



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2025/26
MASTER DEGREE
COSMETIC INDUSTRIAL SCIENCES (Classe LM-71 R)
Enrolled in academic year 2025/26

HEADING

Degree classification - Denomination and code:	LM-71 R
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
Access procedures:	Open, subject to entry requirements
Course code:	EBC

PERSONS/ROLES

Head of Study Programme

Prof.ssa Lucia Zema - Via Colombo 71, Milano

Tutors - Faculty

Tutor for Teaching and Study plan: Proff. Giovanna Baron (A-K), Sara Della Torre (L-Z)

Transfer and ECTS recognition tutor: Prof. Laura Castoldi

Erasmus and international mobility tutor: Prof. Antonella Casiraghi

Student-worker tutor: Prof. Sara Della Torre

Committee for admittance to the Master's degree programme: Proff. Daniele Bottai, Laura Castoldi, Alfonsina D'Amato, Luigi Sironi

Committee for internship: Proff. Antonella Casiraghi, Giorgio Facchetti, Giovanna Baron, Marco Ortenzi

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Enrollment and Admission

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CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The Master's degree programme in Cosmetic Industrial Science (CosmIS) aims to train a graduate with advanced skills in the research, development, industrial production, quality control and marketing of cosmetic products. This graduate will be immediately ready for placement in qualified positions, at different levels within cosmetic companies. The skills and the

competencies necessary for the achievement of such goals are acquired through i) theoretical lectures, most of which complemented by laboratory activities, also conveyed through innovative teaching methods, and ii) an internship, lasting at least 6 months, to be carried out preferably in cosmetic companies, in Italy or abroad.

With reference to the aforementioned objectives, the Master's degree programme provides students with knowledge of: - key formulation ingredients, i.e., inorganic, organic, polymeric and functional ingredients of cosmetic products, with their specific activity;

- physiology and specific functions of the skin and its annexes;
- formulation of semisolid, liquid and solid preparations for the development of skincare, hygiene, parfumes and make-up products;
- technologies applied to the manufacturing and packaging of cosmetic products;
- regulatory provisions and skills for placing a new cosmetic product on the market, according to the European guidelines;
- microbiological risk assessment and alternative protocols for the relevant toxicological characterization;
- quality assessment and stability monitoring of cosmetic products;
- marketing and communication, business plan and project financial evaluation relevant to cosmetic products.

During the internship, students are expected to develop a personal project on a topic consistent with the Master's degree programme. This internship is also intended to acquire teamwork aptitudes, critical abilities, and communication skills. At the end of the internship, the student will write a Master's degree thesis in English to be presented and discussed during the final examination.

The degree in CosmIS will be conferred to students who have acquired interdisciplinary knowledge and comprehension skills in all the areas covered by their training, particularly in the chemical, chemical/pharmaceutical, biochemical/toxicological, pharmaceutical/technological and legislative fields related to the development and manufacturing of cosmetic products, and expertise in the scientific approach to solving problems typical of the profession.

Expected learning outcomes

Knowledge and understanding

The Master's degree programme in CosmIS covers four disciplinary areas: chemistry, industrial chemistry, economy and technology, biology, thus providing students with specific knowledge in i) the chemical and functional characteristics of cosmetic ingredients, ii) their formulation into stable, safe cosmetic products capable of effectively maintaining the health status of target organs (skin and skin annexes), iii) the quality controls and reference standards for marketing of cosmetic products. Moreover, students become familiar with both internal organization and development/internationalization strategies of a cosmetic company, and are provided with useful tools to develop new business ideas.

Ability to apply knowledge and understanding

Being provided with theoretical lectures and complementary laboratory activities, students will be able to i) select the appropriate ingredients for the formulation of different types of cosmetic products and rationalize/argue their use, critically evaluating possible interactions, incompatibilities or synergies, depending on their chemical/physical nature and on the required functionality of the cosmetic to be made; ii) design and prepare new ingredients and products for the cosmetic market, that are sustainable and compliant with the cosmetic industry regulations as well as responding to specific market trends and emerging consumer requests; iii) select and apply the most suitable instrumental techniques for quality control; iv) master concepts, contents, and languages, both technical and related to the business world, that will promote a fruitful interaction with national and international stakeholders.

Making judgements

Autonomy of judgement will be achieved by the students through a guided path, during the whole activities of the Master's degree programme, based on:

- exercises and laboratory activities;
- participation of the students, who will be asked to raise questions and give their opinion, thus stimulated to develop critical sense;
- theoretical management of practical problems related to cosmetic product formulation, production and commercialization;
- critical discussions and active peer comparison working in groups.

