UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali
ACADEMIC YEAR	2022/2023
MASTER'S DEGREE (MSC)	MEDITERRANEAN FOOD SCIENCE AND TECHNOLOGY
SUBJECT	TECHNOLOGY AND QUALITY IN THE FOOD SUPPLY SYSTEM
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50553-Discipline delle tecnologie alimentari
CODE	20218
SCIENTIFIC SECTOR(S)	AGR/15
HEAD PROFESSOR(S)	TODARO ALDO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	90
COURSE ACTIVITY (Hrs)	60
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	1
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**TODARO ALDO** Monday 15:00 16:00 presso Ufficio 149 presso Ed.4 primo piano viale delle ScienzeMicrosoft TeamsContatto telefonicoEmail Wednesday 12:00 16:00 Ufficio 149 presso Ed.4 primo piano viale delle ScienzeMicrosoft TeamsContatto telefonicoEmail

DOCENTE: Prof. ALDO TODARO

PREREQUISITES	In order to understand the course's topics, you must have knowledge about mathematics, physics, chemistry, food technology. Some of the topics covered require the ability to solve logarithms and integrals.
LEARNING OUTCOMES	Knowledge and understanding. Knowledge of and ability to use the specific language of their machines, systems and processes of agro-industries and cooking center and food distribution platforms. Acquisition of technical and scientific knowledge on fundamental unit operations applied to processes of production of agro-industrial products, as well as the chemical and physical characteristics and composition of the food. Applying knowledge and understanding. Ability to apply the acquired knowledge to the identification of optimal solutions for safe and efficient interventions in the agro-food industry and cooking center and food distribution platforms. Ability to independently conduct the choice of technological solutions related to the production process with special attention to the sizing and operation of machines and plants for the production sectors of food and in particular food distribution and cooking center. Making judgments. Acquiring the ability to retrieve data and to identify the methods of detection to define solutions to the technical problems that arise in the context of the agrofood industry. Acquiring the ability to critically evaluate the implications and results of the planned interventions. Identify the problems and solutions to improve efficiency in the agro-food industries. Being able to evaluate the problems of choice, the cost of plant and operating costs, reliability, safety of operation and the layout of machines and plants of agricultural and food industries. Communication skills. Ability to translate its scientific-technical language in a popular and led, therefore, to communicate with technical peers and different backgrounds, to illustrate the technical and functional characteristics of the machines and their methods of use, in order to improve the efficiency and the ability to work. Effectively communicating their thesis and choices to a non-specialist audience, conveying the importance of the choices of planning proposals. Ability to translate their own choices in the design documents. Ability to expose the types, characteristics, key components, operation, performance and management of machines and plants of agricultural and food industries, as well as the basic principles of analysis and selection of the same, even to a non-specialist public. Learning skills. Upgrade capabilities through participation in technical workshops and scientific and / or consultation of their scientific publications of these specialized disciplines. Ability to follow, using the knowledge acquired in the two forms, indepth courses and specialized seminars. Ability to understand the tools developed in the newly acquired areas of research.
ASSESSMENT METHODS	WRITTEN AND ORAL EXAM. Exam results: Excellent 30/30 cum laude: excellence in the topics covered; Very good 26-29: good command of the subject matter; Good 24-25: good knowledge of the topics; Satisfactory: 21-23 satisfactory knowledge of the topics; Sufficient: 18-20 minimal knowledge of the topics; Unsatisfactory: lacking an acceptable level of knowledge of the subject matter.
EDUCATIONAL OBJECTIVES	The course aims to provide students the knowledge on unit operations employed in ifood ndustry regarding: conservation, transformation and production of foods, ingredients, beverages. The module has the following purposes: knowledge of food stabilization;
TEACHING METHODS	LESSON, PROBLEMS AND PRACTISE, LAB
SUGGESTED BIBLIOGRAPHY	•Appunti delle lezioni; •Innovation and Future Trends in Food Manufacturing and Supply Chain Technologies 1st Edition Editors: Craig Leadley •The science of cooking. Barham, P. 2001 Ed Springer •Catering Management, 4th Edition Nancy Loman Scanlon Ed. Wiley •Case Studies in Food Retailing and Distribution Alessio Cavicchi Cristina Santini Ed. Elsevier •Sustainable Food Supply Chains. Riccardo Accorsi. Ed. Elsevier Science & Technology title •Manuale della ristorazione, Salvatore Ciappellano, Ed Casa editrice ambrosiana •Ristorazione collettiva sicura. Guida all'apprendimento e all'applicazione dell'HACCP di Joan K. Loken Ed Elsevier •Heldman D.R. & Lund D.B.,2007. Handbook of Food Engineering. CRC Press •http://www.nzifst.org.nz/resources/unitoperations/index.htm

SYLLABUS

Hrs	Frontal teaching
2	Course introduction
4	Principles and techniques of food preservation. The qualitative decay of food.
4	Food cooking techniques: effects on the product. Equipments.
4	Preservations techniques: freezing.
8	Processes in food supply system: classification and organization of systems (cook serves / cook hold / cook chill / sous vide / cook frozen), plants and machines.
8	Food contact materials for catering facilities and equipment
10	ISI papers: study and emerging technologies

Hrs	Practice
5	Cooking: exercises
5	Freezing

Hrs	Workshops
10	Technical visit at cooking centers