UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2026/27
BACHELOR
VITICULTURE AND ENOLOGY (Classe L-25 R)
Enrolled in the 2026/2027 academic year

HEADING

Degree classification - Denomination and code:	L-25 R
Degree title:	Dottore
Length of course:	3 years
Total number of credits required to complete programme:	180
Years of course currently available:	1st
Access procedures:	Open, subject to completion of self-assessment test prior to enrolment
Course code:	GAB

PERSONS/ROLES

Head of Study Programme
Prof. Antonio Giovanni Tirelli

Tutors - Faculty
Tutor per l'orientamento:
Prof. Ivo Ercole Rigamonti

Tutor per la mobilità internazionale e l'Erasmus:
Prof.ssa Daniela Fracassetti

Tutor per ammissioni lauree magistrali:
Prof. Fabio Quaglino
Prof. Osvaldo Failla
Prof.ssa Daniela Fracassetti
Prof. Domenico Pessina
Prof. Antonio Giovanni Tirelli
Prof.ssa Ileana Vigentini

Tutor per stage e tirocini:
Prof. Lucio Brancadoro
Prof. Osvaldo Failla
Prof. Roberto Carmine Foschino
Prof.ssa Daniela Fracassetti
Prof.ssa Monica Laureati
Prof. Antonio Giovanni Tirelli
Prof.ssa Ileana Vigentini

Tutor per i piani di studio:
lettera iniziale cognome studenti A-B: Prof.ssa Stefania Mazzini
lettera iniziale cognome studenti C-F: Prof. Ivo Ercole Rigamonti
lettera iniziale cognome studenti G-L: Prof.ssa Ileana Vigentini
lettera iniziale cognome studenti M-N: Prof. Domenico Pessina
lettera iniziale cognome studenti O-R: Prof. Stefano Corsi
lettera iniziale cognome studenti S-Z: Prof. Osvaldo Failla

Referente per studenti DSA:
Prof.ssa Sara Limbo

Degree Course website
https://viticolturaenologia.cdl.unimi.it/

Course management for the Faculty of Agricultural and Food Sciences (Science and Technology area)
via Celoria 2 - Milano Città Studi Phone 0250316511 Orario di apertura al pubblico: lunedì dalle 10 alle 12 e dalle 14 alle 16

Contatto: https://informastudenti.unimi.it/saw/ess?AUTH=SAML

Student registrar

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 Degree Course in Viticulture and Enology has the main objective of training oenological technicians with adequate skills to establish and manage wineries, enhancing both the agricultural product and the wine derived from it. This objective is pursued by providing, first, adequate basic scientific and cultural knowledge, based on mathematical, physical, chemical and biological sciences and, subsequently, professionalizing skills in the wine sector, aimed at developing operational skills of an agro-technological and managerial nature as well as framing the production activity from a historical, geographical, economic and environmental point of view.

Graduates in Viticulture and Enology will, therefore, have an interdisciplinary education on the biological and technological principles related to the cultivation of vines and the production of wine and will be familiar with the political, economic, market and environmental context of the wine sector. The Degree Course in Viticulture and Enology provides interdisciplinary training on the biological and technological principles related to the cultivation of vines and the production of wine, providing professional competence to technicians destined to work in the viticulture, oenology and management sectors of wineries. The curriculum is based on a solid scientific and cultural education (with foundations in the biological, chemical and physical sciences) and on professionalizing courses, aimed at providing operational skills of an agro-technological and managerial nature.

The courses are aimed at deepening the scientific principles underlying the cultivation of vines and wine production, based on the biological, physical and chemical foundations necessary for their understanding. In this perspective, a particular style of winemaking, viticulture or a specific method of vineyard and cellar management is not emphasized, but it is preferred to opt for the achievement of a unifying methodological and scientific competence that can then favor the maturation of an independent vision and vocation.

