

General Information	
Academic subject	Advanced food technologies (I.C. Food technologies, sensory analysis and packaging)
Degree course	Master programme: Food Science and Technology
ECTS credits	3 ECTS
Compulsory attendance	No
Teaching language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Francesco Caponio	francesco.caponio@uniba.it	AGR/15

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

Class schedule	
Period	II semester
Course year	First
Type of class	Lectures Laboratory or field classes Video

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 virgin olive oils processing technologies
Expected learning outcomes	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Knowledge of technologies, including innovative ones, and of their influence on product quality ○ Knowledge of analytical techniques to ensure oil genuineness <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Ability to understand the relations between food composition and shelf-life ○ Ability to apply analytical techniques for food frauds ○ Ability to apply food technologies to ensure efficiency and quality <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Correctly advising solutions to ensure high quality standards in foods ○ Correctly evaluating an analytical report <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describing correct analytical and technologic approaches to ensure food quality and <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Updating the knowledge of the relations between technology and food quality. <p>The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the</p>

	Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)
Contents	<p>Introduction.</p> <p>Quality and genuineness of the oils. Storage of virgin olive oils. Effects of storage on the analytical indexes. The influence of oxidation and hydrolysis compounds in the evolution of oxidation in edible oils.</p> <p>Margarines: production technology and fat quality. Fat hydrogenation, interesterification and fractionation techniques.</p> <p>The quality of oils and fats used in the food industry. Processing technology of animal fats and evaluation of their quality.</p> <p>Quality and processing of ovine and goat's milk.</p> <p>Principal food adulterations in the dairy industry.</p> <p>Innovative technologies of winemaking. Sparkling wines: definition, classification and production technologies.</p> <p>Beer: definition and classification; characteristics of the barley and its substitutes; preparation of malt and must; brewing, pasteurization and bottling.</p> <p>Nerve foods.</p>
Course program	
Reference books	<ul style="list-style-type: none"> • Notes of the lectures distributed during the course. • Capella P., Fedeli E., Bonaga G., Lercker G. "Manuale degli oli e dei grassi". Tecniche Nuove, Milano. • Sunier J. "La fabbricazione del malto e della birra". a cura dell'unione fabbricanti di birra e malto, Roma. • Colagrande O. "Preparazione dei vini di qualità". Chiriotti Editori, Pinerolo. • Cabras P., Martelli A. "Chimica degli alimenti". Piccin, Padova. • Cappelli P., Vannucchi V. Chimica degli alimenti. Conservazione e trasformazione. Zanichelli, Bologna. <p>Additional readings:</p> <ul style="list-style-type: none"> • Oils & fats manual. A. Karleskind Ed. Intercept Ltd, Andover, UK. • Bailey's industrial oil & fat products. Y.H. Hui Ed. John Wiley & Sons, New York, USA.
Notes	
Teaching methods	<p>Lectures will be presented by means of Power Point presentations, videos with views of real industrial plants, didactic visit, case-studies and laboratory exercitations.</p> <p>Lecture notes and educational supplies will be provided by means of online platforms (i.e.: Edmodo, Google Drive etc.).</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 Master 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 Master Degree in Food Science and Technology.</p> <p>Non-Italian students may be examined in English language, according to the aforesaid procedures.</p>
Evaluation criteria	<i>Knowledge and understanding</i>

	<ul style="list-style-type: none"> ○ Describing innovative technologies and analytical approaches for food frauds <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describing the relations between food composition and shelf-life applied to the cases reported during lectures ○ Indicating the correct analyses ensuring product genuineness <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ○ Expressing reasonable hypotheses about processes able to ensure high quality standards ○ Expressing correct judgements regarding product genuineness <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describing the effect of processes on product quality and genuineness <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Expressing reasonable hypotheses about the evaluation of product genuineness, even through collaborative approaches
Receiving times	From Monday to Friday 8.30 a.m. – 1.30 p.m. and 2.30 p.m. – 5.30 p.m. previous agreement.