



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2024/25
MASTER DEGREE
Chemistry (Classe LM-54)
Students enrolled from the academic year 2009-2010

HEADING

Degree classification - Denomination and code:	LM-54 Chemistry
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 , 2nd
Access procedures:	Open, subject to entry requirements
Course code:	F5Y

PERSONS/ROLES

Head of Study Programme

Prof. Luigi Falciola

Degree Course website

<https://scienzechimiche.cdl.unimi.it/it>

Via Golgi, 19 - 20133 MILANO <http://www.chimica.unimi.it>

Via Celoria, 18 - 20133 MILANO Phone 0250325032 <https://www.unimi.it/it/node/360> <https://www.unimi.it/it/node/359/>

DSA and disability tutor

Mariangela Longhi Phone 02503 14226 <https://www.unimi.it/it/ugov/person/mariangela-longhi> Email: mariangela.longhi@unimi.it

Erasmus and international mobility tutor

Emma Gallo Phone 02503 14374 <https://www.unimi.it/it/ugov/person/emma-gallo> Email: emma.gallo@unimi.it

Internship and dissertation tutor

Paola Fermo Phone 02503 14246 <https://www.unimi.it/it/ugov/person/paola-fermo> Email: paola.fermo@unimi.it

Master's degree admission tutor

Pierluigi Mercandelli Phone 02503 14447 <https://www.unimi.it/it/ugov/person/pierluigi-mercandelli> Email: pierluigi.mercandelli@unimi.it

Office for Didactic, Department of Chemistry

Sig. Antonino Nucera, Via Golgi 19 - 20133 MILANO Phone 02 50314419 dalle ore 10 alle ore 12 dal lunedì al venerdì, in altri orari previo appuntamento <https://fb.me/chimicamilano> per contattare: <https://informastudenti.unimi.it/saw/ess?AUTH=SAML>

Referent of the Quality Management System (QA) of The Bachelor's degree

Fabio Ragaini Phone 02503 14373 <https://www.unimi.it/it/ugov/person/fabio-ragaini> Email: fabio.ragaini@unimi.it

Study plan, transfer and credit recognition tutor

Pierluigi Mercandelli Phone 02503 14447 <https://www.unimi.it/it/ugov/person/pierluigi-mercandelli> Email: pierluigi.mercandelli@unimi.it

Tutors for teaching support

Alberto Vertova (Tel. 02503 14232) e Vittoria Guglielmi (Tel. 02 50314426)

<https://chimica.unimi.it/it/dipartimento/organizzazione/commissioni-didattiche/tutoring> Email: tutoring.chimica@unimi.it

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The master's degree course in Chemical Sciences falls within the European reference standards for Chemical Sciences, aiming to provide specific skills with particular attention to chemical disciplines and their applications.

The graduate's training will aim to provide:

- complete autonomy in the workplace, which allows you to hold positions of high responsibility in the implementation of projects and structures;
- the ability to apply innovative methods and techniques and to use complex equipment;
- a good command in the spectroscopic and structural characterization of chemical compounds, including materials used in cultural heritage;
- the ability to use fluently, in written and oral form, at least one European Union language other than Italian;
- the ability to adapt to the continuous evolution of chemical disciplines and to interact with culturally related professionals.

The objective is to train chemists capable of:

- develop the skills and knowledge suitable for carrying out professional activities in the field of chemical research (even as a freelancer), personally managing activities such as the application of chemical procedures and protocols, the development and characterization of new products and materials, experimentation with new technologies;
- operate in the creative, organizational and operational phases of research in the chemical and chemical-pharmaceutical fields in public and private laboratories, European and non-European, present in universities, hospitals, research centers, local and state bodies, research and development companies ;
- participate in the theoretical and practical development of new technologies in the chemical field;
- manage with responsible tasks the organization of work in public and private analysis laboratories;
- operate both in industries and public institutions, in order to manage personnel and equipment, and to respond to research/development, quality control needs within the framework of legislative regulations or production processes;
- adequately transfer research results and acquired knowledge to end users.