The acquisition of autonomy of judgement will be verified through written/oral examinations, practical activities in the classroom (e.g. problem solving activities), final laboratory tests, and will be completed with the performance of an internship under the supervision of an academic tutor. During this final activity, the student will have to demonstrate a degree of autonomy and planning skills, that will be assessed during the final exam.

Communication skills

At the end of the Master's degree programme, the student will be able to communicate/disseminate, both at a popular and specialized level, in a clear and effective manner, contents related to the entire production chain of a cosmetic product. He/she will therefore be able to interface in scientific-professional contexts with specialized and non-specialized personnel. In addition, he/she will be able to present new cosmetics to the public and also promote their sales in collaboration with marketing and sales offices.

Communication skills will be achieved by the student through critical discussions promoted during lectures, presentation of individual works in the form of scheduled lectures and/or examinations, classroom exercises and active peer discussion. The communication skills achieved will be evidenced at the end of the studies by the presentation and discussion of the Master's degree thesis.

Learning skills

All the educational activities of the Master's degree programme in CosmiS guide the students in acquiring learning skills that enable them to keep their knowledge, professional skills and abilities up-to-date, even when they enter the world of work. At the end of the study programme, students have acquired the ability to access technical information found in industry-specific databases and related manuals, as well as in the main search engines of scientific literature, aiming to implement and update their professional background and answer the most common technical, regulatory and scientific questions.

Foreign students will be able to achieve an Italian language proficiency of A2 level (Common European Framework of Reference).

Professional profile and employment opportunities

Graduate students in CosmiS will reach a high degree of autonomy in the work environment, allowing them to hold positions of high responsibility in companies focused on the synthesis/production/marketing of cosmetic raw materials and on the formulation/development and production of skincare, hygiene, perfumes and make-up products, their packaging, related sales, and control/safety. They may also assume responsibilities as project or lab leaders in academic research laboratories or find employment in agencies responsible for the development of technical regulations and quality certification of cosmetic products. Studies conducted in English will enable graduates to meet the challenges of the global economy, facilitating their immediate entry into the job market.

The specific career outlets within the cosmetics industry are:

1. Research and development (R&D) and production specialist

He/She defines development issues and research programs, in tune with company strategies; designs/formulates new small-scale products studying their tech-transfer and industrialization, proposing the necessary technical resources, budget and investment for project. This professional has:

- technical/scientific skills;
- ability to process, interpret and evaluate the experimentally obtained results;
- ability to design, planning, manage and to motivate the work groups he/she coordinates.

2. Quality specialist

He/She supervises the quality assurance system in the cosmetic company, i.e., he/she develops protocols for analyzing and controlling the quality of processes, coordinates the departments involved in the manufacture of the product to ensure that the quality system is efficiently organized and documented, ensures that inspections are periodically planned and properly performed to evaluate the effectiveness and applicability of the quality assurance system. This professional has:

- technical/scientific knowledge;
- ability to analyze and synthesize data, coordinate and manage human resources and any critical issues;
- aptitude toward teamworking combined with the ability to work cross-functionally in the various business areas;
- knowledge of the regulations and methodologies necessary for product quality control.

3. Regulatory specialist

He/She is responsible for the collection, processing, updating and reporting-disclosure, as required by the relevant regulations, of all information relating to the safety of cosmetic ingredients and products, including post-marketing. He/she is an expert in the authorization procedures for the marketing of products, and sets up and maintains documentation in support of the application, interfacing, when necessary, with the in charge regulatory bodies.

This professional combines in-depth technical/scientific knowledge with regulatory knowledge, possesses skills of analysis, coordination and management of critical issues, and has aptitude toward teamworking.

4. Specialist in cosmetics market relations (cosmetic informant)

He/She conveys scientific knowledge about cosmetic ingredients and products in the areas of the cosmetics company more specifically dedicated to sales. In this respect, he/she is the reference person from which marketers learn the essential technical information for a correct promotion of the products. He/she fosters dialogue and synergy between different areas such as research and development, production, and marketing.

This professional has technical/scientific knowledge, basic business administration and marketing skills, business skills, knowledge of technical English and computer abilities, willingness to travel, communication skills and resourcefulness.

The Master's degree in CosmiS gives access to Doctoral programs open to graduates of the LM71 class and particularly to the PhD program in Pharmaceutical Sciences, already active at the Department of Pharmaceutica Sciences, with the option of developing a research project in cosmetic science.

