



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2020/21
MASTER DEGREE
Agricultural Sciences (CLASSE LM-69)
Enrolled from 2019/20 academic year

HEADING

Degree classification - Denomination and code:	LM-69 Agriculture
Degree title:	Dottore Magistrale
Curricula currently available:	Management / Livestock systems / Precision farming
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:	G58

PERSONS/ROLES

Head of Study Programme

Prof. Roberto Oberti

Tutors - Faculty

Tutor per i piani di studio:
A-B Luisa Maria Pellegrino
C Pietro Marino Gallina
D-E-F Alessia Perego
G-H-I-K-L Noemi Negrini
M-N Roberto Pretolani
O-P Aldo Calcante
Q-R Arianna Facchi
S-T Salvatore Roberto Pilu
U-V-Z Luca Rapetti

Degree Course website

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

Phone 0250316867 Email: didattica.disaa@unimi.it

via Celoria 2 - Milano Città Studi Apertura al pubblico: dal lunedì al venerdì dalle ore 10 alle ore 12 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>

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

https://apps.unimi.it/files/manifesi/ita_manifesto_G58of2_2021.pdf

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The master degree in Agricultural Sciences, which belongs to the class L-69 "Agricultural Sciences and Technologies", aims at training master graduates with a high skills based on the most recent and advanced knowledge in the different agrarian sectors. The skills acquired will permit the graduate to realize the importance of a modern agriculture and of its role of combining the traditional mission of supplying food, with that of safeguarding the territory and producing safe and sustainable food. The master graduate will have the cultural, scientific and technical flexibility, gained through a multi-disciplinary/integrated approach to the different aspects, necessary to check and manage the ongoing adaptation of the agricultural productive system to the new needs of the complex and heterogeneous European society.

Considering the actual evolution of the most advanced agricultural areas in Italy and in Europe, the learning structure of the degree course is focused on three specific educational areas: 1) farm management and its links with the market, the production chains, and the territory and the environment involved; 2) livestock production, the livestock chains and the related relations with the environment sustainability and the food safety; 3) precision farming systems and methods and management of the digital technologies associated.

Common learning objectives of the master degree are a deepening of the skills and knowledge on agriculture and its

management both at farm and at territory level, and the acquisition of the ability of planning, implementing and manage the production processes and the technical innovations in a view of a safeguard of the environment and the territory.

Expected learning outcomes

Master graduates in Agricultural Sciences will be able to plan, manage and audit environmentally friendly agricultural systems and processes; particularly, the environmental sustainability will take into account soil defense and protection by means of traditional and innovative technologies. The graduate will have the skill to: use the techniques (also the lab ones) to check the quality of the different crop-livestock production chains; plan and manage the technical innovations of the agricultural productions, with particular reference to the most suitable instrument for the defense, the conservation and the management of the different commodities and their marketing; utilize the tools for an economic evaluation of the enterprise competitiveness, the choices in agricultural policy and rural appraisals; utilize the informatics technologies for monitoring and modelling, also in view of implementing development projects; work in autonomy, with projects and structure change; fluent written and oral use of a European language, besides Italian, with a knowledge of the specific agriculture technical words.

Professional profile and employment opportunities

The profile of the master graduate in Agricultural Sciences is an upgrade of that acquainted by the bachelor graduate in Agricultural Sciences and Technologies. He/she will be able to perform all the activities foreseen by the Professional Register of the Agronomists. The knowledge and the skills provided will enable the graduate in Agricultural Sciences to work, at planning and direction level, in the following sectors: crop-livestock productions, organization of the extension services, public and private administration, research and teaching; farm economic and administrative direction; integrated rural development projects; planning livestock structures/buildings; monitoring and safeguard of the rural territory; choice and set up of technical production plants; machine, plant and structure check and safety; planning agriculture mechanization and water management activities in the territory energy management in renewable energy systems; practices for environmental protection and sustainable agriculture; commercialization and marketing of agriculture commodities.

Particularly, the master graduate will have the following job opportunities, depending on the curriculum chosen within the degree course

Management – Managerial functions of direction and coordination: in farms and agricultural enterprises; in the agricultural sector of public institutions; in technical and commercial agricultural extension services. Moreover: private counselling in agricultural sectors.

Livestock systems - Managerial functions of direction and coordination: in livestock farms and agricultural enterprises linked to the livestock sector; in the livestock sector of public institutions; in technical and commercial livestock extension services. Moreover: private counselling in livestock sectors; research and development in private enterprises and research centres.

Precision farming – technical/professional services to support agricultural production; ICT (Information and communications technology) enterprises for agriculture (informatics, modelling, remote sensing, etc.); high innovation start-up for the agro-food sys; industry of agriculture precision technologies and farm machineries; technical and commercial support to farm adopting PF systems.

