UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2018/19
MASTER DEGREE
Applied Biology in Nutritional Sciences (Classe LM-6)
Enrolled from 2014/2015 academic year

HEADING	
Degree classification - Denomination and code:	LM-6 Biology
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 completion of self-assessment test prior to enrolment
Course code:	F3Y

PERSONS/ROLES

Head of Study Programme
Prof. Mirko Baruscotti

Degree Course Coordinator
Prof. Alessandro Aliverti

Tutors - Faculty
Proff. Alessandro Aliverti, Andrea Binelli, Caterina La Porta, Elena Menegola, Elisabetta Tanzi, Katia Petroni

Degree Course website
http://www.ccdbiol.unimi.it

via Celoria, 26 - 2° piano torre A. Orari di apertura: dal lunedì al venerdì, dalle ore 10:00 alle 11:45 - Sito web: http://www.ccdbiol.unimi.it Email: cl.biol@unimi.it; bionutri@unimi.it

via Celoria, 20 Phone 199188128 Per gli orari di apertura consultare il sito http://www.unimi.it/studenti/segreterie/773.htm Email: http://www.unimi.infostudente.it (previa registrazione)

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http://www.unimi.it/studenti/matricole/77648.htm

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The Master of Science (M.Sc.) programme in BIOLOGY APPLIED TO THE SCIENCES OF NUTRITION (BIONUTRI, Class LM-6 Biology) is aimed to the training of qualified experts in the application of biology in nutrition-related fields, the interaction between environment and food, the hygiene and quality of food resources, the control procedures and the accreditation and certification of food. On the basis of the development of biological knowledge in the bio-nutritional field, graduates will be able to manage the problems arising from the rapid evolution of the environmental, cultural, regulatory and technological aspects of nutrition. The M.Sc. in BIONUTRI intends to respond to emerging needs for specific skills in the bio-nutritional field that are currently growing. Specific training objectives are the acquisition of a thorough scientific and operational preparation about:

• the basic chemical composition of food, bioavailability of the macro- and micro-nutrients, the energy content and the nutritional quality of foods, modification of food caused by technological and production processes and by environmental contamination;

• biochemistry and physiology of digestion and absorption and the metabolic processes;

• ecology of nutrition; trophic chains, food eco-toxicology and evaluation of the risk; OGM in the alimentary sector;

• alimentary ethology and pathological dysfunctions connected with the alimentation; microbiology, toxycology and hygiene of the foods;.

• legislation and norms, national and communitary, relative to the alimentary politics, to the hygiene and to the control of the foods, to the nutritional overseeing for populations, to the risk of exposure to contaminating agents in the animal and human diets.

Professional profile and employment opportunities

The M.Sc. graduates in BIONUTRI possess a specific and modern knowledge of the biological applications in alimentary and nutritional field and a deepened cultural preparation on the problems of nutrition in several contexts as the environmental, technological, legislative and of scientific research ones with particular attention to the cellular and molecular aspects.

The broad acquired competence confers a specific preparation for professional activities and projects in fields correlated to the biological disciplines in the sectors of the industry and of the public administration with particular reference to: 1) comprehension of the biological phenomena at all levels and diffusion/divulgation of such knowledge; 2) correct application of nutrition and of the relative current rules in the field of the public and private health; 3) monitoring of food consumption to assess the nutritional trends of the population, application of methods apt to evaluate food safety and to ensure the health of the consumer; 4) nutritional education for the institutional operators and the population; 5) dietetic advice for determining optimal diets for communities (company refectories, sporting groups, and so on) or single individuals; 6) participation in processes of optimization, conservation and safety of the alimentary resources; 7) procedures of control, credit and certification of private and public laboratories or structures in accordance with the European dispositions; 8) promotion and development of the scientific and technological innovation, as well as of management and design of the technologies related to the biology of nutrition; 9) management and coordination tasks in installations of the national and foreign alimentary industries; 10) professional activities and to set up projects in all the fields correlated to the biological disciplines, in the application sectors of the industry, of the agriculture, of the health and of the public administration.

The M.Sc. graduate in BIONUTRI will be able to carry out: 1) research activity in the bio-nutritional field, 2) research activity in the alimentary industry and in specific sectors for protection of the public health, 3) marketing in the industry of the sector of pertinence, 4) managerial career in either public or private laboratories, 5) free professional activities in pertinent sectors, 6) managerial career in the great alimentary distribution; 6) activity of diffusion of nutritional education.

The M.Sc. graduate in BIONUTRI, after passing the exam for the profession, will be able to enroll in the Biologist's Professional Register, section A, with the title of Biologist, to perform the activities recognized by the Italian law.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports the international mobility of its students, offering them the opportunity to spend periods of study and training abroad, a unique opportunity to enrich their curriculum in an international context.

