Syllabus

Course Description

Course Title	Food processing equipment
Course Code	44708
Course Title Additional	
Scientific-Disciplinary Sector	AGRI-04/B
Language	English
Degree Course	Master in Food Sciences for Innovation and Authenticity
Other Degree Courses (Loaned)	
Lecturers	dr. Giovanni Carabin, Giovanni.Carabin@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/35346 Dr. Pasqualina Gloria Sacco, PasqualinaGloria.Sacco@unibz.it https://www.unibz.it/en/faculties/agricultural-environmental-food-sciences/academic-staff/person/48345
Teaching Assistant	
Semester	First semester
Course Year/s	2nd
CP	6
Teaching Hours	36
Lab Hours	24
Individual Study Hours	90
Planned Office Hours	18
Contents Summary	The course aim is to provide the attendants theoretical and practical fundamentals of the basic principles of a food production chain, focusing on the engineering and organisational aspects of the food processing equipment that must be there used. Particular emphasis will be devoted to the conceptual tools that must be used in the designing of a full production industrial line. The aim of the course is to offer a general overview of scientific contents

	combined with specific professional skills and knowledge. In addition, the student will acquire soft skills connected to scientific presentations or reports.
Course Topics	The course will cover the following key areas: - Introduction to Food Processing Equipments - Conceptualization of Food Processing - Fundamentals of Food Process Design - Introduction to financial aspects - Basic Physics for Food Process Design - Analysis of specific Unit Operations in Food Processing - Introduction to Life Cycle Assessment (LCA) methodology for evaluating the environmental impacts of food processing systems.
Keywords	Food Processing Equipments, Fundamentals of Design FPE, Financial aspects for FPE, FPE Unit Operations, Life Cycle Assessment in FPE
Recommended Prerequisites	
Propaedeutic Courses	None
Teaching Format	The course will be delivered through in-person lectures, supported by teaching materials provided directly by the instructors. Textbooks may be optionally recommended, intended solely for students who wish to explore topics in greater depth or consult an additional reference.
Mandatory Attendance	No
Specific Educational Objectives and Learning Outcomes	The course aim is to provide the attendants theoretical and practical fundamentals of the basic principles of a food production chain, focusing on the engineering and organisational aspects of the food processing equipment that must be there used. Particular emphasis will be devoted to the conceptual tools that must be used in the designing of a full production industrial line. The aim of the course is to offer a general overview of scientific contents combined with specific professional skills and knowledge. In addition, the student will acquire soft skills connected to scientific presentations or reports.
Specific Educational Objectives and Learning Outcomes (additional info.)	Knowledge and understanding of the conceptual design and planning of an industrial food production line, including insights in the food unit operations and related physical running principles. Applying knowledge and understanding in scientific and professional environments, focusing on specific case studies.

	Applying analytical and modelling tools for conceptual and practical designing of production lines. Making judgments when assessing different solutions for a given technological application on the basis of its technical, organizational, environmental and economic performances. Achieving the basis for investment assessment. Communication skills in presenting scientific results in written and oral form, in particular using an appropriate English language, as well as proper graphical tools for exhaustive analytical reports. Learning skills concerning the ability to find information on the web and access their validity, to use and transmit the technical knowledge acquired in the course.
Assessment	Assessment will be conducted through an oral examination designed to evaluate the student's knowledge, presentation skills, and practical competencies acquired during the course. The oral exam (maximum duration: 45 minutes) includes a scientific presentation - prepared individually at home - on a topic chosen by the student. The presentation should be supported by slides (e.g., PowerPoint). Following the presentation, additional questions will be asked on topics covered during the lectures.
Evaluation Criteria	The criteria that will be relevant for assessment will consider clarity of answers, mastery of language, ability to summarize, evaluate, and establish relationships between topics, capability of managing graphical designing tools.
Required Readings	Materials distributed by the teachers.
Supplementary Readings	Materials distributed and/or recommended by the teachers.
Further Information	
Sustainable Development Goals (SDGs)	Industry, innovation and infrastructure, Good health and well-being