Initial knowledge required

Admission Requirements

Eligible for admission to the Master's degree programme in CosmiS are:

- graduates in the classes listed below, as well as in the corresponding classes related to DM 509/99:
- L-27 Chemical Sciences and Technologies
- L-29 Pharmaceutical Sciences and Technologies
- graduates in other classes, as well as graduates in master's, specialist and four-year degree programmes allowed by a resolution of the competent boards, provided they meet the following minimum requirements: at least 35 ECTS earned in

mathematical (MAT01-MAT06), physical (FIS01-FIS03, FIS07), chemical (CHIM01-CHIM10) and biological (BIO09-BIO19) disciplinary fields, of which a minimum of 12 ECTS acquired in the chemical and a minimum of 6 ECTS in the biological disciplinary fields;

- graduates in possession of a degree obtained abroad recognized as eligible on the basis of correspondence with Italian degrees.

In addition, to be admitted to the Master's degree programme, the student must possess proven language skills in English, at least at level B2 (Common European Framework of Reference).

Knowledge Assessment

The verification of the possession of the pre-established curricular requirements for the admission to the Master's degree programme and the evaluation of the personal skills of candidates are in charge of a Committee for admittance appointed by the Teaching Board. Access to the programme is regulated by a compulsory test aimed at ascertaining the initial skills of the candidates, with a view to successfully completing their course of studies. In order to be admitted into the Master's degree in CosmIS, candidates must:

a) meet all admission requirements by 31 December 2025. In the case of applications for admission accompanied by a degree obtained abroad, the verification will be based on the evaluation of the diploma supplement. An interview may be required for clarification. For non-EU students, who may have visa and/or residence permit problems, the interview, if needed, could be scheduled within the month of May 2025;

b) achieve a score in the test higher than the threshold set by the Committee, i.e. at least 50% of answers have to be correct. In case of slight insufficiencies (45-49%) the Committee for admittance reserves the right to take the curriculum vitae presented by the candidate into consideration and eventually call the candidate for an interview (held remotely through a videoconferencing platform) in order to better assess his/her preparation.

The test will assess knowledge and skills in:

- principles of biology, human physiology and biochemistry;
- principles of general, analytical, inorganic and organic chemistry;

All applicants will be required to take the test, including transfer students from other universities/courses.

For admission tests, there are two separate sessions: FIRST SESSION - May 7th 2025, SECOND SESSION - September 9th 2025. Non-EU candidates applying for a student Visa can only participate to the first session on May 7th 2025. The test can only be taken once and is open even for upcoming graduates and candidates, who did not proven yet their language skills in English.

For test details including dates, time, venue and delivery modes, please refer to Additional information posted on the web site of the course (<https://cosmis.cdl.unimi.it/en/enrolment>).

Proficiency in English at a B2 level or higher per the Common European Framework of Reference for Languages (CEFR) is required for admission.

The B2-level requirement will be ascertained by the University Language Centre (SLAM) upon admission as follows:

- Language certificate of B2 or higher level issued no more than three years before the date of admission application. You will find the list of language certificates recognized by the University at: <https://www.unimi.it/en/node/39322>. The certificate must be uploaded when submitting the online application;

- English level achieved during a University of Milan degree programme and certified by the University Language Centre (SLAM) no more than four years before the date of admission application, including levels based on language certificates submitted by the applicant during their Bachelor's degree at the University of Milan. In this case the process is automatic, the applicant does not have to attach any certificates to the application;

- Placement test administrated by the University Language Centre (SLAM) according to the calendar published on the website: (<https://www.unimi.it/en/node/39267>)

All those who fail to submit a valid certificate or do not meet the required proficiency level will be instructed during the admission procedure to take the placement test.

Applicants who do not take or pass the placement test will be required to obtain a language proficiency certificate recognized by the University (see <https://www.unimi.it/en/node/39322>) and deliver it to the SLAM via the InformaStudenti service by the deadline fixed for the master's programme (<https://www.unimi.it/en/node/39267>).

Applicants who do not meet the requirement by said deadline (December 2025) will not be admitted to the master's degree programme and may not sit any further tests.

Compulsory attendance

Attendance is compulsory for individual laboratories experiences, and strongly recommended for all courses.

Internship criteria

To complete the Master's degree programme, a period of internship is compulsory. It can be carried out either in a university laboratory but preferably in cosmetic companies, research laboratories or agencies responsible for the development of technical regulations and quality certification of cosmetic products.

The ECTS acquired with the internship are 37 for the Italian students and 34 for students who must acquire the 3 ECTS for Additional Language Skills: Italian.