The master's degree in Chemical Sciences also provides an adequate cultural and experimental basis for a possible continuation of advanced training in the research doctorate*.

*Euromaster®.

The degree course in Chemical Sciences of the University of Milan is among the first in Italy to have received the EuroMaster Label in September 2010. EuroMaster accreditation is assigned by a special commission designated by the European Thematic Association, which brings together European universities and chemical companies.

The EuroMaster Label qualifies the qualification provided by the master's degree in Chemical Sciences as a degree recognized by other European university institutions and gives the right of access to post-graduate chemical courses in Europe.

Expected learning outcomes

Graduates with a master's degree in Chemical Sciences have the ability and knowledge to carry out highly qualified professional activities in the field of business management and research laboratories in the chemical and chemical-pharmaceutical fields.

In addition to an in-depth knowledge of chemical science and technology and management tasks, he also possesses the rigor necessary to promptly apply the scientific method.

It is able to organize the research work, define the development themes and related programs, ensure the joint integration of the various research sectors, guarantee scientific updating as well as verify the results achieved and promote their development and their application and has the ability to adapt to the continuous evolution of chemical disciplines and to interact with culturally contiguous professionals.

Making judgments

Acquisition of conscious autonomy of judgment with reference to: interpretation of experimental data and possession of adequate tools to frame specific chemical knowledge in their relationships with other scientific and technical disciplines, planning and carrying out an experiment, planning its times and methods, and full autonomy of judgment in evaluating and quantifying the final result, responsibility and management of projects, structures and personnel, identification of new perspectives and innovative strategies for development, evaluation, interpretation and re-elaboration of literature data, professional ethics, ability to formulate an analytical problem and to propose ideas and solutions, even innovative ones, ability to find and evaluate sources of information, data, chemical literature.

Communication skills

Ability to comprehensively communicate the results of one's research and evaluations to interlocutors, including non-specialists in Chemical Sciences. Ability to interact with foreign partners, through the use of a European Union language, with particular reference to English. Development of relational skills, with particular reference to the ability to coordinate group activity, this ability will also be developed by encouraging interaction between the work programs of the master's student with groups of students on degree courses and doctoral students during the period of thesis.

Learning skills

Master's graduates have the ability to update their scientific and professional training also through continuous consultation of bibliographic sources and databases. Possesses the ability to work towards objectives independently and in a group, reacting positively to the problems encountered, has an aptitude for developing and continuously updating knowledge both in the chemical field (specialist texts, scientific journals and multimedia teaching tools also in foreign languages) and in the

scope of similar and integrative sectors (including legal and/or economic ones), necessary for the management of complex projects.

Professional profile and employment opportunities

The reference professional profiles are the following

Chemist

- Function in a work context -

This master's graduate conducts research, experiments and qualitative and quantitative analyzes on natural or synthetic substances, identifies their composition and chemical and energetic variations, identifies and applies investigation methods, formulates theories and laws based on observations; improves the synthesis of known substances and synthesizes new ones. Graduates with a master's degree in Chemical Sciences can practice the profession of chemist independently and independently

profession with registration in "Section A" of the Professional Register of Chemists (after passing the State Exam). It can carry out activities for the promotion and development of scientific and technological innovation, as well as the management and design of technologies and the exercise of functions of high responsibility in the sectors of industry, environment, healthcare, cultural heritage and public administration. .

- Skills associated with the function -

Graduates in Chemical Sciences have in-depth knowledge in chemical sciences and therefore in the sectors of synthesis and characterization of new products and new materials, health, nutrition and cosmetics. He is able to follow the synthesis and characterization of complex compounds, using innovative procedures and cutting-edge instrumentation. He knows how to evaluate the best methodology for solving analytical problems and determining structures

complex molecules, applying chromatographic, thermal, electrochemical and electrophoretic analysis techniques and the most advanced forms of spectroscopy such as magnetic resonance (NMR) and mass spectrometry (MS). He knows how to interpret and rationalize the scientific data obtained in an organic way.

