

Study Programme: Food engineering
Course Unit Title: Modern packaging of food products
Course Unit Code: DKHI 27
Name of Lecturer(s): Associate Professor Senka Popović
Type and Level of Studies: Master Academic Studies
Course Status (compulsory/elective): Elective for study field (module) Food Preservation Technologies
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
<p>Course Aims:</p> <p>The aim of the course is to provide students the knowledge about the latest achievements in the field of production and application of packaging materials and packaging, with a special emphasis on environmentally friendly biopolymers and biodegradable packaging metering, as well as the improvement of the packaging process by applying modern packing conditions.</p>
<p>Learning Outcomes:</p> <p>Students should be familiar with the latest trends in the field of production and use of packaging materials and packaging. It will also get acquainted with the application of the most up-to-date conditions for the packing of food products and the environmental aspects of the production and use of packaging.</p>
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Studying new combinations of packaging materials, types and forms of packaging, practical application for the packaging of various food products. Characterization of basic and specific properties of new packaging materials, modern laboratory and instrumental techniques for packaging materials and packaging testing. Getting acquainted with the modern packing of food products in a modified atmosphere. Study the effects of new, active and intelligent packaging for food packing application.</p> <p>Processes for obtaining new, degradable natural and synthetic polymeric packaging materials. Introduction to the production of biopolymer from biomass, chemical synthesis or microbiological synthesis. Properties of biopolymers most commonly used in the food industry.</p> <p>Ecological aspects of production and application of packaging, ways of energy saving and reduction of pollution of production and environment. Suitability for recycling and recycling principles. Legislation, labels on packaging and product declarations.</p> <p><i>Practice</i></p> <p>Search, processing and analysis of new achievements in the field of course, as well as practical work on production and characterization of basic and specific properties of new packaging materials. Application of these materials for the packing of selected food products, as well as the study of the effects of their application. Analysis of ecologically justified technologies of production, application and method of utilization and removal of discarded packaging.</p>
Required Reading:

1. R. Ahvenainen (2003). : Novel Food Packaging Techniques, VTT Biotechnology, Finland.
2. Coles, R., McDowell, D., Kirwan, M.: Food packaging technology, Blackwell publishing ltd., Oxford,UK, 2003.
3. G. Bateau, J., L. Multon (1996): Food Packaging Technology, Vol. 1 and Vol. 2, VCH Publishers, Inc., USA.
4. G. Robertson, Food Packaging: Principles and Practice, CRC Press Taylor and Francise, NZ (2006).
5. Lazić, V., Novaković, D., Ambalaža i životna sredina, Tehnološki fakultet Novi Sad, Novi Sad, 2010.
6. Lazić, V., Popović, S., Biorazgradivi ambalažni materijali, Tehnološki fakultet Novi Sad, Novi Sad, 2015.

Weekly Contact Hours:

Lectures: 3

Practical work: 3

Teaching Methods:

Interactive lectures, consultations in a group of students or individually, depending on the number of students, laboratory work - independent or in smaller groups.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work	20	oral exam	30
Preliminary exam(s)		
Seminar(s)	40		

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