



**UNIVERSITA' DEGLI STUDI DI MILANO**  
**PROGRAMME DESCRIPTION - ACADEMIC YEAR 2018/19**  
**MASTER DEGREE**  
**Computer Science (Classe LM-18)**  
**enrolled from 2014/2015 academic year**

### **HEADING**

<b>Degree classification - Denomination and code:</b>	LM-18 Computer science
<b>Degree title:</b>	Dottore Magistrale
<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>	F94

### **PERSONS/ROLES**

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

Prof. Alessandro Rizzi

#### **Degree Course Coordinator**

Prof. Giuseppe Boccignone

#### **Tutors - Faculty**

Carlo Bellettini, Stefano Aguzzoli, Giuliano Grossi, Roberto Cordone, Mattia Monga, Beatrice Santa Palano, Roberto Cordone, Laura Anna Ripamonti.

#### **Degree Course website**

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

<http://www.unimi.it/studenti/matricole/77516.htm>

### **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**

The education program can be enriched by educational activities abroad both to deepen some topics and as socialization experience in international environments. Within the Erasmus+ program study periods can be taken in over 50 universities in Spain, Portugal, France, Belgium, Switzerland, Germany, Finland, Norway, Sweden, Latvia, Poland, Hungary, Czech Republic, Slovenia, Greece, Romania, Turkey. Courses will be recognized in the personalized study plan. These periods abroad are typically 5-month long and include courses for about 30 CFU, in the area of information and communication technology and related applications. Recognition of these educational activities will be based on the Learning Agreement, to be defined in advance by the student and the Erasmus coordinator at the Computer Science Department before starting the period abroad: course in the learning agreement with passed exams will replace the educational activities of the study plan ("manifesto"), either by covering the same topics or complementing the acquired basic competences. The Erasmus Committee at the Computer Science Department will perform the recognition of CFU obtained abroad and the definition of the personalized study plan. Similarly, stages to prepare the final dissertation are allowed in the same foreign universities. Recognition will be performed by the Department Erasmus Committee.

#### **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</b>		
<b>Learning activity</b>	<b>Ects</b>	<b>Sector</b>
ENGLISH LANGUAGE 2	3	L-LIN/12
Total compulsory credits	3	
<b>Further elective courses</b>		
ADVANCED COMPUTER PROGRAMMING	6	INF/01
ADVANCED PROGRAMMING	6	INF/01
DISTRIBUTED AND PERVASIVE SYSTEMS	6	INF/01
INFORMATION MANAGEMENT	6	INF/01
INTELLIGENT SYSTEMS	6	INF/01
INTELLIGENT SYSTEMS	6	INF/01
MULTIMEDIA ARCHITECTURES	6	INF/01
NATURAL INTERACTION	6	INF/01
SOFTWARE DEVELOPMENT IN COMPLEX TEAMS	6	INF/01
STATISTICAL METHODS FOR MACHINE LEARNING	6	INF/01
THEORETICAL COMPUTER SCIENCE	6	INF/01
WIRELESS AND MOBILE NETWORKS	6	INF/01
3D VIDEO GAMES	6	INF/01
ADVANCED DATA MODELS AND DBMSs	6	INF/01
ADVANCED PROGRAMMING	6	INF/01
ADVANCED PROGRAMMING TECHNIQUES	6	INF/01
ALGORITHMS AND COMPLEXITY	6	INF/01
ARTIFICIAL INTELLIGENCE FOR VIDEO GAMES	6	INF/01
ARTIFICIAL VISION	6	INF/01
AUDIO PATTERN RECOGNITION	6	INF/01
BIG SCALE ANALYTICS	6	INF/01
BUSINESS PROCESS ENGINEERING	6	INF/01
COMMUNICATION PROTOCOLS FOR MOBILE, AD HOC, AND WIRELESS SENSORS NETWORKS	6	INF/01
DEVELOPMENT OF APPLICATIONS FOR MOBILE DEVICES	6	INF/01
DISTRIBUTED AND PERVASIVE SYSTEMS	6	INF/01
FORMAL LANGUAGE THEORY	6	INF/01
GAME AND LEVEL DESIGN	6	INF/01
HEURISTIC ALGORITHMS	6	INF/01
INFORMATION MANAGEMENT	6	INF/01
INTELLIGENT SYSTEMS	6	INF/01
INTELLIGENT SYSTEMS	6	INF/01
INTELLIGENT SYSTEMS FOR INDUSTRY, SUPPLY CHAIN AND ENVIRONMENT	6	INF/01

METHODS FOR IMAGE PROCESSING	6	INF/01
MIDI PROGRAMMING	6	INF/01
MULTIMEDIA ARCHITECTURES	6	INF/01
NATURAL INTERACTION	6	INF/01
ONLINE GAME DESIGN	6	INF/01
PRIVACY AND DATA PROTECTION	6	INF/01
PROBABILISTIC METHODS FOR INFORMATICS	6	INF/01
PROGRAMMING FOR MUSIC	6	INF/01
REAL-TIME GRAPHICS PROGRAMMING	6	INF/01
RISK ANALYSIS AND MANAGEMENT	6	INF/01
SECURITY	6	INF/01
SENSOR SYSTEM DESIGN	6	INF/01
SERVICE-ORIENTED ARCHITECTURE SECURITY	6	INF/01
Simulazione	6	INF/01
SOFTWARE DEVELOPMENT IN COMPLEX TEAMS	6	INF/01
STATISTICAL METHODS FOR MACHINE LEARNING	6	INF/01
SYSTEM MODELING AND ANALYSIS	6	INF/01
THEORETICAL COMPUTER SCIENCE	6	INF/01
VIRTUAL REALITY	6	INF/01
WEB ALGORITHMS	6	INF/01
WIRELESS AND MOBILE NETWORKS	6	INF/01
BIOINFORMATICS	6	INF/01
Biomedical and industrial signal processing	6	ING-INF/06
COMBINATORIAL OPTIMIZATION	6	MAT/09
COMPUTATIONAL GEOMETRY	6	MAT/03
COMPUTATIONAL MODELS FOR AFFECTIVE AND BEHAVIORAL COMPUTING	6	ING-INF/05
COMPUTING EDUCATION	6	INF/01
DIGITAL CITIZENSHIP AND CIVIC ACTIVISM	6	INF/01
DSP PROGRAMMING AND ARCHITECTURES	6	INF/01
FORMAL METHODS	6	INF/01
GEOSPATIAL DATA MANAGEMENT	6	ING-INF/05
GPU COMPUTING	6	INF/01
GRAPH THEORY	12	INF/01
INFORMATION RETRIEVAL	6	INF/01
LOGISTICS	6	MAT/09
MATHEMATICAL LOGIC	6	MAT/01
MATHEMATICAL LOGIC	6	MAT/01
METHODS AND MODELS FOR DECISIONS	6	MAT/09
MULTIMEDIA TECH ORGANIZATION AND DIGITALIZATION	6	INF/01
NUMERICAL ANALYSIS	6	MAT/08
OPERATIONAL RESEARCH COMPLEMENTS	6	MAT/09
SOUND IN INTERACTION	6	INF/01
<b>End of course requirements</b>		
FINAL EXAM	39	NA
	Total compulsory credits	39