- Employment opportunities -

Graduates with a master's degree in Chemical Sciences can access research bodies, public administrations, professional companies and national or international consultancy firms, companies, industries and laboratories for research, analysis, quality control and certification and work environments that require high qualification.

Quality Assurance Manager

- Function in a work context -

The Quality Assurance Manager is a particularly significant professional figure in the chemical-pharmaceutical industries as good manufacturing standards and good laboratory practices require the holder of an authorization to manufacture medicines to have a quality assurance system. The Quality Assurance Manager is the corporate figure called upon to coordinate the Services and Departments involved in manufacturing, to ensure that the quality assurance system is efficient, controlled and documented. He must ensure that inspections are carried out periodically and correctly to evaluate the effectiveness and applicability of the quality assurance system.

- Skills associated with the function -

This professional figure coordinates and collaborates with the infrastructures and services involved in production, from this it is clear that the skills necessary for the role are the ability to analyze and synthesize, coordinate and manage human resources, work in a group, as well as knowing how to move transversally in various business areas.

- Employment opportunities -

This professional figure finds employment opportunities in companies, chemical and chemical-pharmaceutical industries and analysis, quality control and certification laboratories and in all those working environments that require high qualification.

Head/director of chemical and pharmaceutical laboratories

- Function in a work context -

The Laboratory Manager/Director defines the development themes and research programs, in line with company strategies; of integrated and joint assistance in the research and production sectors. She assigns the necessary technical resources to the various projects, proposing investments in research and formulating budgets. This professional designs and synthesizes new products, mainly in the pharmaceutical sector, and deals with the certifications, storage and transport of these products. His tasks in particular are: setting up the research plan, carrying out the necessary tests and experiments, choosing methods, means and times; study of problems relating to the implementation of research projects.

- Skills associated with the function -

This graduate has high professional skills of a technical-scientific and specialist nature in the chemical and chemical-pharmaceutical fields. He knows how to carry out research projects within predefined times and costs and is able to process, interpret and evaluate the experimental results obtained. He also has design, planning, management and motivation skills for the work groups he manages. He also has the ability to analyze, summarize and manage financial resources.

- Employment opportunities -

This professional figure can access research bodies, industries and research and analysis laboratories, and work environments that require high qualification.

Informant and scientific communicator

- Function in a work context -

This graduate increases scientific knowledge in the subject, uses and transfers this knowledge in industry, medicine, pharmacology and other production sectors. He introduces operators in the industrial field to the characteristics and properties of his company's products. The function of the scientific informant and communicator is to propose the adoption of specific products, develop scientific information activities at interested companies to ensure correct use.

- Skills associated with the function -

The skills necessary for the Scientific Representative in carrying out his work consist not only of scientific knowledge, but also of commercial skills. In particular, he must have excellent knowledge of chemistry, pharmaceutical, cosmetic and food products and their correct use. Knowledge of technical English and IT, possession of a driving license, willingness to travel, ability to communicate and resourcefulness complete this professional profile.

- Employment opportunities -

The scientific representative works for cosmetic, pharmaceutical, food, plastic, dye, detergent, glue or environmental companies, in general for all companies in the chemical sector and/or for specialist magazines.

Initial knowledge required

Requirements and knowledge required for access

Candidates for the Master's degree program in Chemical Sciences must hold a Bachelor's degree in the L-27 Science and Chemical Technology class or the corresponding class according to DM 509/99, with full recognition of the required curriculum to undertake graduate studies. Graduates from other classes and those with foreign degrees, deemed eligible and demonstrating the necessary competencies for successful studies, may also apply.

Curricular requirements for admission to the Master's degree program in Chemical Sciences are those specified for graduates in the L-27 class. Specifically, the following are required:

==> At least 20 CFU (University Credits) in mathematical, computer science, and physical disciplines.