Each student is however stimulated, through the complementary teaching offer, to deepen the most congenial applicative aspect, in the field of viticulture, rather than wine production, with particular reference to modern agronomic and vineyard protection problems related to climate change and environmental sustainability. These are flanked by aspects of the production chain of other alcoholic beverages of fermentative origin.

Expected learning outcomes

Knowledge and understanding

Graduates in Viticulture and Enology will acquire a solid foundation in scientific knowledge, enabling them to understand the chemical, biochemical, and physiological processes of plants, particularly grapevines. They will be familiar with sustainable cultivation techniques and machinery. Furthermore, they will possess knowledge of microbial metabolism related to wine production, criteria for winery design and equipment management, and the chemical, technological, and biological principles underlying winemaking processes. This includes sensory and chemical analysis techniques. This knowledge will enable graduates to understand the relationships between terroir, viticulture, and winemaking, allowing them to competently and rationally select the most suitable technical approaches to achieve desired production outcomes. Additionally, graduates will develop expertise in economics and marketing specific to the wine sector, encompassing all its aspects, including legislation. Knowledge and understanding will be assessed through individual examinations.

Applying knowledge and understanding

The program fosters the ability to comprehend and effectively apply foundational principles of mathematics, physics, statistics, computer science, inorganic and organic chemistry, plant biology, and a foreign language (in a scientific context) within the diverse professional contexts relevant to viticulture and enology graduates. Graduates will develop the capacity to understand and apply knowledge of the chemical, biochemical, and physiological processes of plant metabolism, particularly in grapevines. This includes cultivation techniques and machinery, the metabolic properties and roles of microorganisms (bacteria, yeasts, molds) in winemaking, analysis methodologies for simple and complex systems, functional diagrams and sizing criteria for key equipment used in the sector, and the economic and marketing dynamics specific to the wine industry, including legal aspects. Skills and competencies are developed through various teaching approaches and assessed primarily through written and oral examinations, potentially combined with activities conducted during practical sessions and laboratory work.

Judgements skills

The development of independent judgment is encouraged throughout the program, particularly through preparation for and participation in practical internships and the completion of a final thesis project. Both these components are fundamental to the student's educational journey. Specifically, a dedicated course trains students in data and information acquisition within a winery context, linked to statistics and computer science modules. This ensures effective data collection and processing during the subsequent internship, encompassing both vineyard (viticulture) and laboratory/cellar (enology) phases. The

collected information is then further developed, interpreted, and discussed in the final thesis, drawing upon relevant scientific literature to reach original conclusions.

Communication skills

Graduates in Viticulture and Enology will be able to clearly and effectively communicate information, ideas, problems, and solutions related to their scientific field, including in a European Union language other than their own, typically English. They will be proficient in utilizing modern communication tools, including multimedia. This skill is practiced and assessed throughout the program, particularly through oral and written examinations with open-ended questions. Furthermore, students are encouraged to participate in seminars and conferences, including those in English, led by specialists in the field. Study abroad experiences are also promoted. Communication skills are further enhanced and evaluated during the preparation, presentation, and discussion of both the internship report and the final thesis. The internship provides an opportunity to develop interpersonal skills (in interactions with the industry, university faculty and technical staff, and fellow students) and, in many situations, the ability to work effectively in a team.
Learning skills

Graduates in Viticulture and Enology will develop the learning skills necessary for pursuing further studies and maintaining continuous professional development with a high degree of autonomy. They will acquire the ability to deepen and update their knowledge to address scientific, technical, and operational challenges within their field by independently gathering and processing information from both printed and electronic resources, including databases. These skills are acquired throughout the course of study but are particularly refined through the experience of writing the final thesis. This process allows students to develop competence in consulting bibliographic material and databases and in personally re-elaborating information for the interpretation and discussion of the internship topic. The achievement of expected learning outcomes is verified through careful and continuous guidance and support provided to the graduating student by a supervisor (and often a co-supervisor) during the preparation of the internship report and final thesis. These are then presented and discussed by the student in a dedicated session, culminating in an evaluation that considers the timeliness of degree completion and overall academic performance.

