Syllabus

Descrizione corso

Titolo insegnamento	Scienze e tecnologie enogastronomiche e metodi di recupero dei sottoprodotti agro-alimentari
Codice insegnamento	40410
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	AGRI-07/A
Lingua	Inglese
Corso di Studio	Corso di laurea in Scienze Enogastronomiche di Montagna
Altri Corsi di Studio (mutuati)	
Docenti	dr. Edoardo Longo, Edoardo.Longo@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/35783 prof. Emanuele Boselli, Emanuele.Boselli@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/37607 prof. Giovanna Ferrentino, Giovanna.Ferrentino@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/36045 dr. Martina Moretton, Martina.Moretton@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/53223
Assistente	
Semestre	Secondo semestre
Anno/i di corso	2nd
CFU	12
Ore didattica frontale	66

Ore di laboratorio	54
Ore di studio individuale	180
Ore di ricevimento previste	33
Sintesi contenuti	Part 1: Introduction to the study of food science and technology; Definition and construction of Table of food nutrients; Stability of food products; Technology for preserving food products; Technologies for homogenization and emulsification; Extraction technologies for the recovery of agro-food by-products. Part 2: Harvest decisions, grape ripening, sampling; Crushing and destemming, must handling, must additions and pressing; Fermentation biochemistry, yeast selection and inoculation, stuck fermentations; Malolactic fermentation (MLF), wine; style and MLF, controlling MLF; Barrel aging, clarification, fining, settling, cold stabilization, filtering, blending, bottling, closure systems; Introduction to sensory evaluation of wines; White and red winemaking, protection from oxidation, use of enzymes, maceration and stabilization techniques; Fundamentals of sparkling wine production; Use of the byproducts of the winery.
Argomenti dell'insegnamento	Part 1: Introduction to the study of food science and technology; Definition and construction of Table of food nutrients; Stability of food products; Technology for preserving food products; Technologies for homogenization and emulsification; Extraction technologies for the recovery of agro-food by-products. Part 2: Harvest decisions, grape ripening, sampling; Crushing and destemming, must handling, must additions and pressing; Fermentation biochemistry, yeast selection and inoculation, stuck fermentations; Malolactic fermentation (MLF), wine;

	style and MLF, controlling MLF; Barrel aging, clarification, fining, settling, cold stabilization, filtering, blending, bottling, closure systems; Introduction to sensory evaluation of wines; White and red winemaking, protection from oxidation, use of enzymes, maceration and stabilization techniques; Fundamentals of sparkling wine production; Use of the byproducts of the winery.
Parole chiave	Food science and technology; Food stability and preservation; Unit operations; Homogenization and emulsification; Extraction technologies; Agro-food by-products; Circular economy; Oenology; Grape ripening; Winery technology; Wine fermentations; Winemaking; Wine aging and stabilization; Wine sensory analysis; Sparkling wines; Winery by-products.
Prerequisiti	Basic knowledge of chemistry, microbiology
Insegnamenti propedeutici	None
Modalità di insegnamento	Lectures with multimedia support; exercises and case-study discussions; laboratory activities and/or technical visits; Innovative teaching methods, such as group activities among participants (collaborative problem solving) and/or use of innovative information and communication tools, such as artificial intelligence tools.
Obbligo di frequenza	No
Obiettivi formativi specifici e risultati di apprendimento attesi	The course gives a general overview of scientific contents. It is designed for acquiring professional skills and knowledge in the field of food and wine sciences and recovery methods of agro-food byproducts. It is divided into two parts, one related to food science and the other related to wine science with different lecturers. Educational objectives (a) provide an adequate knowledge and critical approach to develop projects related to the production of various types of food and wine products, taking into account technologies currently applied; (b) provide an adequate knowledge on chemical/instrumental approaches to determine food and wine quality.
Obiettivi formativi specifici e risultati di apprendimento	

attesi (ulteriori info.)	
Modalità di esame	Oral exam with a PowerPoint presentation aon the topics taught by Prof. Ferrentino and reports on laboratory activities carried out by Dr. Moretton; Oral exam with a PowerPoint presentation on the topics taught by Prof. Boselli and Dr. Longo
Criteri di valutazione	Successful completion of the examination will lead to grades ranging from 18 to 30 with honors. Criteria for awarding marks are: clarity of the presentation and the answers during the discussion, mastery of language (also concerning teaching language), ability to summarize, evaluate, and establish relationships between topics; critical thinking.
Bibliografia obbligatoria	Keynotes and scientific papers provided by the lecturers • Food science and the culinary arts. Edited by Gibson, M. (2018). Academic Press. • Gastronomy and food science. Edited by Charis M. Galanakis (2021). Elsevier Academic press. • Introduction to the Chemistry of Food. Edited by Michael Zeece (2020). Elsevier Academic press.
Bibliografia facoltativa	Ribéreau-Gayon P., Dubourdieu D., Donèche B., Lonvaud A. – Handbook of Enology – Vol. I and II (free pdf version available on the internet) • OIV technical standards and documents http://www.oiv.int/en/technical-standards-anddocuments • Introduction to Wine laboratory practices and procedures, JL Jacobson, Springer
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Buona salute, Buona occupazione e crescita economica, Partnership per gli obiettivi, Utilizzo responsabile delle risorse, Innovazione e infrastrutture