==> At least 70 CFU in scientific-disciplinary sectors within the areas characterizing the L27 class Table:

- Analytical and environmental chemical disciplines (CHIM/01 and CHIM/12)

- Physical and inorganic chemical disciplines (CHIM/02 and CHIM/03)

- Industrial and technological chemical disciplines (CHIM/04, CHIM/05, ING-IND/21, ING-IND/22, and ING-IND/25)

- Organic and biochemical chemical disciplines (CHIM/06, BIO/10, BIO/11, and BIO/12).

The possible presence of CFU in scientific-disciplinary sectors not included in the list will be evaluated by the Admission Committee.

Italian and foreign students with an academic qualification obtained in Italy must submit an application for admission online without delay by 25 August 2024, according to the methods indicated on the website <https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-enrolment/enrolment-masters-programme/open-admission-master-programmes> where it is also possible to find all the updated information on the admission procedure.

Non-EU visa applicants must submit their application for admission by 30 April 2024.

Applicants who plan to graduate by December 31, 2024, can also submit an admission application.

Verification of Knowledge and Personal Preparation

Admission requires meeting the aforementioned curricular requirements and having adequate personal preparation, assessed by a Committee of at least three professors from the CdS, appointed by the Didactic College of Chemical Science and Technology. The examination of the adequacy of candidates' preparation is selective even if the above-mentioned curricular requirements are met.

In particular, the verification of knowledge and personal preparation will be assessed through an interview with the Admission Committee, focusing on topics related to the fundamental courses of the Bachelor's degrees in the L-27 class. A negative outcome in the interview results in the exclusion from the Master's degree program for the current year. The interview will take place in June, July, September, and December and can be conducted even before obtaining the degree, subject to the possession of the specified curricular requirements.

Graduates who successfully pass the admission interview can enroll five working days after the interview date, within the specified terms available on the <https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-enrolment/enrolment-masters-programme/open-admission-master-programmes>

For non-EU students, who may encounter visa and/or residence permit issues, an interview will also be scheduled in May, possibly conducted remotely using a video conferencing platform. These students are strongly advised to take advantage of this opportunity to avoid potential delays in obtaining all the necessary documentation for enrollment.

Compulsory attendance

Attendance is mandatory for laboratory activities, and strongly recommended in all other cases.

Internship criteria

The thesis consists of a written dissertation on original chemical research carried out by the student, under the guidance of a

Supervisor and, possibly, a Co-supervisor and carried out in the research laboratory specified in the application for admission.

The duration of the thesis internship is at least one calendar year, including the frequency of the courses planned in the same year.

Degree theses are distinguished in:

- Internal Experimental Theses
- External Experimental Theses

Internal experimental theses are considered those carried out at the Department of Chemistry or the Departments connected to the Faculty of Science and Technology of the University of Milan.

As part of these internal theses, in agreement with the Thesis Supervisor, it will be possible to carry out internships at public or private institutions or companies, under the guidance of an external supervisor. The duration of the internship may correspond to a maximum of 20 ECTS, even in non-continuous periods. These internship periods must however be approved by the Teaching Board of the Department of Chemistry.

External experimental theses are considered those carried out at other university structures, at the University of Milan or at another University, at public bodies or at highly qualified public and private Research centers (nonprofit), equipped with adequate structures. On the admissibility of these Theses the Teaching Board of the Department of Chemistry expresses itself.

In this case, the student is required to apply for admission to the external thesis laboratory by attaching:

- motivation of the request for an external experimental thesis (a typewritten folder) signed by the student and countersigned by the speaker (he must meet the characteristics of Official Speaker indicated below);
- detailed search schedule (a typed folder);
- a statement from the head of the host Structure attesting to the readiness to host the graduate free of charge and to grant him, always free of charge, the use of scientific equipment.

Applications must be submitted well in advance to allow the approval of the CD of the month preceding the entry into the Thesis. In this regard, please consult the relevant regulations, downloadable from the CDs website, and the Thesis and Internship Commission.

Students in internships at external institutions or companies and students in external experimental thesis are required to report, on a fortnightly basis, to the speaker and to another competent teacher, appointed by the Thesis and Internship Committee after hearing the speaker, on the experience conducted outside the Department and on the activities carried out there.

