Facoltà di Scienze e Tecnologie

Dipartimento di Chimica

UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2015/16
BACHELOR
Chemistry (Classe L-27)
Enrolled by the academic year 2011-2012

HEADING

Degree classification - Denomination and code:	L-27 Chemistry
Degree title:	Dottore
Length of course:	3 years
Total number of credits required to complete programme:	180
Years of course currently available:	1st , 2nd , 3rd
Access procedures:	Cap on student, student selection based on entrance test
Course code:	F5X

PERSONS/ROLES

Head of Study Programme

Prof.ssa Laura Maria Raimondi

Degree Course Coordinator

Prof. Daniele Passarella

Tutors - Faculty

Prof.ri Maurizio Benaglia e Maurizio Sironi, dott.ri Giuseppe Cappelletti e Daniela Maggioni

Degree Course website

http://www.ccdchim.unimi.it

Via Golgi, 19 - 20133 MILANO Phone 02 50314419 dal lunedì al venerdì ore 10.00-12.00, in altri orari su appuntamento

http://users.unimi.it/chimp Email: didattica.dipchi@unimi.it, skype: segreteriachimica

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

Via Celoria, 22 - 20133 MILANO lunedì - mercoledì - venerdì dalle 9 alle 12 e martedì - giovedì dalle 13.30 alle 15.30

http://www.unimi.it/studenti/segreterie/773.htm http://www.unimi.infostudente.it

http://www.unimi.it/studenti/matricole/77598.htm

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

General aims and objectives of the course are the followings:

- To develop in our graduates the qualities needed to become the next generation of high quality chemists operating in chemical research, chemical industry and in the teaching of chemistry
- To make our students realize that chemistry is a fundamental discipline, central to the development of a modern and concerned society
- To provide intellectual stimuli and practical skills for highly determined graduates willing to play leading roles and undertake brilliant careers in the society

In particular, graduates in Chemistry are expected to gain the following skills:

- The basic knowledge in mathematic and physics to deal with chemical principles and concepts on a scientific basis.
- The ability to understand and rationalize a wide range of chemical phenomena both at the theoretical and at the practical level.
- The ability to understand the relationships between chemistry and other scientific disciplines.
- The creativity to develop new ideas, new solutions to chemistry-related problems, and foresee innovative fields of application for chemistry.
- The open-mind necessary to collaborate with scientists of culturally-related disciplines

Professional profile and employment opportunities

The students with the degree in Chemistry would be entitled to work in public and private-owned laboratories as highly qualified technicians. They could operate as assistants of more specialized personnel in the synthesis and characterization of new products and/or new materials, collaborate in the development of novel technologies, elaborate reports, handle and present chemical information. They could find positions in chemical industry, especially in pharmaceutical and fine chemicals companies, but also in the agrochemical, cosmetic and food chemistry.

They can also apply for Master programmes, preferentially in Chemical Sciences. On average, more than 70% of our students do so, after receiving the degree in Chemistry.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports the international mobility of its students, offering them the opportunity to spend periods of study and training abroad, a unique opportunity to enrich their curriculum in an international context.

How to participate in Erasmus mobility programs

To gain access to mobility programs for study purposes, lasting 3-12 months, the enrolled students of the University of Milan must attend a public selection that starts usually around the month of February each year through the presentation of specific competition announcements, which contain information on available destinations, respective duration of the mobility, requirements and deadlines for submitting the online application.

The selection, aimed at evaluating the proposed study abroad program of the candidate, knowledge of a foreign language, especially when this is a preferential requirement, and the motivations behind the request, is performed by specially constituted commissions.

Each year, before the expiry of the competition announcements, the University organises information sessions for the specific study course or groups of study courses, in order to illustrate to students the opportunities and participation rules.

To finance stays abroad under the Erasmus + program, the European Union assigns to the selected students a scholarship that - while not covering the full cost of living abroad - is a useful contribution for additional costs as travel costs or greater cost of living in the country of destination.

The monthly amount of the communitarian scholarship is established annually at national level; additional contributions may be provided to students with disabilities.

In order to enable students in economic disadvantaged conditions to participate in Erasmus+ program, the University of Milan assigns further additional contributions; amount of this contributions and criteria for assigning them are established from year to year.