Study and internships abroad

BIONUTRI students are given the opportunity to spend part of their curriculum abroad, at a University within the European Union (EU) in the frame of the Erasmus+ program of the European Commission. BIONUTRI students can attend courses and take exams that can be included in the core curriculum and/or perform the experimental thesis work in several European Universities localized in Belgium, Netherland, Norway, UK- where courses taught in English are active – France, Germany, Poland, Spain and Portugal (see http://www.dbs.unimi.it/extfiles/unimidire/59401/attachment/elenco-degli-accordi-attivi.pdf). The admitted student will present a study plan including all the activities he/she intends to perform abroad, detailing the corresponding CFU: the number of proposed CFU should roughly correspond to those the student would achieve in the same time lapse remaining in his/her university. The study plan proposed by the student within the Erasmus+ program should be coherent with the BIONUTRI Master course and must be evaluated and approved by the Teaching Board. The Teaching Board, if necessary, will require the student to integrate the program of exams taken abroad. At the end of the Erasmus + program, according to the rules established by the Academic Senate, the approved exams will be recorded, possibly with the original denomination, as part of the student's curriculum upon conversion of the European Credit Transfer and Accumulation System (ECTS) into CFU. If the student performs the experimental thesis work abroad, he/she must follow the rules outlined below (see Caratteristiche tirocinio).

How to participate in Erasmus mobility programs

To gain access to mobility programs for study purposes, lasting 3-12 months, the enrolled students of the University of Milan must attend a public selection that starts usually around the month of February each year through the presentation of specific competition announcements, which contain information on available destinations, respective duration of the mobility, requirements and deadlines for submitting the online application.

The selection, aimed at evaluating the proposed study abroad program of the candidate, knowledge of a foreign language, especially when this is a preferential requirement, and the motivations behind the request, is performed by specially constituted commissions.

Each year, before the expiry of the competition announcements, the University organises information sessions for the specific study course or groups of study courses, in order to illustrate to students the opportunities and participation rules.

To finance stays abroad under the Erasmus + program, the European Union assigns to the selected students a scholarship that - while not covering the full cost of living abroad - is a useful contribution for additional costs as travel costs or greater cost of living in the country of destination.

The monthly amount of the communitarian scholarship is established annually at national level; additional contributions may be provided to students with disabilities.

In order to enable students in economic disadvantaged conditions to participate in Erasmus+ program, the University of Milan assigns further additional contributions; amount of this contributions and criteria for assigning them are established from year to year.

The University of Milan promotes the linguistic preparation of students selected for mobility programs, organising every year intensive courses in the following languages: English, French, German and Spanish.

The University in order to facilitate the organisation of the stay abroad and to guide students in choosing their destination offers a specific support service.

More information in Italian are available on www.unimi.it > Studenti > Studiare all¿estero > Erasmus+

For assistance please contact:
Ufficio Accordi e relazioni internazionali
via Festa del Perdono 7 (ground floor)
Tel. 02 503 13501-12589-13495-13502
Fax 02 503 13503
E-mail: mobility.out@unimi.it
Desk opening hour: Monday-friday 9 - 12

1st COURSE YEAR Core/compulsory courses/activities common			
Learning activity		**Ects**	**Sector**
BIOLOGY OF NUTRITION		9	(3) ING-INF/06, (6) MED/49, (3) MAT/06
ENGLISH ADVANCED		3	L-LIN/12
FOOD AND FERMENTATION CHEMISTRY		6	CHIM/11
NUTRIGENOMICS AND NUTRIMICROBIOMICS		6	(6) BIO/19, (6) BIO/18
NUTRITIONAL BIOCHEMISTRY		6	(6) BIO/10, (6) BIO/04
STRUCTURAL AND FUNCTIONAL BASES OF NUTRITION		9	(9) BIO/09, (9) BIO/16
	Total compulsory credits	39	
Elective courses			
LEGISLATION, LAW AND BUSINESS ORGANIZATION		6	(6) SECS-P/06, (6) IUS/07
METHODOLOGIES IN NUTRITION SCIENCES		6	(6) MED/13, (6) MED/49, (6) BIO/13
2nd COURSE YEAR Core/compulsory courses/activities common			
Learning activity		**Ects**	**Sector**
APPLICATIONS IN FOOD SCIENCES		9	(9) VET/06, (9) MED/38, (9) CHIM/06
	Total compulsory credits	9	
Further elective courses			
CERTIFICATION, CONTROL, QUALITY AND HYGIENE OF FOODS		6	MED/42
MOLECULAR AND CELLULAR BASES OF METABOLIC AND NUTRITIONAL DISEASES		6	(6) MED/04, (6) BIO/09
NUTRITION, PHARMACOLOGY AND TOXICOLOGY		6	BIO/14
ECO-ETHOLOGY OF NUTRITION		6	(6) BIO/05, (6) BIO/07
NUTRITION AND LIFE CYCLES		6	BIO/06
NUTRITION ECOLOGY AND ECOTOXICOLOGY		6	BIO/07
End of course requirements			
FINAL EXAM		42	NA
	Total compulsory credits	42	