A.D. MDLXII

University of Sassari

Department of Chemical, Physical, Mathematical and Natural Sciences

Academic Program Guide - Academic Year 2025/2026

Master Degree in Chemistry

ITALIAN CLASS (CLASS L-27)

The University of Sassari offers a three-year degree programme in Chemistry, which belongs to the class of degrees in Chemical Sciences and Technologies (class L-27).
Enrollment in the programme is regulated by the general rules for access to university studies.
For the academic year 2025/2026, the degree programme has open access. A questionnaire will be administered to assess students' knowledge of basic subjects, particularly Mathematics. The test will be conducted using the TOLC-I format, according to the procedures established by the CISIA National Consortium.
Remedial Mathematics courses may be offered; dates will be published on the degree programme's website.
Information on registration and enrollment procedures for the CISIA test will be made available on the same website at https://www.uniss.it/en.

Course objectives

Graduates of the Chemistry programme, upon completion of their studies, should:
have acquired solid knowledge in the various fields of chemistry, covering fundamental, theoretical, and experimental aspects;
be able to apply experimental investigation methods, including those relevant to applied problems;
have a basic understanding of quality certification processes and safety regulations in chemical environments;
be able to communicate effectively, both in written and oral form, in at least one European Union language other than Italian, within their field of expertise and for the exchange of information;
be capable of working in a team, operating with defined levels of autonomy, and integrating smoothly into professional environments;
possess adequate knowledge of computer tools required for data management and for acquiring and exchanging information on both local and global networks.

Professional Aims and Career Opportunities

Graduates in Chemistry will be able to apply the skills acquired in professional roles within industry, research and analysis laboratories, and in sectors such as environmental protection, agri-food, cultural heritage conservation, healthcare, and energy.
They will be proficient in using complex scientific equipment and in applying the scientific method to practical problems across all sectors where chemical methodologies, technologies, and processes are involved. Graduates will also be eligible to access Master's degree programmes in Chemical Sciences (LM-54).

Admission Requirements

To successfully undertake their studies, students must possess basic mathematical knowledge and skills, and be capable of understanding texts involving logical reasoning and problem-solving.

To verify that these entry requirements are met, all enrolled students—or those intending to enrol—are required to take an assessment test. This may be either: the TOLC-I online test, following the procedures established by the CISIA National Consortium, or a mathematics assessment test prepared by the Degree Programme, which will be administered in person.

To avoid being assigned an educational debt, students must achieve a minimum score of 8 in the Mathematics section of the TOLC-I test (other sections are for self-assessment and orientation only), or obtain a positive evaluation in the test provided by the Degree Programme.

Students who are assigned an educational debt must formally commit to addressing their learning gaps, following the methods and support actions proposed by the Degree Programme (e.g. MOOCs, tutoring, remedial courses).

In any case, the educational debt can be resolved by passing the Mathematics I exam.

Part-time Enrollment

Students who, due to work, family, or health reasons, believe they can dedicate only part of their time to studying may choose to enroll as part-time students. Part-time students are allowed to fulfill the requirements for obtaining their degree over a longer period of time—up to twice the standard duration of the program—without being considered as having exceeded the regular time limit.

Duration and Organisation of Studies

The teaching and training activities of the degree programme are organised on a semester basis. Consequently, the academic year is divided into two semesters, during which lectures and tutorials are held. These are interspersed with breaks in teaching for examination sessions.

Courses will follow the academic calendar below:

First semester: from 1 October 2025 to 31 January 2026

Second semester: from 1 March to 10 June 2026

Examination sessions will be held as follows:

1st session (two dates): from 2 February to 27 February 2026

2nd session (two dates): from 15 June to 15 July 2026

3rd session (two dates): from 1 September to 30 September 2026

The total number of credits required to complete the degree is 180 ECTS.

One ECTS credit corresponds to 25 hours of student work, divided between hours of activities organised by the University (guided learning) and hours of individual study. Specifically, one credit for lectures or theoretical exercises corresponds to 8 guided learning hours, while one credit for laboratory activities corresponds to 14 guided learning hours.

Attendance at teaching activities is mandatory.

International Mobility

The Degree Programme promotes international student mobility, allowing students to spend a study period at a foreign university to attend lectures and take examinations, or to carry out an internship—potentially also related to their final dissertation.

Student mobility is supported through Erasmus+ scholarships for both study (SMS) and traineeship (SMT) purposes, including opportunities outside Europe (e.g., Ulysses Programme). These activities must be authorised in advance by the Department's Erasmus Committee.

Students are exempt from attendance obligations during the semester in which they are abroad.

The programme does not require any additional tuition fees and guarantees full academic recognition of studies completed abroad upon return to the home institution.
Credits earned abroad will be recognised based on the Transcript of Records (ToR) by the Erasmus Committee and may contribute to a bonus on the final degree grade, and in some cases, to a financial reward.