The University of Milan promotes the linguistic preparation of students selected for mobility programs, organising every year intensive courses in the following languages: English, French, German and Spanish.

The University in order to facilitate the organisation of the stay abroad and to guide students in choosing their destination offers a specific support service.

More information in Italian are available on www.unimi.it > Studenti > Studiare all¿estero > Erasmus+

For assistance please contact:
Ufficio Accordi e relazioni internazionali
via Festa del Perdono 7 (ground floor)
Tel. 02 503 13501-12589-13495-13502
Fax 02 503 13503
E-mail: mobility.out@unimi.it
Desk opening hour: Monday-friday 9 - 12

1st COURSE YEAR Core/compulsory courses/activities common

Distribution	Learning activity	Teaching units/modules	Ects	Sector
annuale	Fisica generale		9	FIS/08, FIS/07, FIS/06, FIS/05, FIS/04, FIS/03, FIS/02, FIS/01
1 semestre	Prova di lingua inglese		3	L-LIN/12

1 semestre	Istituzioni di matematica		9	MAT/09, MAT/01, MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08
1 semestre	Chimica generale e inorganica/Laboratorio di chimica generale e inorganica (tot. credits: 12)	Module: general and inorganic chemistry	6	CHIM/03
		Module: Laboratory of general and inorganic chemistry	6	CHIM/03
2 semestre	Chimica analitica I/Laboratorio di chimica analitica I (tot. credits: 12)	Analytical chemistry I	6	CHIM/01
		Laboratory of analytical chemistry I	6	CHIM/01
2 semestre	Complementi di matematica e calcolo numerico		6	MAT/09, MAT/01, MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08
2 semestre	Chimica organica I		7	CHIM/06
		Total compulsory credits	58	

2nd COURSE YEAR Core/compulsory courses/activities common

Distribution	Learning activity	Teaching units/modules	Ects	Sector
annuale	Chimica inorganica		8	CHIM/03
annuale	Chimica organica II		7	CHIM/06
annuale	Laboratorio di chimica organica (tot. credits: 10)	Unit: Laboratory of organic chemistry 1	5	CHIM/06
		Unit: Laboratory of organic chemistry 2	5	CHIM/06
1 semestre	Chimica biologica		6	BIO/10
1 semestre	Chimica fisica I		6	CHIM/02
1 semestre	Laboratorio di chimica fisica I		6	CHIM/02
2 semestre	Chimica analitica II/Laboratorio di chimica analitica II (tot. credits: 12)	Analytical chemistry II	6	CHIM/01
		Laboratory of analytical chemistry II	6	CHIM/01
		Total compulsory credits	55	

Activites chosen by the student

2 semestre	Chimica dei composti eterociclici		6	CHIM/06
2 semestre	Introduzione alle nanotecnologie		6	CHIM/03, CHIM/06
2 semestre	Metodi di indagine strutturale di materiali inorganici		6	CHIM/03
2 semestre	Modellistica molecolare		6	CHIM/02
2 semestre	Metodi chimico-fisici d'indagine applicati a sistemi molecolari e nanostrutturati		6	CHIM/02
2 semestre	Chimica supramolecolare		6	CHIM/03, CHIM/06

3rd COURSE YEAR Core/compulsory courses/activities common

Distribution	Learning activity	Teaching units/modules	Ects	Sector
1 semestre	Chimica dei composti di coordinazione con laboratorio		10	CHIM/03
1 semestre	Applicazioni di chimica analitica strumentale		6	CHIM/01
1 semestre	Chimica fisica II/Laboratorio di chimica fisica II (tot. credits: 12)	Module: Physical chemistry II	6	CHIM/02
		Module: Laboratory of physical chemistry II	6	CHIM/02
2 semestre	Approfondimenti di chimica organica		6	CHIM/06
2 semestre	Chimica fisica III		6	CHIM/02
2 semestre	Tirocinio		12	
		Total compulsory credits	52	

Activites chosen by the student

1 semestre	Chimica delle sostanze organiche naturali		6	CHIM/06
1 semestre	Chimica ambientale		6	CHIM/12
1 semestre	Chimica quantistica		6	CHIM/02
1 semestre	Sintesi e tecniche speciali organiche		6	CHIM/06

Final learning activities

	Prova finale		3	
		Total compulsory credits	3	