



Università di Camerino
Scienze e Tecnologie

CHEMISTRY AND ADVANCED CHEMICAL METHODOLOGIES

Università di Camerino

MASTER OF SCIENCE DEGREE COURSE

II level

class LM-54

duration 2 years

credits 120

university location Camerino

School of Science and Technology
direttore.scienze@unicam.it

chemistry division
via S. Agostino 1 - Camerino

Responsible for degree course

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Delegates

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Student procedures

prof.ssa Silvia Zamponi (National)
dr. Corrado Bacchiocchi (International)

Course presentation

The Master of Science in Chemistry and Advanced Chemical Methodologies belongs to the Class LM-54 (Scienze Chimiche). It offers the possibility to enhance the chemistry knowledge, especially in the areas that characterize the chemical research in UNICAM. The course provides skills and fundamental knowledge in advanced and innovative chemistry areas, in order to offer an educational qualification competitive on the global labour market.

Admission requirements

You have to fulfill at least one of the following requirements:

- degree in Class L27 - Chemical Sciences (ex Ministerial Decree 270) or in Class 21 (ex Ministerial Decree 509/99) or a three-year university degree or another qualification obtained abroad and recognized as valid by the laws in force;
- or
- attainment of, at least, 24 credits of MAT-FIS-INF, 50 CFU of CHIM/01-12 and BIO/10 scientific areas with adequate credits of laboratory practices.

A commission will assess the skills necessary to enrol.

The audit will take into account the student's curriculum (integrated, where necessary, from the training program) and an eventual interview that can also be done in telematic mode.

More details are available in the guidelines of the degree course.

Professional fields

The master degree in Chemistry and Advanced Chemical Methodologies will prepare a professional able to work in labs, industries and public corporations at a manager level, in the following fields:

- public and private research facility;
- chemical industry and manufacturing;
- laboratories for analysis, monitoring and managing the environment and the waste cycle;
- energy production and energy storage industries;
- analytical chemistry laboratories for compliance testing and/or quality assurance;
- Private practice (register of chemists - sect. A).

Certifications

The Master of Science in Chemistry and Advanced Chemical Methodologies has the 'Chemistry Euromaster' certification, a label that assures an educational quality complying the European model.

Teaching Language and Conventions

The official language of the course is English.

Thanks to the international agreements with the Instituto Superior Tecnico in Lisbon (Portugal), the Universidad Nacional de Catamarca (Argentina) and Liaocheng University (China) students are allowed to achieve a double degree by spending half of the course time at the partner institution. The University of Camerino certifies the skills attained by the graduate releasing the Diploma Supplement.



Main lines of research/study

- Analytical and environmental chemistry.
- Inorganic and organic synthesis of molecules of pharmaceutical interest.
- Development of synthetic processes fulfilling the 'green Chemistry' requirements.
- Technological applications of polymers.
- Synthesis and test of advanced materials for the energy production and storage.
- Food chemistry and food analysis.
- Analytical methods development.

Organization

Courses will be held in the facilities of the School of Science and Technology - Chemistry Division.

Study plan

The degree program consists of four semesters and offers:

a **first year**, in which courses are devoted to acquire advanced knowledge of Analytical, Organic, Inorganic and Physical Chemistry, for a total of 58 credits:

Advanced Physical Chemistry	6
Advanced Organic Chemistry	6
Advanced Inorganic Chemistry	6
Advanced Analytical Chemistry	10
Physical Methods in Organic Chemistry	6
Physical Methods in Inorganic Chemistry	6
Environmental Chemistry and Laboratory	12
Organometallic Chemistry and Catalysis	6

a **second year** in which the students can differentiate the training according to their interests, based on the teaching program in the most advanced research areas of the Chemistry Division, for a total of 62 credits:

Industrial and Advanced Synthesis of Biologically Active Compounds	6
Technologies for Waste Management	6
Optional activities	10
Chemistry Project and thesis	40
Optional Activities:	
Biomonitoring	5
Laboratory of Applied Analytical Chemistry	5
Organic Stereochemistry	5
Green Chemistry	5
Supramolecular Chemistry	5
Forensic Chemistry	5

Other courses offered by the School of Science and Technology or from other Schools of the University

The last semester is devoted to the preparation of the thesis project that can be done within the UNICAM research laboratories or in affiliated companies and organizations.

Example of proposed topics:

- chemiluminescent materials,
- radiopharmaceuticals,
- organic and inorganic catalysts,
- biologically active molecules,
- green chemistry,
- production and electrochemical storage of energy,
- nanomaterials and advanced materials,
- methods for the analytical determination of environmental and food contaminants,
- applications of natural pigments ... and more.

After the Master of Science Degree

Labour statistics

The nineteenth employment survey carried out by Alma Laurea in 2016 shows that the employment rate of graduates of the LM54 Class of UNICAM, one year after graduation, is 88.2%; the comparable national figure is 80.6%.

The University of Camerino enabled several agreements and conventions with many institutions, universities and companies both in Italy and abroad to facilitate the mobility of students and their interaction with the world of work.

INFORMATION FOR ADMISSIONS, COURSES AND OTHER SERVICES

at www.unicam.it/international

Didactic Manager

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