Syllabus

Kursbeschreibung

Titel der Lehrveranstaltung	Lebensmittel- und Weinwissenschaften und Methoden zur Rückgewinnung von Nebenerzeugnissen
Code der Lehrveranstaltung	40410
Zusätzlicher Titel der Lehrveranstaltung	
Wissenschaftlich-disziplinärer Bereich	AGRI-07/A
Sprache	Englisch
Studiengang	Bachelor in Gastronomie und Önologie in Bergregionen
Andere Studiengänge (gem. Lehrveranstaltung)	
Dozenten/Dozentinnen	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
Wissensch. Mitarbeiter/Mitarbeiterin	
Semester	Zweites Semester
Studienjahr/e	2nd
KP	12

Vorlesungsstunden	66
Laboratoriumsstunden	54
Stunden für individuelles Studium	180
Vorgesehene Sprechzeiten	33
Inhaltsangabe	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.
Themen der Lehrveranstaltung	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.
Stichwörter	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.
Empfohlene Voraussetzungen	Basic knowledge of chemistry, microbiology
Propädeutische Lehrveranstaltungen	None
Unterrichtsform	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.
Anwesenheitspflicht	No
Spezifische Bildungsziele und erwartete Lernergebnisse	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.
Spezifisches Bildungsziel und erwartete Lernergebnisse (zusätzliche Informationen)	
Art der Prüfung	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
Bewertungskriterien	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.
Pflichtliteratur	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.
Weiterführende Literatur	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
Weitere Informationen	
Ziele für nachhaltige Entwicklung (SDGs)	Gesundheit und Wohlergehen, Menschenwürdige Arbeit und Wirtschaftswachstum, Partnerschaften zur Erreichung der Ziele, Nachhaltiger Konsum und Produktion, Industrie, Innovation und Infrastruktur