



University of Camerino

Master of Science Degree Course in

Chemistry and Advanced Chemical Methodologies

MASTER SCIENCE DEGREE II level **class** LM-54 **duration** 2 years **credits** 120 **university location** Camerino

SCHOOL OF SCIENCE AND TECHNOLOGY Director **prof. Marino Petrini** direttore.scienze@unicam.it
chemistry division via S. Agostino 1 - Camerino

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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

A degree of class L27 or another three years university degree or any other qualification obtained abroad recognized as valid under applicable Italian law is required to be admitted. The candidate, in any case, must have attained at least 20 credits in mathematics, physics and computer science and at least 30 credits in chemical disciplines. A commission will assess the skills necessary to enrol, for those who do not meet these requirements. 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 been certified with 'Chemistry Euromaster' 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 Chemistry, 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	12
Organometallic Chemistry and Homogenous 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

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 seventeenth employment survey carried out by Alma Laurea in 2014, shows that 87.5% of the graduates of the Class LM-54 of UNICAM, one year after graduation, are working or studying; the comparable national figure is 78.1%. The 100% of respondents claimed to do a job that requires the skills acquired with graduation.

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.

DELEGATES

Stage and Placement

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Tutoring

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Student procedures

prof. Silvia Zamponi (Domestic)
prof. Corrado Bacchicchi (International)

ENROLLMENT

Registration is online at
www.unicam.it/reginfo
from July 15 to November 5

Student Guide is online:
http://www.unicam.it/studenti/guida_studente.asp

INFORMATION FOR ADMISSIONS, COURSES AND OTHER SERVICES

at www.unicam.it/international