Study Programme: Food Engineering

Course Unit Title: Modern Trends in Dairy Technology

Course Unit Code: M1TKH6

Name of Lecturer(s): Full Professor Mirela Iličić, Associate Professor Katarina Kanurić

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:

Students of master studies are trained to introduce innovations, advanced operations and processes in the field of dairy technology.

Learning Outcomes:

The objective of this course is the introduction of students with modern scientific and practical achievements in the field of modern trends in the technology of milk and dairy products.

Syllabus:

Theory

Protein profile and fatty acid composition of different types of milk and dairy products. Allergens in milk and dairy products. Biological potential of milk products. Application of various starter cultures that produce exopollysacharide; Ingradients (fruits, flavorings, enzymes, milk components, spices and medicinal herbs); Novel trends in milk and dairy technology. Nutritional and health potential of fermented dairy products, cheeses, concentrated and dried dairy products and by-products of the milk industry. Manufacture and biochemical processes during cheese production; factors that affect the quality of cheese. Modern flow sheet processes for the manufacture of dairy by-products-properties and applications in the food industry. Modern techniques of milk concentration-interaction of components, processes, equipment, types and quality of products. Monitoring systems and HACCP.

Practice

Search, processing, analysis and discussion of achievements in contemporary scientific and technical literature in the field of dairy technology.

Required Reading:

1. Carić, M.: Concentrated and Dried Dairy Products, VHC, New York, 1994.
2. Charalampooulos, D. Ratall,R.: Prebiotic and Probiotics Science and Technology, Springer 2009.
3. Fellows, P.J.: Food Processing Technology, Principles and Practice, Second edition, Woodhead Publishing Limited, 2003.
4. Fox, P. F., Mc Sweeney, P. L. H., Cogan, T. M., Guinee, T. P.: Cheese, Chemistry, Physics and microbiology-General aspects, third edition, vol 1, 2004.
5. Fox, P. F., Mc Sweeney, P. L. H., Cogan, T. M., Guinee, T. P.: Cheese, Chemistry, Physics and microbiology - Major Cheese Groups, Third Edition, Vol 2, Elsevier, 2004.
6. Tamime, A.Y. Dairy Powders and Concentrated Products, VCH Publishers, 1994.
7. Tamime, A.Y.: Fermented Milks, WoodHead Publishing Limited, 2006.

Weekly Contact Hours:	**Lectures: 3**	**Practical work: 3**
Teaching Methods: Lectures and students group work.		

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	
Practical work		oral exam	50
Preliminary exam(s)	20	…….	
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.			