



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2021/22
MASTER DEGREE
Nutritional Sciences (Classe LM-70)
Enrolled from 2008/09 academic year

HEADING

Degree classification - Denomination and code:	LM-70 Food industry
Degree title:	Dottore Magistrale
Length of course:	2 years
Credits required for admission:	180
Total number of credits required to complete programme:	120
Years of course currently available:	1st , 2nd
Access procedures:	Open, subject to entry requirements
Course code:	G60

PERSONS/ROLES

Head of Study Programme

Prof. Francesco Enzo Molinari

Tutors - Faculty

Tutor per i piani di studio:

lettera iniziale cognome studenti A-BE: Prof.ssa Stefania Iametti

lettera iniziale cognome studenti BI-CE: Prof.ssa Manuela Silvia Rollini

lettera iniziale cognome studenti CH-DI: Prof.ssa Cristina Alamprese

lettera iniziale cognome studenti DO-GI: Prof.ssa Luisa Maria Pellegrino

lettera iniziale cognome studenti GL-LU: Prof.ssa Alyssa Mariel Hidalgo Vidal

lettera iniziale cognome studenti MA-MU: Prof.ssa Barbara Brunetti

lettera iniziale cognome studenti NA-PE: Prof.ssa Sara Limbo

lettera iniziale cognome studenti PH-RI: Prof. Stefano Farris

lettera iniziale cognome studenti RO-TA: Prof.ssa Maria Stella Cosio

lettera iniziale cognome studenti TE-Z: Prof.ssa Stefania Arioli

Tutor per la mobilità internazionale e l'Erasmus:

Prof.ssa Alyssa Mariel Hidalgo Vidal

Degree Course website

<https://scienzealimentari-lm.cdl.unimi.it/>

Phone 0250319148 Email: presidenza-stal@unimi.it

via Celoria 2 - Milano Città Studi Phone 0250316511/0250316512 Lunedì, mercoledì e venerdì dalle 10.30 alle 12.30; martedì e giovedì dalle 14 alle 16. Email: didattica.agraria@unimi.it

via Celoria 18 - Milano Città Studi Phone 0250325032 <https://www.unimi.it/it/node/360> <https://www.unimi.it/it/node/359>

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The master's degree course in Nutritional Sciences aims to provide advanced knowledges, and to train professional skills suitable for carrying out coordination and guidance activities relating to the agro-food sector, as well as the ability to guarantee, even with the use of innovative methodologies, quality and food safety. The fundamental objective of the master's degree in Nutritional Sciences is the management of professional functions aimed at the constant improvement of food products look for quality and sustainability, eco-compatibility of industrial activities, developing innovations in each activity.

Expected learning outcomes

Knowledge of the molecular basis of biotechnological transformations. The advanced contents of food chemistry, food microbiology and food safety. The emerging technologies of conservation, transformation, conditioning and methods of modeling and optimization of processes. The aspects of applied nutrition. Research and development in the food sector. The economics of markets and marketing. Quality management. At the end of the studies, the graduate has awareness and

autonomy of judgment to plan actions and manage interventions to improve the quality and efficiency of production and any other activities related to the food chain, also respecting a sustainable development. The graduate has acquired personal aptitudes for communication, multidisciplinary team and a critical approach to analyze technical, economic and ethical issues. The graduate is able to use, in written and oral form, the English language. The degree course provides the cognitive tools, the logical elements and the tools of the new information technologies that guarantee the graduate a continuous updating of knowledge in the specific professional sector and in the field of scientific research.

Professional profile and employment opportunities

The master's degree in Nutritional Sciences carries out designing, management, control, coordination and training activities relating to the production, conservation, distribution of food and drinks. The wide spectrum of advanced knowledge characterizes an expert who can cover all the functions in the food industry and in each activity related to the food chain. The graduate will work mainly in the food companies and in all the companies related to the production, transformation, conservation and distribution of food products, in the companies of the large-scale retail trade, in public and private entities that carry out planning, analysis, control, certification, as well as in research and development divisions acting for protection and enhancement of food production, in professional training. The most relevant professional opportunities are, in addition to the Food Technologist (ISTAT code 2.3.1.1.4.), those indicated as specialized professions in life sciences (ISTAT codes: 2.3.1.1.2 Biochemists; 2.3.1.1.4 Biotechnologists; 3.2 .2.3.1 Biochemical laboratory technicians; 3.2.2.3.2 - Food product technicians) and as technical professions in the management of the production processes of goods and services (ISTAT code 3.1.5.4.2 - Food production technicians). For example, the graduate's responsibilities include: a) the management of food storage, processing and marketing lines; b) the study, design, management and testing of food processing processes and related biological products, including the processes of purification of effluents and recovery of by-products; c) the supply of raw materials and food plants and the distribution of finished products, food additives; d) quality management in the production chain of food products, additives, technological aids, ingredients, packaging and everything else relating to the production and transformation of products. These activities can be carried out both in private companies and in public structures; e) the expert and arbitration functions regarding the duties listed in the previous letters; f) market research and related activities in relation to food production; g) research and development of processes and products in the food sector; h) teaching in schools of every order and degree of technical-scientific subjects concerning the food and related fields.

