subject supervisor/Lecturer</b>	<b>Marcin Lukasiewicz Ph.D.; Anna Ptaszek Ph.D.</b>	
<b>General information</b>	<b>semester</b>	<b>winter</b>
	<b>ECTS credits</b>	<b>2</b>
	<b>Lectures total</b>	<b>15</b>
	<b>Laboratories</b>	<b>15</b>
<b>Objective and general description</b>	The main goal of the course is to show and pass the basic knowledge on physicochemical properties of polysaccharides by means of its influence on industrial application. The course will focus on principles of polymer chemistry and selected analytical methods in polysaccharide investigation. Functional properties of common polysaccharides will show according to its structural architecture and interactions with other food ingredients.	
<b>Assessment method</b>	Written report & test	
<b>References</b>	<p>[1] A. M. Stephen i Stephen, <i>Food Polysaccharides and Their Applications</i>, 1. wyd. CRC Press, 1995.</p> <p>[2] S. Dumitriu, Red., <i>Polysaccharides: Structural Diversity and Functional Versatility</i>. CRC Press, 1998.</p> <p>[3] B. G. Davis i A. J. Fairbanks, <i>Carbohydrate Chemistry</i>. Oxford University Press, USA, 2002.</p> <p>[4] R. L. Whistler, Red., <i>Industrial Gums, Polysaccharides and Their Derivatives, 2nd Edition</i>, 2nd wyd. Academic Press Inc, 1973.</p> <p>[5] S. Podzimek, <i>Light Scattering, Size Exclusion Chromatography and Asymmetric Flow Field Flow Fractionation: Powerful Tools for the Characterization of Polymers, Proteins and Nanoparticles</i>, 1. wyd. Wiley, 2011.</p> <p>[6] M. P. Stevens, <i>Polymer Chemistry: An Introduction</i>, 3. wyd. Oxford University Press, USA, 1998.</p> <p>[7] V. J. Klenin, <i>Thermodynamics of systems containing flexible-chain polymers</i>, Elsevier 1999</p>	