Professional profile and employment opportunities

The technical skills of Viticulture and Enology graduates extend across the entire production chain, from evaluating land for vineyard establishment to vineyard management, grape processing, wine packaging, marketing, and distribution. This allows graduates to assume roles that involve managing production, operations, sales, and quality control laboratories in wineries, including medium and large-sized enterprises.
These same skills enable them to work as technical managers in production and commercial businesses that offer equipment, products, and services to the wine industry. They can also find employment within public administration, producer associations, and consortia, providing support and governance to the wine sector.
The technical expertise of Viticulture and Enology graduates allows them to support wineries as freelance professionals and to disseminate technical and scientific information through media channels.
Further career opportunities may include employment in the alcoholic beverage industry, particularly in breweries.
The course allows registration in the Order of Agronomists and Foresters in the junior section after passing the State exam.

Initial knowledge required

Admission requirements

To be admitted to the degree course, it is necessary to have a high school diploma, or other recognized qualification, and adequate preparation in basic scientific disciplines (mathematics, chemistry, physics and biology), logical skills, an ability to express oneself orally and in writing without hesitation of errors, a good general culture.

Assessment of the personal qualification

The degree program is open to all. Five spots are available for first-year enrollment for non-EU students residing abroad and four spots are available for students enrolled in the Marco Polo Project.
Admission to the program is subject to a mandatory, but non-selective, knowledge assessment test prior to enrollment. This test assesses students' initial preparation in terms of knowledge requirements in basic scientific disciplines, with a level of depth equivalent to that derived from secondary school preparation, and their understanding of elementary logic.
The test required for admission to the degree program is the TOLC-AV, an online test administered by CISIA (Interuniversity Consortium for Integrated Access Systems - https://www.cisiaonline.it).
Test structure, topics, and other useful information: https://www.cisiaonline.it/area-tematica-tolc-agraria-veterinaria/struttura-della-prova-e-syllabus/
The TOLC-AV test can be taken at the University of Milan or any other CISIA member university. The calendar with available venues and dates is posted to the page https://tolc.cisiaonline.it/calendario.php . Registration procedures and deadlines are set out in the call for applications posted to the page: https://viticolturaenologia.cdl.unimi.it/it/iscriversi Only students high enough in the merit ranking will be eligible for enrolment.

Admission of transfer or graduate students

Transfer students from a degree programme of the University of Milan, or another university, and graduate students will be waived from the test requirement only if admitted to years subsequent to Year I. To this end, they will have to submit a specific request for prior assessment of their academic records using the online service as shown in the call for applications. These candidates must provide a full transcript of records (listing exams, subject areas, credits, grades) and attach the course syllabi. For more details and dates, please refer to the call for applications. Students admitted to the first year will be required to take the test and register for the call.

Additional learning requirements (OFA) and remedial activities

Admitted students who do not achieve a score higher than 3 in the Mathematics section of the TOLC-AV are assigned additional learning obligations (OFA). Remedial activities will be organized for students with OFA (in the period October-December), both as online exercises on an e-learning platform and as discussion sessions with a tutor. After participating in remedial activities, new students will have to take a final assessment test. Mathematics OFA are prerequisites for all second and third-year exams. For students who have not passed the OFA final test during the first year, passing the Mathematics exam is a prerequisite for all second- and third-year exams. Learn more at https://viticolturaenologia.cdl.unimi.it/it/studiare/le-matricole

Compulsory attendance

Course attendance is strongly recommended.

Internship criteria

Students are required to complete a practical internship awarding 10 CFU, after earning at least 70 CFU for exams. The internship must be carried out during the harvest period at a winery starting from the end of the second-year courses. The practical internship will provide the student with professional experience in wine production. After completing the internship, the student will write a report that may be the subject of their degree paper.