It is possible to apply for admission to the Thesis internship from the end of the second semester of the first year of the course.

For entry into the Thesis internship it is necessary to have already obtained the recognition of the knowledge of the English language at level B2.

The entries in the thesis take place on the first day of the months of July, October, December and March. Applications for admission must be sent to the Didactic Office of the Department of Chemistry and, for knowledge and endorsement, to the speaker, within the first day of the month prior to the month of entry, for approval by the Didactic College.

The Supervisor of the Degree Thesis is the scientific guarantor towards the CD of the research assigned to the graduate and its correct conduct. The Rapporteur is unique. All Professors and Researchers, who carry out chemical teaching activities, belonging to the Didactic College or to the Department of Chemistry or to the Departments connected to the Faculty of Science and Technology, can be Speakers. The Rapporteur may be assisted by a maximum of two Co-Rapporteurs.

Detailed information can be found in the Thesis Regulations downloadable from the page " Stage and Internships " of the Magistrale: <https://scienzechimiche.cdl.unimi.it/en/study/stage-and-internship>

Degree programme final exams

To be admitted to the final exam, the student must have passed all the exams required by the study plan.

The final exam consists of the discussion of the degree thesis in front of a special Commission of the College Didactic. The Degree Thesis can be written in Italian or in a foreign language. In both cases, the preparation of a summary in English (maximum 5 typed pages) is required, to be delivered according to the deadlines indicated on the website <https://scienzechimiche.cdl.unimi.it/it/studiare/laurearsi>

GRADUATION EXAM SESSIONS

- July 2025
- October 2025
- December 2025
- February 2026
- April 2026

Notes

In order to obtain their degree, students must be proficient in English at a B2 level under the Common European Framework of Reference for Languages (CEFR). This proficiency level may be certified as follows:

- By submitting a language certificate attesting B2 or higher level in English and issued no more than three years before the date of submission. 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 during the enrolment procedure, or subsequently to the portal <http://studente.unimi.it/uploadCertificazioniLingue>;
- By taking a placement test offered by the University Language Centre (SLAM) between October and January of the first

year. Students who fail the test will be required to take a SLAM course.

The placement test is mandatory for all those who do not hold a valid certificate attesting to B2 or higher level.

Those who have not taken the placement test by the end of January or fail the end-of-course exam six times must obtain the necessary certification 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 organizations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

Study and internships abroad

As part of the study plan, students can participate in the projects of the Erasmus program activated for the Degree Programme.

In particular, under the Erasmus+ programme, students can choose from 20 associated European universities. At these locations, students can earn credits by following courses and passing the relevant exams, or through the performance of part of the experimental thesis. The acquisition of the credits is subject to the approval by the Didactic College of a specific study plan (the Learning Agreement) and the passing of exams at the foreign office.

Some courses of the Degree Programme are currently taught in English. In addition, available to students within the 12 CFU free choice, there are also the many courses of the Master in

Industrial Chemistry and other Master Degree Programmes delivered in English, in order to increase students' familiarity with the common language in the scientific world and to facilitate their mobility to European locations. In many of the Erasmus Partner Universities, in fact, Master's Degree programmes are provided exclusively in English.

Students can also participate in numerous seminar meetings with foreign teachers.

The degree program also includes integrated courses of study with the issuance of the double degree (<https://www.unimi.it/en/node/299/>)

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, 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 organizes 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; mobility.out@unimi.it

