

General Information	
Academic subject	Packaging Technologies and Shelf-Life (I.C Food Technologies, sensory analysis and packaging)
Degree course	Food Science and Technology (LM70)
ECTS credits	3 ECTS
Compulsory attendance	No
Teaching language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Carmine Summo	carmine.summo@uniba.it	AGR/15

ECTS credits details	
Basic teaching activities	2 ECTS Lectures 1 ECTS Laboratory or field classes

Class schedule	
Period	Second semester
Course year	First
Type of class	Lectures and workshops

Time management	
Hours	75
In-class study hours	30
Out-of-class study hours	45

Academic calendar	
Class begins	March 1 st , 2022
Class ends	June 17 th , 2022

Syllabus	
Prerequisites/requirements	knowledge of the Food Contact Materials (FCM) and their properties
Expected learning outcomes	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Knowledge of the packaging and filling technologies and their influence on the food quality. ○ Knowledge about the aspects linked to quality decrease during storage of foods and beverages. ○ Knowledge of the tests for the shelf-life assessment. <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Ability to Apply knowledge about the packaging and filling technologies and the shelf-life assessment <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Ability to choose the correct packaging technologies able to preserve the food quality and extend the shelf-life. ○ Ability to choose the test for the shelf-life assessment. <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Ability to describe the packaging technologies, the test for the shelf-life assessment and to understand the results. <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Ability to deepen and upgrade their skills respect to the food packaging technologies and the shelf-life assessment <p>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)</p>
Contents	Packaging and filling technologies.

	<p>Packaging technologies for food quality: Sterilization of materials and packs, ATM and functional packaging. Example about the applications of the packaging technologies on animal and vegetable foods.</p> <p>Shelf-life of foods: Quality parameters and limits of acceptability.</p> <p>Tests for the shelf-life assessment.</p>
Course program	
Reference books	<p>Notes from lectures and laboratory classes. Presentations (in pdf) provided by the teacher.</p> <p>Gordon L. Robertson, Food Packaging: Principles and Practice, Third Edition. CRC Press, 2013.</p> <p>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</p>
Notes	
Teaching methods	<p>Lectures will be presented through PC assisted tools (PowerPoint, video). Field and laboratory classes, reading of regulations will be experienced.</p> <p>Lecture notes and educational supplies will be provided by means of online platforms (i.e.: Edmodo, Google Drive...)</p>
Evaluation methods	<p>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).</p> <p>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.</p> <p>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.</p> <p>The foreign student's profit test can be done in English in the way described above</p>
Evaluation criteria	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the different packaging and filling technologies and the influence on the quality of foods and beverages. ○ Describe the aspects linked to the quality decrease during storage of foods and beverages. ○ Define the tests for the shelf-life assessment of foods and beverages. <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the applications of the packaging and filling technologies. ○ Apply the different test for the shelf-life assessment and capacity to understand the results. <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Make reasonable hypotheses about the modulate of technological parameters in the packaging and filling technologies ○ Make reasonable hypotheses to choose the test able to simulate and forecast the shelf-life of foods and beverages. <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the packaging and filling technologies using technical lexicon.

	<p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none">○ Describe the methods to deepen and upgrade their skills the packaging and filling technologies and the principal test for the shelf-life assessment.
Receiving times	The teacher is available from Monday to Friday (8:00 am – 6:00 pm) only by appointment