Degree programme final exams

Upcoming graduates must pass a final exam, which consists in the presentation and discussion of a paper before a degree board. The final paper may concern either an experimental or a bibliographic activity, including the internship report. To be admitted to the final exam, the student must have earned 177 CFU (i.e. 180 CFU minus the number of credits awarded by the final exam), including the credits required for the foreign Language and the exam of “Computer skills, statistics and data management in the winery”. Regulations for the awarding of degree marks is posted on the page https://viticolturaenologia.cdl.unimi.it/it/studiare/laurearsi

Notes

In order to obtain their degree, students are required to have a B1 level of proficiency according to the Common European Framework of Reference for Languages (CEFR). This level of proficiency can be certified as follows:
- by submitting an official language certificate at B1 level or higher, issued no more than three years before the submission date. The list of language certificates recognized by the University is available at https://www.unimi.it/en/node/39322.
The certificate must be uploaded during enrolment or later through the portal http://studente.unimi.it/uploadCertificazioniLingue.
- by taking a placement test administered by the University Language Centre (SLAM) between October and December (January for Master's degree courses) of the first year. Students who do not pass the test will be required to attend a language course offered by SLAM.
The placement test is compulsory for all students who do not already hold a valid certificate.
Students who do not take the placement test by the end of December (by the end of January for Master's degree courses), or who fail the end-of-course test after six attempts, must obtain a language certificate privately before graduating.

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 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 organisations.
Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.
The University of Milan is a member of the 4EU+ European University Alliance that brings together eight public multidisciplinary universities: University of Milan, Charles University of Prague, Heidelberg University, Paris-Panthéon-Assas University, Sorbonne University of Paris, University of Copenhagen, University of Geneva, and University of Warsaw. The 4EU+ Alliance offers integrated educational pathways and programmes to promote the international mobility of students (physical, blended and virtual).

Study and internships abroad

The opportunity of studying in the framework of the Erasmus + Program, the rules for participation and the criteria for

theselection of students are indicated in a specific call for applications for the Food Science Area. Mobility is provided towards 30 partner universities widely distributed in Europe, selected on the base of their teaching affinity with the course of study (degree program) and notoriety in the specific area. The areas of study that can be developed abroad include physiology, genetics and viticulture techniques, chemistry and wine microbiology, wine-making technologies, sensory analysis and marketing of the wine commerce. The learning agreement is outlined in collaboration with the person in charge for the Erasmus of the degree program, as regards both the choice of courses and the organization of the internship at the partner university. Students must obtain the formal approval of the examinations that they intend to carry out at the host university from professors who hold equivalent or similar teachings at the University of Milan before completing the learning agreement. As regards experimental activities abroad, which can constitute part or the entire program of the internship, a letter of agreement from a professor of the partner university is required, along with the formal approval on the objectives, on the program and on the term of the internship by a professor of the degree program, who will also act as supervisor. At the end of the study period abroad, students must hand in the transcript of records released by the host university and they obtain, by the approbation of the Teaching Board, credits and votes recognition on the base of a default conversion scale. The degree course offers integrated study programmes (https://www.unimi.it/en/international/study-abroad/double-degree).

How to participate in Erasmus mobility programs

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 for Erasmus+ mobility for study generally begins around February each year with the publication of a call for applications specifying destinations and requirements. Regarding the Erasmus+ Mobility for Traineeship, the University of Milan usually publishes two calls a year enabling students to choose a destination defined by an inter-institutional agreement or to find a traineeship position on their own.

The University organises informative meetings to illustrate mobility opportunities and rules for participation.

Erasmus+ scholarship
The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which may be 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 Language Centre (SLAM).
https://www.unimi.it/en/node/8/

Learn more at https://www.unimi.it/en/node/274/

For assistance, please contact:
International Mobility Office
Via Santa Sofia 9 (second floor)
Tel. 02 503 13501-12589-13495-13502
Contacts: InformaStudenti;
Student Desk booking through InformaStudenti

