A.D. MDLXII

University of Sassari
Department of Chemical, Physical, Mathematical and Natural Sciences

Academic Program Guide - Academic Year 2025/2026

Master Degree in Chemical Sciences

(Italian Class LM-54)

At the University of Sassari, the Master's Degree Course in Chemical Sciences, belonging to the class of Master's Degrees in Chemical Sciences (class LM-54), is offered.

Course Objectives

The course aims to train graduates with a solid basic and professional preparation targeted at employment in the main sectors of Chemistry. Upon completion of their studies, graduates will:

have a strong foundational cultural knowledge in the various fields of chemistry and an advanced scientific and practical preparation in the sectors that characterize the degree class;

have a good command of the scientific method of investigation;

have a good knowledge of supporting mathematical and IT tools;

be able to use, both in written and oral form, at least one European Union language other than Italian, including discipline-specific terminology;

be able to work with a high degree of autonomy, also assuming significant responsibility for projects and organizational structures.

Graduates will carry out activities promoting and developing scientific and technological innovation, as well as managing and designing technologies; they will also be able to perform high-level responsibilities in the sectors of industry, environment, agro-food, healthcare, cultural heritage, and public administration.

Duration and Organisation of Studies

The degree program lasts two years. The total workload is calculated as 120 credits. One credit (ECTS) corresponds to 25 hours of student work, divided between hours of activities organised by the degree program (contact hours) and hours of individual study. In particular, one credit of lectures or theoretical exercises corresponds to 8 contact hours, while one credit of laboratory exercises corresponds to 14 contact hours. Attendance at laboratory exercises is compulsory.

The teaching and training activities related to the degree program are organised on a semester basis. Therefore, the academic year is divided into two periods during which lectures and exercises are held, interspersed with breaks in teaching when exam sessions take place.

Courses will be held according to the following schedule:
First semester: 1 October 2025 – 31 January 2026
Second semester: 1 March 2026 – 10 June 2026

The exam sessions will be held according to the following schedule:
1st session (two exam dates): 2 February – 27 February 2026
2nd session (two exam dates): 15 June – 15 July 2026
3rd session (two exam dates): 1 September – 30 September 2026

Admission Requirements

To be admitted to the Master's Degree Course in Chemical Sciences, applicants must hold a Bachelor's Degree (class 21 or class L-27) or another qualification obtained abroad and recognised as suitable. Admission is also allowed for students holding other degrees characterised by a solid basic scientific knowledge in mathematical and physical disciplines and adequate preparation in various chemical subjects: general and inorganic chemistry, organic chemistry, physical chemistry, analytical chemistry, and materials chemistry.

For all students, access is conditional on possessing the requirements defined in the degree program's educational regulations; specifically: at least 80 ECTS credits in the overall Scientific Disciplinary Sectors (SSD) PHYS-01/A÷06/B (formerly FIS/01-08), MATH-01/A÷05/A (formerly MAT/01-08), INFO-01/A (formerly INF/01), BIOS-07/A÷09/A (formerly BIO/10-12), IIND-03/C (formerly ING-IND/21), IMAT-01/A (formerly ING-IND/22), and CHEM-01/A÷08/A (formerly CHIM/01-12), with a minimum of 40 ECTS credits in the SSD CHIM/01-12. Knowledge of the English language at level B1 (or higher) is required, certified or recognised by a language proficiency assessment of equivalent level at a university course or verified through an interview.

Students who do not hold a degree in Chemistry (class 21 or L-27) or another recognised qualification must attach, at the time of pre-enrolment on the portal https://uniss.esse3.cineca.it/Home.do, certification or self-certification proving possession of the required prerequisites. A commission appointed by the Degree Course Council will verify the possession of the necessary admission requirements for candidates whose applications are received by 18 September 2025. The verification of adequate personal preparation, which is a necessary condition for enrolment in the Master's Degree in Chemical Sciences, will be carried out through an interview. Participation in this interview is also extended to students enrolled conditionally who expect to obtain their Bachelor's degree by 31 December 2025.

Those who have obtained (or will obtain by 31 December 2025) a degree in Chemistry (class 21 or L-27), provided they meet the English language requirements specified above, are exempt from the interview. Conditional candidates admitted to the Master's Degree Course will lose the right to enrol if they do not obtain their degree and formalise their enrolment by 15 January 2026. All candidates must submit a pre-enrolment application according to the procedures indicated online at https://uniss.esse3.cineca.it/Home.do.

The interview will take place at the Department of Chemical, Physical, Mathematical and Natural Sciences (Didactic Building, via Vienna 2) or remotely on 25 September 2025, at 9:30 AM. Conditional candidates admitted to the Master's Degree Course will lose the right to enrol if they do not obtain their degree and formalise their enrolment by 15 January 2026. All candidates must submit a pre-enrolment application following the procedures indicated online at https://uniss.esse3.cineca.it/Home.do.

Part-time Enrollment

Students who, for work, family, or health reasons, believe they can dedicate only part of their time to studying may choose to enroll part-time. Part-time students are allowed to fulfill the requirements for obtaining their degree over a longer period, but not exceeding twice the regular duration, without being classified as 'out of course' (delayed student).

International Double Degree Program

Within the Master's Degree Course, an international program called ChemTech (Sassari – Master's Degree in Chemical Sciences, Lisbon – Master in Molecular Science and Engineering) is offered, established through an agreement with the Polytechnic University of Lisbon "Instituto Superior Técnico."