Notes

In order to obtain their degree, students must be proficient in English at a B2 level. This proficiency level may be certified as follows:

- By a language certification, earned within three years prior to the date of submission, at a B2 level or higher. For the list of language certifications recognised by the University, please review: <https://www.unimi.it/en/study/language-proficiency/placement-tests-entry-tests-and-english-courses>. The certification must be uploaded during the enrolment procedure, or subsequently to the portal <http://studente.unimi.it/uploadCertificazioniLingue>;
- By a Placement Test, which is delivered by the SLAM during year I only, from October to January. Students who fail the test will be required to take a SLAM course.

The Placement Test is mandatory for all students who do not hold a valid certification.

Those who do not sit the Placement Test by January, or who fail to pass the end-of-course test within six attempts, must obtain an outside paid certification by graduation.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports international mobility by providing its students with the opportunity to spend study and internship periods abroad. It is a unique chance to enrich your educational path in a new exciting environment.

The agreements entered into by the University with over 300 universities from the 27 EU member countries and other Extra-EU countries under the European Erasmus+ programme allow regularly enrolled students to carry out part of their studies at one of the partner universities or to undertake internships at companies, training and research centres and other organizations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

Study and internships abroad

The eligibility criteria to study under the Erasmus+ program, the rules for participation and the criteria for students selection are described in a specific call dedicated to the Food Area. Erasmus+ provides mobility opportunities within 40 academic partners, widely distributed in Europe and selected on the basis of their excellence and teaching affinity with the Italian degree. Students can apply to take courses in the following thematic areas: microbial biotechnology, applied nutrition, design and management of food plants, economy and innovation management, logistics and packaging technologies, modeling and process innovation. The outline of the Erasmus+ study program (learning agreement) is prepared by the student in collaboration with the Italian academic Erasmus+ tutor. This document is defined after consulting the teaching board of the Italian degree and receiving the official approval of the activities to be performed in the host institution. In case of research activities, a detailed program describing the activities and the duration of the internship must be planned and formally approved by the host institution supervisor and by a member of the Italian teaching board (Italian supervisor). At the end of study period abroad the Erasmus+ activities (credits and grades) must be certified in a document called transcripts

of records that must be approved by the Italian teaching board. Exam grades are converted according to a pre-defined scale. The MSc degree in Food Science and Technology is part of the international program Erasmus+ Placement which is finalized to fund mobility of students, to carry out research activities aimed at the preparation of their final thesis in highly qualified host institutions (private and public universities and research centers).

How to participate in Erasmus mobility programs

How to participate in Erasmus+ mobility programmes

The students of the University of Milan can participate in mobility programmes, through a public selection procedure.

Ad hoc commissions will evaluate:

- Academic career
- the candidate's proposed study programme abroad
- his/her foreign language proficiency
- the reasons behind his/her application

Call for applications and informative meetings

The public selection generally begins around February each year with the publication of a call for applications specifying the destinations, with the respective programme duration (from 2/3 to 12 months), requirements and online application deadline.

Every year, before the deadline for the call, the University organizes informative meetings to illustrate opportunities and rules for participation to students.

Erasmus+ scholarship

The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which is supplemented by the University funding for disadvantaged students.

Language courses

Students who pass the selections for mobility programmes can benefit from intensive foreign language courses offered each year by the University.

Learn more at <https://www.unimi.it/en/international/study-abroad/studying-abroad-erasmus>

For assistance, please contact:

International Mobility Office

Via Santa Sofia 9 (second floor)

Tel. 02 503 13501-12589-13495-13502

Contacts: InformaStudenti mobility.out@unimi.it

Student Desk booking through InformaStudenti

1st COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Applied nutrition	6	BIO/09
Biochemistry of food processes	6	BIO/10
Design and management of food plants	6	AGR/09
Economics of innovation in the food industry	6	AGR/01
English proficiency B2 (3 ECTS)	3	ND
Food packaging and logistics	6	AGR/15
Microbial biotechnology	9	AGR/16
Quality management systems	6	AGR/15
Total compulsory credits		48
2nd COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Process modeling, optimization and innovation	6	AGR/15
Total compulsory credits		6
Elective courses		
Advanced dairy technologies	6	AGR/15
Biotechnology of food fermentation	6	AGR/16
Cereal products: traditional and innovative technologies	6	AGR/15
Preservation and transformation of products of animal origin	6	AGR/15
Animal production and quality of meat and aquaculture products	6	AGR/19
Food economics and european legislation	6	AGR/01
Use and recycling of agri-food biomasses	6	AGR/13
Advanced dairy microbiology	6	AGR/16
Agri-Food Marketing	6	AGR/01
Bio-based food processes	6	BIO/10, CHIM/11
Biochemistry and microbiology of animal derived foods	6	BIO/10, AGR/16

Raw materials and technologies in chocolate and confectionery industries		6	AGR/15
<i>Further elective courses</i>			
Advanced techniques of microscopy, microanalysis and image analysis applied to foods		4	AGR/15
Food product design and development		4	AGR/15
International agrifood markets and policy		7	AGR/01
Microbial food cultures		4	AGR/16
Molecular bases of taste		4	CHIM/06
Molecular traceability of foods		4	BIO/10
Nanotechnology in the food industry		4	AGR/15
Probiotic science and applications		4	AGR/16
Quality and functionality of dairy products		4	AGR/15
Technology and use of oils and fats in the food industry		4	AGR/15
<i>End of course requirements</i>			
Final exam		40	NA
		40	
Total compulsory credits		40	