1st COURSE YEAR Core/compulsory courses/activities common

Learning activity	Ects	Sector
Agronomy	6	AGRI-02/A
Elements of Economics	6	AGRI-01/A
English assessment B1 (3 ECTS)	3	NN
General and Inorganic Chemistry	6	CHEM-03/A
Mathematics	6	MATH-03/A
Organic Chemistry	6	CHEM-05/A
Physics	6	PHYS-04/A
Plant Biology	8	(4) BIOS-01/C, (4) BIOS-01/A
Total compulsory credits	47	

2nd COURSE YEAR (available as of academic year 2027/28) Core/compulsory courses/activities common

Learning activity		Ects	Sector
Agricultural Chemistry		10	AGRI-06/B
Biology and Genetics of Grapevines		8	AGRI-03/A
Computer Skills, Statistics and Data Management in the Winery		9	NN
Enochemical Analysis		6	AGRI-07/A
Enological and Fermentations Chemistry		6	CHEM-07/C
Enology 1		11	AGRI-07/A
Microbiology		6	AGRI-08/A
	Total compulsory credits	56	

Elective courses

During the second year, within the 12 elective credits available to students, the Viticulture and Enology Teaching Committee proposes, in the table below, some training activities that can be delivered in a blended format.
As part of the elective activities, students have the opportunity to complete a second internship, possibly at an external company, according to the procedures established by the University. In this case, the activities to be carried out during the internship will be under the direct responsibility of a university tutor and must not be considered a mere repetition of those completed during the first internship. The second internship will earn 4 credits.

Applied Agrometeorology in a Changing Climate	4	AGRI-03/A
Cereals for Malts and Other Semi-Finished Products Preparation	4	AGRI-07/A
Cultivation of Plants for Beer, Liqueurs and Spirits Production	4	AGRI-02/B

3rd COURSE YEAR (available as of academic year 2028/29) Core/compulsory courses/activities common

Learning activity		Ects	Sector
Enological Microbiology		6	AGRI-08/A
Enology 2		10	AGRI-07/A
Management of Vinicultural Firm and Marketing Elements		8	AGRI-01/A
Vineyard Protection		11	(6) AGRI-05/B, (5) AGRI-05/A
Viticultural and Enological Engineering		11	AGRI-04/B
Viticulture: Cultivation Techniques		6	AGRI-03/A
	Total compulsory credits	52	

Elective courses

During the third year, within the 12 elective credits available to students, the Viticulture and Enology Teaching Committee proposes, in the table below, some training activities that can be delivered in a blended format.
As part of the elective activities, students have the opportunity to complete a second internship, possibly at an external company, according to the procedures established by the University. In this case, the activities to be carried out during the internship will be under the direct responsibility of a university tutor and must not be considered a mere repetition of those completed during the first internship. The second internship will earn 4 credits.

Brewing and Spirits Technology	4	AGRI-07/A
Packaging for the wine industry	4	AGRI-07/A
Sustainable Management of Fungal Diseases of Grapevine	4	AGRI-05/B
Viticultural Practices	4	(1) AGRI-05/B, (1) AGRI-04/B, (1) AGRI-03/A, (1) AGRI-07/A

End of course requirements

Stage		10	NN
Final Exam		3	NN
	Total compulsory credits	13	

COURSE PROGRESSION REQUIREMENTS

The course contains the following obligatory or advised prerequisites

Learning activity	Prescribed foundation courses	O/S
Organic Chemistry	General and Inorganic Chemistry	Core/compulsory
Biology and Genetics of Grapevines	Plant Biology	Core/compulsory
	Agricultural Chemistry	Core/compulsory
Viticulture: Cultivation Techniques	Agronomy	Core/compulsory
	Biology and Genetics of Grapevines	Core/compulsory
Agricultural Chemistry	Organic Chemistry	Core/compulsory
Microbiology	Plant Biology	Core/compulsory
Enological Microbiology	Microbiology	Core/compulsory
Enology 1	Physics	Core/compulsory
	Enological and Fermentations Chemistry	Core/compulsory
Enology 2	Enology 1	Core/compulsory
Enological and Fermentations Chemistry	Organic Chemistry	Core/compulsory
Enochemical Analysis	Organic Chemistry	Core/compulsory