



**UNIVERSITA' DEGLI STUDI DI MILANO**  
**PROGRAMME DESCRIPTION - ACADEMIC YEAR 2020/21**  
**MASTER DEGREE**  
**Nutritional Sciences (Classe LM-70)**  
**Enrolled from 2008/09 academic year**

### HEADING

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

### PERSONS/ROLES

#### Head of Study Programme

Prof. Francesco Enzo Molinari

#### Tutors - Faculty

Tutor per i piani di studio:

A-BE Stefania Iametti

BI-CE Manuela Silvia Rollini

CH-DI Cristina Alamprese

DO-GI Luisa Maria Pellegrino

GL-LU Alyssa Mariel Hidalgo Vidal

MA-MU Barbara Brunetti

NA-PE Sara Limbo

PH-RI Stefano Farris

RO-TA Maria Stella Cosio

TE-Z Stefania Arioli

Tutor per la mobilità internazionale e l'Erasmus:

Alyssa Mariel Hidalgo Vidal

#### Degree Course website

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

Phone 0250319148      Email: [presidenza-stal@unimi.it](mailto:presidenza-stal@unimi.it)

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

L'abbinamento tra l'iniziale del cognome degli studenti e il docente tutor è consultabile nel Manifesto degli studi:

[https://apps.unimi.it/files/manifesti/ita\\_manifesto\\_G60of1\\_2021.pdf](https://apps.unimi.it/files/manifesti/ita_manifesto_G60of1_2021.pdf)

### 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**

To obtain the degree, students are required to demonstrate an English language proficiency at level B2 within the Common European Framework of Reference for Languages (CEFR). This level can be assessed in the following ways:

by submitting the language certificate achieved no more than three years prior to the submission, at level B2 or higher, recognised by the University (the list of recognised language certificates can be found at <https://www.unimi.it/en/study/language-proficiency/placement-tests-entry-tests-and-english-courses>). The language certificate must be uploaded during the admission process;

by taking the Placement Test, organised by SLAM exclusively during the first year, from October to January. Students who fail to reach level B2 will have to attend an English course organised by SLAM. The Placement Test is compulsory for all students who do not have a valid language certificate.

Students who do not take the Placement Test within the deadline and students who fail the SLAM end-of-course test within six attempts will have to obtain a language certificate within the year in which the language exam is scheduled.

## **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 30 different 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).

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, which last 3 to 12 months, through a public selection procedure.

Ad hoc commissions will evaluate:

- 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, 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

E-mail: [mobility.out@unimi.it](mailto:mobility.out@unimi.it)

Desk opening hours: Monday to Friday 9 am - 12 noon

<b>1st COURSE YEAR Core/compulsory courses/activities common</b>		
<b>Learning activity</b>	<b>Ects</b>	<b>Sector</b>
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
<b>2nd COURSE YEAR Core/compulsory courses/activities common</b>		
<b>Learning activity</b>	<b>Ects</b>	<b>Sector</b>
Process modeling, optimization and innovation	6	AGR/15
Total compulsory credits		6
<b>Elective courses</b>		
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
Bio-based food processes		6	BIO/10, CHIM/11
Biochemistry and microbiology of animal derived foods		6	BIO/10, AGR/16
Marketing of agri-food products		6	AGR/01
Raw materials and technologies in chocolate and confectionery industries		6	AGR/15
<b><i>Further elective courses</i></b>			
<b><i>End of course requirements</i></b>			
Final exam		40	NA
		40	
		Total compulsory credits	
		40	