Innovation Development of Agrifood Systems (CLM IDEAS)

2023/2024

Technology management of by-products for food production 3 CFU)

General information	
Year of the course	*I year*
Academic calendar (starting and ending date)	*II semester*
Credits (CFU/ETCS):	*3*
SSD	*Food Science and Technology - F01-AGR/15*
Language	*Italian*
Mode of attendance	*Optional*

Professor/ Lecturer	
Name and Surname	*Michele Faccia*
E-mail	*michele.faccia@uniba.it*
Telephone	*0805442939*
Department and address	*DISSPA – Campus Via Amendola 165/A Bari*
Virtual room	*Microsoft teams*
Office Hours (and modalities: e.g., by appointment, on line, etc.)	*Mondat-Friday 9.00-16.00 by appointment*

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
76	*16*	*14*	*46*
CFU/ETCS			
3	*2*	*1*	

Learning Objectives	*The course supplies knowledge about origin and composition of food wastes and by-products and techniques for their valorisation*
Course prerequisites	

Teaching strategie	*Lectures given with the aid of Power Point presentations, video clips, reading out of legislative texts, educational tour in agri-foods industry. Lecture notes and educational supplies will be available on Teams platform*
Expected learning outcomes in terms of	
Knowledge and understanding on:	• *flow diagrams of the most important foods* • *origin of food wastes and by-products* • *main opportunities for valorizing by-products*
Applying knowledge and understanding on:	• *suitable strategies for reducing food wastes during processing* • *reutilization of food by-products in the human food chain*
Soft skills	• *Making informed judgments and choices* • *Making a right judgment on the quality characteristics of food wastes and by-products* • *Ability in correctly addressing the choices for their valorization*

	on the basis of their characteristics • *Communicating knowledge and understanding* • *Communicating the importance of the correct management of food wastes for the environment and of the economic sustainability within the circular economy* • *Capacities to continue learning* • *Ability of deepening and updating knowledge about the composition of food wastes/by-products and new applications for their reutilization*
Syllabus	
Content knowledge	General aspect on food wastes and by-products management. Flow diagrams of the main food products: wine, olive oil, dairy products, meat products. Origin and chemical characteristics of wastes and by–products from the agri-food industries. Main bioactive compounds in food by-products; strategies and technologies for the valorization of by–products deriving from animals and plants
Texts and readings	*M. Chandrasekaran, "Valorization of food processing by-products" 2016, CHC Press; notes from classes*
Notes, additional materials	*Notes and slides help the students to prepare the exam and integrate the information of the suggested book*
Repository	*Available on Teams class*

Assessment	
Assessment methods	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. 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 based on established criteria, as detailed in the Academic Regulations for the course.
Assessment criteria	• *Knowledge and understanding* *Knowledge of the flow diagrams of food processing* *Understanding the meaning of the single operations of the process* *Making connections with the concept of circular economy* • *Making judgements* *Capacity of evaluating suitability of particular applications to different food wastes/by-products* • *Communication skills* *Ability to understand the questions and answering in critical way* *Correct exposure and language proficiency will be evaluated with marks of excellence* • *Ability to learn:* *knowing how to use the acquired knowledge to explain phenomena encountered in one's own personal experience and to judge the*

	correctness of information relating to the sector provided by the mass media or other communication means
Final exam and grading criteria	*The final vote is given out of thirty and the exam is considered passed when the vote is greater than or equal to 18. The questions concern exclusively the contents provided during the course. Particularly rewarding during the test are the use of adequate technical language and the ability to make connections between topics.*
Further information	
	.