UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Consiglio di Interclasse L-26 e LM-70

General information		
Academic subject	***Packaging (I.C. Enology and Packaging)***	
Degree course	*Food Science and Technology (L26)*	
Academic Year	*Third*	
European Credit Transfer and Accumulation System (ECTS)		3 ECTS
Language	*Italian*	
Academic calendar (starting and ending date)	*September 26th, 2022 – January 20th, 2023*	
Attendance	*No Compulsory*	

Professor/ Lecturer	
Name and Surname	Carmine Summo
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Telephone	0805442272
Department and address	*DiSSPA*
Virtual headquarters	*Microsoft Teams*
Tutoring (time and day)	Monday-Friday 9.00-16.00

Syllabus	
Learning Objectives	*The student will acquire knowledge and skills on the physical and chemical properties of the packaging materials applied in food in order to select the correct materials function of the foods and the storage conditions applied.*
Course prerequisites	*Prerequisites: Chemistry; Unit operations of food technology*
Contents	*Definitions and function of the packaging.* *Chemical, physical and thermal properties of the FCM. The gas permeability process.* *The different materials for the FCM; Plastic polymers, metal, paper and glass.* *Technological process for the production of plastic films and material for food application.* *Biopolymers and sustainability of the FCM.*
Books and bibliography	*Gordon L. Robertson, Food Packaging: Principles and Practice, Third Edition. CRC Press, 2013.* *Joongmin Shin and Susan E.M. Selke, Food Packaging. In: Food Processing: Principles and Applications, Second Edition. Ed: Stephanie Clark, Stephanie Jung, and Buddhi Lamsal. John Wiley and Sons, 2014.*
Additional materials	*Notes, slides and other bibliographic materials will be furnished during the course*

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/Self-study hours
Hours			
75	*20*	*7*	*48*
ECTS			
3	*2.5*	*0.5*	
Teaching strategy	*Lectures will be presented through PC assisted tools (PowerPoint, video). Field and laboratory classes, reading of regulations will be experienced.* *Lecture notes and educational supplies will be provided by means of online platforms*		

Expected learning outcomes	The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)
Knowledge and understanding on:	○ Knowledge about the Food Contact Materials (FCM), technological process for the production and the chemical and physical properties ○ Knowledge about the concept of biodegradability of the FCM, production and properties of the biopolymer applied as FCM.
Applying knowledge and understanding on:	○ Applying knowledge about the properties of the FCM in order to select the correct materials function of the foods and the storage conditions applied.
Soft skills	• *Making informed judgments and choices* ○ The students will acquire adequate skills and ability to correctly direct choices or packaging materials and technologies. • *Communicating knowledge and understanding* ○ The students will acquire adequate skills and communication ability to describe materials and packaging properties of FCM presented during the course • *Capacities to continue learning* ○ The students will acquire skills to deepen and update their knowledge related to the topics of the course also through efficient bibliographic research using the database scopus and google scholar.
The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification).	

Assessment and feedback	
Methods of assessment	The exam consists of an oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in the laboratory production plants, as reported in the Academic Regulations for the Bachelor Degree in Food Science and Technology (article 9) and in the study plan (Annex A). Students attending at the lectures may have a middle-term preliminary exam, consisting of a written test, relative to the first part of the program, which will concur to the final evaluation and will be considered valid for a year. The evaluation of the preparation of the student occurs on the basis of established criteria, as detailed in Annex B of the Academic Regulations for the Bachelor's degree in food science and Technology. The foreign student's profit test can be done in English in the way described above.
Evaluation criteria	• *Knowledge and understanding* ○ The student will be able know and describe the properties of the FCM, to read and understand a technical sheet of the materials • *Applying knowledge and understanding* ○ Describe the possible applications of the materials of the food packaging. Able to understand the technical sheet of the materials • *Autonomy of judgment* ○ The student will be able Express reasonable hypotheses about choice of materials for packaging of food products presented during lectures • *Communicating knowledge and understanding*

	○ The student will acquire communication skills and tools to analyse and discuss analytical data related to new process and products with interlocutors with similar and different backgrounds. • *Communication skills* ○ The student will be evaluated considering the use of appropriate technical language. • *Capacities to continue learning* ○ The students will be also evaluated considering the capacity to deepen and update their knowledge within the topics of the course also through efficient bibliographic research using the database scopus and google scholar.
Criteria for assessment and attribution of the final mark	The evaluation criteria that contribute to the attribution of the final mark will be: knowledge and understanding, the ability to apply knowledge, autonomy of judgment, i.e. the ability to criticize and formulate judgments, communication skills
Additional information	