Student Desk booking through InformaStudenti

1st COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
English proficiency B2 (3 ECTS)	3	NN
Total compulsory credits	3	
Elective courses		
The student must choose 2 from the following courses		
Analytical Chemistry	9	CHIM/01
Inorganic chemistry A	9	CHIM/03
Inorganic Chemistry B	9	CHIM/03
Organic chemistry A	9	CHIM/06
Organic chemistry B	9	CHIM/06
Physical chemistry A	9	CHIM/02
Physical chemistry B	9	CHIM/02
Student must earn 12 CFU by selecting 2 of the following items following teachings related and integrative.		
(Bio)nanotechnology	6	FIS/03
Chemical Safety <i>subscripted by MD in Industrial Chemistry</i>	6	IUS/07
Chemometrics	6	(3) SECS-S/01, (3) CHIM/01
Mathematical methods applied to chemistry	6	MAT/09, MAT/01, MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08
Medicinal chemistry	6	CHIM/08
Patents and Management of Innovation	6	SECS-P/07
Programming C	6	INF/01
<p>The articulation of the courses in the semesters is described in the section "articulation of the courses".</p> <p>=====</p> <p>NOTA BENE: THE COURSES DENOMINATED IN ENGLISH ARE KEPT IN THIS LANGUAGE</p> <p>=====</p>		
2nd COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Thesis work and Final dissertation	39	NN
Total compulsory credits	39	
Elective courses		
<p>The student must earn 12 credits by choosing freely between all the teachings activated, offered by the University, provided they consistency with the educational project, even if they are held in Italian.</p> <p>However, it is strongly recommended to use distinctive or, as appropriate, elective or integrative courses of the Related and Integrative courses of of the Chemical Master's Degrees consistent with the educational project.</p>		
Further elective courses		
<p>TABLE 2</p> <p>In the first and second year, the student must choose from the following table, observing the indications given in the paragraph "structure of the course", courses for a total of 36 credits so that</p> <ul style="list-style-type: none"> - at least 6 credits belong to the chemical-analytical and environmental disciplines: CHIM/01 and CHIM/12 - at least 6 credits belong to the chemical-organic disciplines: CHIM/06 - at least 12 credits belong to the chemical-inorganic and chemical-physical disciplines: CHIM/03 and CHIM/02 		
Advanced electroanalytical chemistry	6	CHIM/01
Advanced methods in organic synthesis	6	CHIM/06
Advanced physics methods in organic chemistry	6	CHIM/06
Applied colloid and surface chemistry	6	CHIM/02
Bioinorganic Chemistry: enzyme systems and methods of investigation	6	CHIM/03
Bioorganic chemistry	6	CHIM/06
Catalysis: fundamentals and applications for the environment and the economy	6	CHIM/02
Catalytic Methodologies in organic synthesis	6	CHIM/06
Chemistry of heterocyclic compounds	6	CHIM/06
Chemistry of Natural Products	6	CHIM/06
Crystal Chemistry	6	CHIM/02
Databases and Cheminformatics Fundamentals	6	CHIM/06
Electrochemistry	6	CHIM/02
Environmental chemistry	6	CHIM/12
Environmental elettrochemistry <i>Course subscripted by the MD in Industrial Chemistry</i>	6	CHIM/02
Formulation science and technology	6	CHIM/02

<i>Course subscribed by the MD in Industrial Chemistry</i>		
Fundamentals of chemical education	6	CHIM/03
History of Chemistry and elements of didactics	6	CHIM/03
Homogeneous catalysis	6	CHIM/03
Methods in chemical biology	6	CHIM/06
Molecular spectroscopy	6	CHIM/02
Nanoparticles: Chemistry and Applications	6	CHIM/06
Organometallic chemistry	6	CHIM/03
Photochemistry	6	CHIM/02
Photoluminescence and magnetic resonance: applications in organometallic and inorganic chemistry	6	CHIM/01
Physical Chemistry of Materials	6	CHIM/02
Physical Chemistry of the solid state	6	CHIM/02
Quantum chemistry	6	CHIM/02
Simulation modeling of biomolecules	6	CHIM/02
Solid state chemistry	6	CHIM/03
Special synthesis techniques in organic chemistry	6	CHIM/06
Structural biology and enzymology	6	BIO/10
<i>Course borrowed from "Protein engineering and molecular enzymology" (MD in Molecular Biotechnology and Bioinformatics)</i>		
Structural chemistry	6	CHIM/03
Supramolecular chemistry	6	CHIM/03
Synthesis and applications of inorganic materials	6	CHIM/03
Technology-driven organic synthesis	6	CHIM/06
Theoretical chemistry	6	CHIM/02