A limited number of students, selected by both universities, will have the opportunity to participate in this international program, which includes a one-year mobility period (second year) at the partner university. During this time, students will earn a defined number of credits by passing exams and carrying out experimental activities necessary for the preparation of their thesis.

At the end of the international study program, the student will obtain a double degree: the Master's Degree in Chemical Sciences (class LM-54) awarded by the University of Sassari, and the Master's Degree "Master in Molecular Science and Engineering" awarded by the University of Lisbon.

International Mobility

The Degree Program promotes international student mobility to allow students to spend a study period at a foreign university to attend lectures and take exams, or to carry out an internship, possibly also for the purpose of the degree thesis. Student mobility is facilitated by the availability of Erasmus+ scholarships for both study (SMS) and traineeship (SMT) purposes, within Europe or outside Europe (Ulysses). These activities must be pre-authorized by the Department's Erasmus Committee. Students are not required to attend courses during the semester in which they are on mobility. The program does not involve any additional fees and guarantees, upon returning to the home institution, recognition of the studies carried out and credits earned. The credits earned abroad will be recognized based on the Transcript of Records (ToR) by the Department's Erasmus Committee and will entitle students to a bonus in terms of their final degree grade and, in some cases, a financial reward.

Study plan of the Master's Degree Course in Chemical Sciences (class LM-54)
valid for students enrolling in the academic year 2025/2026

YEAR I (a.a. 2025/2026)					
First semester					
Type	**SSD**	**COURSE OF STUDY**	**ECTS**		
			Lectures	Tutorials	Laboratory
B	CHIM/01	**Analytical Chemistry**	5		1
B	CHIM/02	**Physical Chemistry of solid state**	6		
B	CHIM/06	**Advanced Organic Chemistry**	6		2
B	CHIM/04	**Advanced Polymeric Materials**	5		3
F		English language	2	2	

Second semester					
Type	**SSD**	**COURSE OF STUDY**	**ECTS**		
			Lectures	Tutorials	Laboratory
B	CHIM/03	**Advanced Inorganic Chemistry**	4		2
B	CHIM/02	**Spectroscopy and Structural Analysis**	5		1
B	CHIM/01	**Applied Electroanalytical Chemistry**	5		1
B	CHIM/03	**Organometallic Chemistry**	6		
C	FIS/07	**Radiation Physics with Applications**	3		1

YEAR II (A.A. 2026/2027)			
First semester			
Type	**SSD**	**COURSE OF STUDY**	**ECTS**

			Lectures	Tutorials	Laboratory
C	CHIM/06	**Sustainable Organic Chemistry**	4		2
C		**A course chosen from those listed in Table A (4 ECTS credits)***			
D		**Elective Activities (8 ECTS credits)**			
Second semester					
Type	**SSD**	**COURSE OF STUDY**	**ECTS**		
			Lectures	Tutorials	Laboratory
F		**Orientation and training internship ****	2		
E		**Final Examination 40 ECTS credits*****			

During the course of study, the following courses will be offered:

TABLE A

SEM	Type	SSD	COURSE OF STUDY	ECTS		
				Lectures	Tutorials	Laboratory
1	C	CHIM/02	**Materials and Processes for Next-Generation Batteries**	3		1
1	C	CHIM/02	**Physical Chemistry of complex systems**	4		
1	C	CHIM/03	**Metals in Medicine**	4		
1	C	CHIM/04	**Macromolecular Synthesis Laboratory**			4
2	C	CHIM/03	**Materials, Technologies, and Conservation of Cultural Heritage**	4		
2	C	CHIM/02	**Elements of Heterogeneous Catalysis**	3		1
2	C	CHIM/01	**Environmental Legislation and Analysis**	4		
1	C	CHIM/03	**Nanomaterials and their applications**	3		1

Elective Learning Activities: over the course of the degree program, students must earn a total of 8 ECTS credits through elective activities of their choice. Exams related to official courses offered at the University, whose content is consistent with the educational objectives of the program, will be fully recognized—provided there is no duplication of course content. These activities must be approved by the Degree Program Board. Elective courses will be offered within the degree program at the beginning of each academic year.

* Related and supplementary activities: over the course of the degree program, students must acquire a total of 14 ECTS credits from the activities listed in the official curriculum.
** An orientation and training internship worth 2 ECTS credits will be organised as part of the degree program.
*** **Final examination for the awarding of the degree:** the final exam will consist of the discussion of a written dissertation based on the internship and experimental activities carried out by the student. The activities leading to the final examination will take place during the first and second semesters of the second year. The 40 ECTS credits assigned to the final exam are distributed as follows: Research work and preparatory studies = 32 ECTS, Dissertation writing = 6 ECTS, Final presentation and discussion = 2 ECTS.
The research and preparatory work will consist of an internship and an experimental activity, to which 18 and 14 ECTS, respectively, are assigned. The student will be supported in writing the dissertation through specific preparatory activities.
The final exam will be graded on a scale of 110, with the possibility of receiving honours (lode).

Types of educational activities: B = core subjects; C = related or supplementary subjects; D = elective courses; E = final exam and foreign language; F = other activities

Credit hour equivalence:1 ECTS of lectures = 8 hours of assisted activities; 1 ECTS of theoretical exercises = 8 hours of assisted activities; 1 ECTS of laboratory work = 14 hours of assisted activities

ECTS credits for disciplinary courses will be awarded upon successful completion of the exam. Grades will be expressed in thirtieths.