YEAR I (A.A. 2025/2026)					
First semester					
Type	**SSD**	**COURSE OF ACTIVITY**	**ECTS**		
			Lectures	Tutorials	Laboratory
A	MAT/05	Mathematics I	6		2
A/B	CHIM/03	General and Inorganic Chemistry Laboratory	3	1	2
A	CHIM/03	General and Inorganic Chemistry	8	1	
A	FIS/01	Physics 1	4	1	
D		Elective activities *			

Second semester					
Type	**SSD**	**COURSE OF ACTIVITY**	**ECTS**		
			Lectures	Tutorials	Laboratory
A	MAT/05	Mathematics II	5	1	
B	CHIM/01	Basic Analytical Chemistry with laboratory	6		2
A	FIS/01	Physics 2	4	1	
E		English language	3	1	
D		Elective activities *			

YEAR II (A.A. 2026/2027)					
First semester					
Type	**SSD**	**COURSE OF ACTIVITY**	**ECTS**		
			Lectures	Tutorials	Laboratory
B	CHIM/06	Organic Chemistry I	10		1
B	CHIM/01	Instrumental Analytical Chemistry	6	1	2
A/B	CHIM/02	Physical Chemistry I with laboratory	8		1
D		Elective activities *			

Second semester

Type	SSD	COURSE OF ACTIVITY	ECTS		
			Lectures	Tutorials	Laboratory
B	CHIM/03	Inorganic Chemistry I with laboratory	6		2
A/B	CHIM/02	Physical Chemistry II with laboratory	7		2
A	CHIM/06	Organic Chemistry II	8		2
D		Elective activities *			

YEAR III (A.A. 2027/2028)					
First semester					
Type	**SSD**	**COURSE OF ACTIVITY**	**ECTS**		
			Lectures	Tutorials	Laboratory
B/C	CHIM/01	Techniques of Chromatographic Analysis	7		2
B	CHIM/06	Structural Characterisation Methods in Organic Chemistry	4		2
B/C	CHIM/02	Physical Chemistry III with laboratory	9		2
D		Elective activities *			

Second semester					
Type	**SSD**	**COURSE OF ACTIVITY**	**ECTS**		
			Lectures	Tutorials	Laboratory
B/C	CHIM/03	Inorganic Chemistry II with laboratory	5		2
B	CHIM/04	Polymers Chemistry	4		4
B	BIO/10	Biochemistry	6		
F		Traineeship 6 ECTS			
E		Final examination 8 ECTS			

Types of educational activities: A = basic; B = characterising; C = related or complementary; D = elective activities; E = final examination and foreign language; F = other activities. Lectures (1 ECT = 8 hours of assisted activities); Tutorials (1 CFU = 8 hours of assisted activities); Laboratory exercises (1 CFU = 14 hours of assisted activities). Regarding the English Language Course, students must take an entrance test during the first semester. Those who pass the test will gain direct access to the advanced course, which will be held in the second semester. Students who do not pass the test are required to attend a basic course in the first semester and pass the corresponding exit test in order to access the advanced course. Credits will be awarded upon passing the final exam. Credits for the English Language course will be granted through an assessment of suitability.

* Elective Activities: Students may use a total of 12 ECTS credits. Exams whose content aligns with the course's educational objectives and pertain to official courses offered by the University will be fully recognised, provided the programmes are not repeated. The student's choice of educational activities must be approved by the Course Council.

At the beginning of each academic year, elective courses will be offered as part of the study programme.

In the AA 2025/2026 the following elective courses will be offered:

Type	SSD	COURSE OF ACTIVITY	ECTS		
		First semester	Lectures	Tutorials	Laboratory
D	CHIM/07	Safety in the chemical laboratory	4		
D	FIS/01	Complements of electromagnetism and optics	3		
D	MAT/05	Differential equations	2		
		Second semester			
D	CHIM/03	Didatics and history of chemistry	4		

The credits related to the traineeship (6 ECTS) will be awarded following a suitability assessment conducted through an interview, or, upon request, may be combined with those from the final examination.

Credits for each training activity will be earned by passing the corresponding exam. The assessment will be expressed on a scale of 30.
The total number of ECTS credits from lectures, exercises, and laboratory activities must be added to those from the traineeship and final examination to reach a total of 180 ECTS over the three-year period, including the 12 ECTS from elective activities.

Exams	1. Mathematics I (8 ECTS)	2. General and Inorganic Chemistry + General and Inorganic Chemistry Laboratory (9 ECTS + 6 ECTS = 15 ECTS)
3. Mathematics II (6 ECTS)	4. Physics 1 (5 ECTS)	5. Physics 2 (5 ECTS)
6. Organic Chemistry I (11 ECTS)	7. Basic Analytical Chemistry with laboratory (8 ECTS)	8. Inorganic Chemistry I with laboratory (8 ECTS)
9. Physical Chemistry I with laboratory (9 ECTS)	10. Instrumental Analytical Chemistry (9 ECTS)	11. Physical Chemistry II with laboratory (9 ECTS)
12. Organic Chemistry II (10 ECTS)	13. Techniques of Chromatographic Analysis (9 ECTS)	14. Structural Characterisation Methods in Organic Chemistry (6 ECTS)
15. Physical Chemistry III with laboratory (11 ECTS)	16. Inorganic chemistry II with laboratory (7 ECTS)	17. Polymers Chemistry (8 ECTS)
18. Biochemistry (6 ECTS)		

Prerequisites
The General and Inorganic Chemistry and General and Inorganic Chemistry Laboratory examinations are prerequisites for all other chemistry examinations.
The Organic Chemistry I examination is a prerequisite for both the Biochemistry examination and the Structural Characterisation Methods in Organic Chemistry examination.

The Mathematics I examination is a prerequisite for the Physical Chemistry I with Laboratory examination.
The Basic Analytical Chemistry with Laboratory examination is a prerequisite for the Instrumental Analytical Chemistry examination. The Instrumental Analytical Chemistry examination is a prerequisite for the Techniques of Chromatographic Analysis examination.
Furthermore, prerequisites between examinations within the same discipline that have progressive numbering must be respected.

Final Exam for the Degree
The final exam consists of the discussion of a paper related to an experimental activity worth 8 ECTS (14 ECTS if combined with the traineeship), carried out individually by the student in the last semester under the supervision of a lecturer appointed by the Course Council.