



**UNIVERSITA' DEGLI STUDI DI MILANO**  
**PROGRAMME DESCRIPTION - ACADEMIC YEAR 2018/19**  
**MASTER DEGREE**  
**Pharmaceutical Biotechnology (Classe LM-9)**  
**enrolled from 2014/15 academic year**

### **HEADING**

<b>Degree classification - Denomination and code:</b>	LM-9 Pharmaceutical, veterinary and medical biotechnologies
<b>Degree title:</b>	Dottore Magistrale
<b>Curricula currently available:</b>	Biotechnologies in drug's research and development / Development and production of biotechnological drugs
<b>Length of course:</b>	2 years
<b>Credits required for admission:</b>	180
<b>Total number of credits required to complete programme:</b>	120
<b>Years of course currently available:</b>	1st , 2nd
<b>Access procedures:</b>	Open, subject to completion of self-assessment test prior to enrolment
<b>Course code:</b>	E51

### **PERSONS/ROLES**

#### **Head of Interdepartmental Study Programme**

Prof.ssa Laura Calabresi

#### **Tutors - Faculty**

Per l'area biologica: prof.ssa Laura Calabresi [laura.calabresi@unimi.it](mailto:laura.calabresi@unimi.it), prof.ssa Elisabetta Gianazza [elisabetta.gianazza@unimi.it](mailto:elisabetta.gianazza@unimi.it).

Per l'area chimica: dott.ssa Lucia Tamborini [lucia.tamborini@unimi.it](mailto:lucia.tamborini@unimi.it).

#### **Degree Course website**

<http://www.farmacia.unimi.it>

<http://www.unimi.it/studenti/matricole/77648.htm>

### **CHARACTERISTICS OF DEGREE PROGRAMME**

#### **General and specific learning objectives**

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#### **Expected learning outcomes**

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#### **Professional profile and employment opportunities**

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#### **Notes**

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### **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.

#### **Study and internships abroad**

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#### **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](http://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](mailto:mobility.out@unimi.it)

Desk opening hour: Monday-friday 9 - 12

<b>1st COURSE YEAR Core/compulsory courses/activities common to all curricula</b>		
<b>Learning activity</b>	<b>Ects</b>	<b>Sector</b>
Biology of development and differentiation	6	BIO/13
Biotechnology in Pharmacology	8	BIO/14
Metabolic and Functional Biochemistry	6	BIO/10
MOLECULAR VIROLOGY AND INFECTIOUS DISEASES	6	(6) BIO/19, (6) MED/07
Pathophysiology	6	MED/04
Physiology of Integrated systems	6	BIO/09
Purification and formulation of biotechnological drug products	8	(8) CHIM/09, (8) CHIM/08
Total compulsory credits		46
<b>Further elective courses common to all curricula</b>		
Experimental laboratory of Biotechnology	9	ND
<b>End of course requirements common to all curricula</b>		
FINAL EXAM	21	ND
Lab training	10	ND
Total compulsory credits		31

## ACTIVE CURRICULA LIST

Biotechnologies in drug's research and development Course years currently available: 1st , 2nd

Development and production of biotechnological drugs Course years currently available: 1st , 2nd

## Procedure for choosing a curriculum

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**1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Biotechnologies in drug's research and development**

Learning activity	Ects	Sector
Molecular basis of hormone and drug action	8	(8) MED/13, (8) BIO/14
Structural Bioinformatics and Molecular Modeling	10	(10) BIO/10, (10) CHIM/06, (10) CHIM/08
Total compulsory credits		18

**2nd COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Biotechnologies in drug's research and development**

Learning activity	Ects	Sector
Advanced course in Biotechnology and Pharmacology	7	BIO/14
Innovative biotechnological drugs	9	(3) CHIM/06, (6) BIO/14, (6) CHIM/08
Total compulsory credits		16

**CURRICULUM: [E51-D] Development and production of biotechnological drugs**

**1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Development and production of biotechnological drugs**

Learning activity	Ects	Sector
Clinical Pharmacology and Biochemistry	9	(9) MED/03, (9) BIO/14, (9) BIO/12
Preparation and development of drugs with biotechnological methods	9	(9) CHIM/11, (9) CHIM/08
Total compulsory credits		18

**2nd COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Development and production of biotechnological drugs**

Learning activity	Ects	Sector
Manufacturing of biotechnological drug products	7	CHIM/09
Quality control and analysis for biopharmaceuticals	9	(6) BIO/14, (3) CHIM/06, (6) CHIM/08
Total compulsory credits		16

**COURSE PROGRESSION REQUIREMENTS**

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