

Syllabus

Course Description

Course Title	Bakery and Confectionery Product Development: Nutrition Innovation and Sustainability
Course Code	44769
Course Title Additional	
Scientific-Disciplinary Sector	AGRI-07/A
Language	English
Degree Course	Master in Food Sciences for Innovation and Authenticity
Other Degree Courses (Loaned)	
Lecturers	Dott. Franco Antoniazzi, Franco.Antoniazzi@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/45229
Teaching Assistant	
Semester	First semester
Course Year/s	2
CP	2
Teaching Hours	20
Lab Hours	-
Individual Study Hours	30
Planned Office Hours	6
Contents Summary	-
Course Topics	A. Context and market directions • Global evolution of food trends • Clean label approaches and implications for formulation B. Ingredients and technological functionality • Sugars, syrups, and sweetening alternatives • Lipids: structure-building role and nutritional impact • Additives: functions, use criteria, and alternatives C. Regulation, safety, and consumer information

	• Allergens • Nutrition and health claims • Coeliac disease and gluten-free products D. Applications across product categories • Bread • Bakery products • Milk and dairy products • Confectionery • Chocolate • Coffee, tea, and stimulant (“nervine”) beverages E. Environmental dimension • Sustainability in food systems
Keywords	
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	In-person and online lectures, including guest lectures by professionals from the food manufacturing sector, with particular emphasis on nutritional implications.
Mandatory Attendance	No
Specific Educational Objectives and Learning Outcomes	This course provides tools to understand how food technologies can support reformulation and nutritional improvement in bakery and confectionery products. Core phenomena occurring along key production stages will be addressed, adopting an integrated perspective (technology, nutrition, regulation) to critically evaluate choices made in new product development. Students will learn to balance technical feasibility with the regulatory framework, guiding product changes toward nutritional and environmental sustainability goals.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	Assessment, through a formal product presentation, will be based on: • knowledge and understanding • use of knowledge • ability to draw autonomous conclusions • communication skills

	• ability to learn and identify critical points
Evaluation Criteria	
Required Readings	Slides provided before each lecture G.B. Montanari – Omnia fermenta, Chiriotti 2020 P. Barham – The science of cooking, Springer 2000 H.P. Newquist – The book of Chocolate, Viking 2017 J. Hoffmann – The world Atlas of coffee, London 2018 P. Behrens – Food and Sustainability, Oxford 2020
Supplementary Readings	
Further Information	
Sustainable Development Goals (SDGs)	Responsible consumption and production