One of the important objectives of the Master's degree is the opportunity for students to perform this activity at cosmetic companies, in Italy or abroad. In view of the diverse country of origin of the students, the feasibility of internship abroad will necessarily have to take into account the limits imposed by the regulations in force, which differ widely from country to country. A list of industries or private bodies operating in the cosmetics sector, previously selected by the Internship

Committee with the support of the COSP, will be provided to foster students in their choice.

Information will be provided on the web site of the course, on the page <https://cosmis.cdl.unimi.it/en/study/stage-and-internship>.

For practical details, also visit <https://www.unimi.it/en/node/483>.

Degree programme final exams

To be admitted to the final examination, the student must have passed all the exams required by the study plan. The final examination (3 ECTS) involves the public defense of the thesis. The latter consists of a paper written by the student in English, related to the individual project carried out during the internship (at least 34 ECTS). The examination, for which the graduating student may make use of multimedia aids, consists of a brief exposition of the salient aspects of the project, followed by the discussion with the Examination Committee.

The Graduate Examination will take place in three special sessions: summer, fall and winter.

Campus

The course activities are held in the Città Studi Campus, in Milan.

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

Students in CosmIS who wish to participate in the ERASMUS and ERASMUS+ programme will have at their disposal:

- agreements already in place between lecturers of the degree and foreign universities (to be personally verified with lecturers);
- new agreements specially arranged for the conduct of the internship.

The participation in the programme is for the purpose of carrying out the traineeship during which the student has to develop a thesis project. Students on the degree course who wish to participate in the ERASMUS and ERASMUS+ programme will have at their disposal an international mobility tutor.

The student's activity abroad is fully recognised in his/her academic career and rewarded with an increase of maximum 2 points in the degree mark, subject to the approval of the Erasmus tutor or the academic tutor of the thesis. Recognition of the student's mobility activity concerns all activities carried out either through the use of European Community programmes (Erasmus+, Erasmus Placement, LERU projects) or through other institutional channels (University of Milan foreign thesis grants), or of a voluntary nature activated through specific agreements between the COSP and the foreign host institution.

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
Decorative cosmetics development	6	CHIM/09
Functional ingredients	7	CHIM/08
Inorganic ingredients	6	CHIM/03
Organic ingredients	8	CHIM/06
Physiology and biochemistry of skin and skin annexes + Microbiological contamination and controls	9	(3) BIO/10, (2) BIO/09, (4) BIO/19
Polymeric ingredients	6	CHIM/04
Skincare and personal hygiene products development and	6	CHIM/09
Toxicology and risk assessment	6	BIO/14
Total compulsory credits		54
2nd COURSE YEAR (available as of academic year 2026/27) Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Analysis of cosmetic ingredients and products	7	(4) CHIM/01, (3) CHIM/08
Marketing, Business planning, Project evaluation and Regulatory	5	(1) SECS-P/08, (2) SECS-P/07, (2) CHIM/09
Technologies for manufacturing and packaging (materials and processes)	6	CHIM/04
Total compulsory credits		18
Elective courses		
STUDENTS HAVE TO CHOOSE OPTIONAL COURSE FOR 8 CREDITS.		
It is strongly recommended to choose between the list of distinctive courses of the Master's degree in CosmIS. However, the student, after consulting the study plan tutor, can select courses among all those provided by the University of Milan consistent with the educational project of the Master's degree in CosmIS, or soft skills previously approved by the Teaching Board. As an alternative, the student can select the Experimental Laboratory course that complements/integrates the research activities of the individual thesis project. Students may also apply for recognition of ECTS for educational activities organized by external entities, previously approved by the Teaching Board, by submitting documentation proving participation, type and duration of the performed activity. Each activity may result in a maximum of 2 ECTS and up to 2 activities may be recognized.		
Cosmetology in prototypic skin conditions	4	MED/35
Experimental Laboratory	8	NA
Nutricosmetics	4	CHIM/10
Plants in cosmetics	4	BIO/15
STUDENTS MUST ACQUIRE AN ADDITIONAL 3 CREDITS		
Those who do not hold an Italian high school diploma or university degree must obtain 3 credits in Additional Language skills: Italian. More information in the "Language test" paragraph above.		
Italian students must acquire an additional 3 credits in activities dedicated to thesis work.		
Additional Language Skills: Italian (3 ECTS)	3	ND
Additional Thesis work	3	NA
End of course requirements		
Final examination	3	NA
Thesis work	34	ND
Total compulsory credits		37

COURSE PROGRESSION REQUIREMENTS

There are no propaedeutic constraints between first and second years courses.