Notes

A minimum English language proficiency at level B1 within the Common European Framework of Reference for Languages (CEFR) is an admission requirement.

The English level B1 is assessed by the University Language Centre SLAM throughout the admission process in the following ways:

language certificate achieved no more than three years prior to the submission, at level B1 or 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;

level of English assessed by SLAM (and/or through a computer-based test) during the bachelor's degrees obtained at the University of Milan. English levels B1 and B2 achieved no more than four years previously are deemed valid. The verification is automatic with no need to attach any certificate during the application phase;

entry test, organised by SLAM, which will take place on 8 september 2020 at 9.00. If the language certificate or level is not valid, the candidate will be summoned for the entry test through the admission procedure. Candidates who fail the entry test will not be admitted to the master's degree programme and cannot take the test again.

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 Course of study in Agrarian Sciences gives many opportunities for stages abroad mainly through the Erasmus+ programme. About 30 foreign Universities of the EU are involved in this students exchange. Globally every year about 5 students of this course of study make a stage in these universities. The areas of study which can be followed by the students abroad are almost all those included in this course of study. In general, students who make a stage abroad attend local courses or participate in research for the preparation of their thesis.

The examination scores and the related UFC obtained in the partner universities are almost entirely acknowledged by our university for the curriculum studies.

Other possibilities exist in terms of cultural exchange with non EU universities (in China, Japan, Latin America) not involved in the Erasmus programme.

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

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

1st COURSE YEAR Core/compulsory courses/activities common to all curricula		
Learning activity	Ects	Sector
Agricultural policy and rural appraisal	14	AGR/01
Cropping systems	8	AGR/02
English proficiency B2 (3 ECTS)	3	ND
Experimental methodologies in agriculture	6	AGR/17
Total compulsory credits	31	
2nd COURSE YEAR Core/compulsory courses/activities common to all curricula		
Learning activity	Ects	Sector
Final exam	22	NA
Total compulsory credits	22	
Further elective courses common to all curricula		
Advanced dairy technologies	6	AGR/15
Agri-food Marketing	6	AGR/01
Economics of innovation in agriculture	6	AGR/01
Economics of natural resources	6	AGR/01
Energy for Agriculture	6	AGR/09
Field applications of precision agriculture	8	AGR/09, AGR/12
GIS (Geographical Information System) for rural landscape	6	AGR/10
Integrated design and re-use of rural buildings	6	AGR/10
International cooperation and crop-livestock systems	6	AGR/18
Plant disease and pest management	6	AGR/11, AGR/12
Plant protection management	6	AGR/12
Precision irrigation	5	AGR/08
Precision livestock feeding	6	AGR/18
Production and quality of fish products	6	AGR/20
Production, reproduction and animal health: monitoring and management	6	AGR/19
Protected cultivation systems	6	AGR/04
Sensors and automation for precision livestock	6	AGR/09
Simulation modelling for precision agriculture	5	AGR/02
Soil bioengineering	6	AGR/08
Survey, map drawing and materials for green areas	6	AGR/10
Tree growing strategies	6	AGR/03

ACTIVE CURRICULA LIST

Management Course years currently available: 1st , 2nd
Livestock systems Course years currently available: 1st , 2nd
Precision farming Course years currently available: 1st , 2nd

CURRICULUM: [G58-E] Management

1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Management		
Learning activity	Ects	Sector
Hydrology and water management for agriculture	8	AGR/08
Landscape planning	8	AGR/10
Livestock, environment and food safety	8	AGR/19, AGR/18
Mechanization of agricultural processes	8	AGR/09
Total compulsory credits	32	
2nd COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Management		
Learning activity	Ects	Sector
Economics of agricultural markets	8	AGR/01
Total compulsory credits	8	

CURRICULUM: [G58-F] Livestock systems

1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Livestock systems		
Learning activity	Ects	Sector
Equipment, plants and machinery for livestock production	8	AGR/09, AGR/10
Genetics and animal reproduction	10	(6) AGR/17, (4) VET/01
Livestock, environment and food safety	8	AGR/19, AGR/18
Rabbit, poultry and aquaculture productions	8	AGR/20
Total compulsory credits	34	
2nd COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Livestock systems		
Learning activity	Ects	Sector
Feed formulation and production Technologies	6	AGR/18
Total compulsory credits	6	

1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Precision farming			
Learning activity		Ects	Sector
Geomatics in agriculture		8	AGR/08, ICAR/06
Hydrology and irrigation systems for agriculture		8	AGR/08
Mechanization of agricultural processes		8	AGR/09
		Total compulsory credits	24
2nd COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Precision farming			
Learning activity		Ects	Sector
Machinery, plants and equipment for precision farming		8	AGR/09, AGR/10
Precision farming		8	AGR/19, AGR/02
		Total compulsory credits	16