UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2019/20
MASTER DEGREE
Informatics Security (Classe LM-66)
Enrolled from 18/19 academic year

HEADING

Degree classification - Denomination and code:	LM-66 Computer science security
Degree title:	Dottore Magistrale
Curricula currently available:	Methods for information technology security / Safe systems
Length of course:	2 years
Credits required for admission:	180
Total number of credits required to complete programme:	120
Years of course currently available:	1st , 2nd
Access procedures:	Open, subject to entry requirements
Course code:	F2Y

PERSONS/ROLES

Head of Study Programme
Prof. Giovanni Pighizzini

Degree Course Coordinator
Prof.sa Sabrina de Capitani di Vimercati

Tutors - Faculty
Valentina Ciriani, Fabio Scotti.

Degree Course website
https://sicurezzainformatica.cdl.unimi.it/

http://www.unimi.it/studenti/matricole/77569.htm

via Celoria 18, Milano   Phone 02503 16250/252   https://sicurezzainformatica.cdl.unimi.it/   Email: segreteria.didattica@di.unimi.it

via Celoria 18, Milano   http://www.di.unimi.it/ecm/home/organizzazione/organi-di-governo/altre-commissioni/content/piani-di-studio.0000.UNIMIDIR
Email: piani.studio@di.unimi.it

199 188 128

via Celoria 18, Milano   https://www.unimi.it/it/studiare/servizi-gli-studenti/segreterie-infostudenti/sedi-e-orari-segreterie-studenti
https://www.unimi.it/it/studiare/servizi-gli-studenti/segreterie-infostudenti

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives
The masterly degree in Informatics Security aims at supplying the advanced knowledge required for professionals who will carry on research, design, implementation, verification, coordination and management of ICT systems where security and protection of the systems themselves as well as of the information they handle are crucial issues.

The masterly graduated in Informatics Security will also have the skills necessary to handle the innovation in the ICT field: to this purpose, she/he will have high-level scientific and technical competencies, methodological and operating capabilities, critical and open perspective view regarding adoption and usage of secure ICT technologies.

The masterly degree in Informatics Security foresees a graduation thesis, to be developed inside the University as well as in a private or public company and to be discussed as the final examination. The thesis is a written relation (English or Italian) structured as a scientific publication, prepared with the help of a supervisor and describing an original scientific experience in the field of ICT security.

The degree has been designed to be proficiently followed both by people already acquainted with ICT security issues (to whom it will provide deeper insight into ICT sciences and technologies useful for security critical application) and by people coming from scientific degrees where computer security has never been specifically addressed (to whom it will supply t required competencies starting from basic aspects of ICT security). In both cases, however, training is structured around a large common basis, preserving the uniqueness of the overall degree and guaranteeing homogeneity and cultural coherence of the graduated people.

The training foresees lectures, practical exercises, laboratory courses and ICT learning support tools.

Professional profile and employment opportunities

Competencies acquired by people who obtained the masterly degree in Informatics Security are typical of high responsibility job positions in all projects requiring consultancy, analysis, design, management, marketing of medium-large information systems.

These job positions will be available in all kinds of private and public companies using ICT technologies and requiring particular attention to security and privacy issues.

More in detail, referring to the ISTAT 2008 Professional Classification scheme, the masterly degree in Informatics Security will prepare:

2114 Informatics and Telecommunication specialists

21141 Basic ICT research specialists

21142 System and application software analysts and designers.

21143 System analysts

21144 ICT security experts

21145 Computer network specialists

26200 Mathematical and computer sciences researchers

Notes

In order to get their degree, students are required to certify their knowledge of the English language at the B2 level. This level can be certified in one of the following ways:

- by submitting their language certificate, taken no more than 3 years before its submittal and attesting a B2 or higher level (for the list of the language certificates which are accepted by the University of Milan, please refer to the website: http://www.unimi.it/studenti/100312.htm).

Students can submit their language certificate during the immatriculation procedure or send it to the Language Centre of the University of Milan (SLAM) via the Infostudente service.

- by sitting the placement test run by SLAM, during the first year exclusively, from September to February of the following year. Should they not pass the Placement Test, students will have to attend the English language course organized by SLAM. All students who do not have a valid language certificate must sit the Placement Test. Those students who do not sit the Placement test by February or do not pass the end of course test in one of the 6 attempts granted will have to get a language certificate outside the University of Milan within their degree.

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 Belgium, Finland, France, Germany, Greece, Lithuania, Norway, Netherlands, Poland, Portugal, Czech Republic, Romania, Spain, Switzerland, Hungary. 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 > 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 to all curricula

Learning activity		Ects	Sector
COMPLEMENTS OF SECURITY AND PRIVACY		6	INF/01
English proficiency B2 (3 ECTS)		3	L-LIN/12
PRIVACY AND DATA PROTECTION		6	INF/01
RISK ANALYSIS AND MANAGEMENT		6	INF/01
SERVICE-ORIENTED ARCHITECTURE SECURITY		6	INF/01
SYSTEM MODELING AND ANALYSIS		6	INF/01
	Total compulsory credits	33	

2nd COURSE YEAR Core/compulsory courses/activities common to all curricula

Learning activity		Ects	Sector
ORGANIZATION		6	SECS-P/10
PROCESSING OF SENSITIVE DATA		6	IUS/01
	Total compulsory credits	12	

Further elective courses common to all curricula

Free choice courses.
Students will have to achieve 12 free cfu among the courses of the previous tables, among the following courses activated by the Department, or among all the courses activated by the university.
Students can request the recognition of credits for training activities at external institutions, presenting a certification. Each certification can give rise to a maximum of 3 credits, and up to 2 certifications can be recognized. The students who intend to request the recognition of the certifications must complete the "application" form available on the page http://www.unimi.it/studenti/segreterie/963.htm and send ver to the secretary of his / her degree together with a copy of the certifications achieved.
The evaluation will be carried out by a special commission based on the following parameters:
- Validity: the certification must have been obtained for a maximum of 5 years.
- Specificity: the object of the certification must be those referable to those required by the degree course in which the student is regularly enrolled.
- Specialization: the certification must concern specialized and / or professional skills.
- Level: the certification must attest to skills of a medium or advanced level. Basic and entry level certifications are excluded.

The above requests can only be submitted by students who have not already obtained these awards during the three-year course.

End of course requirements common to all curricula

FINAL EXAM		39	NA
	Total compulsory credits	39	

ACTIVE CURRICULA LIST

Methods for information technology security Course years currently available: 1st , 2nd
Safe systems Course years currently available: 1st , 2nd

CURRICULUM: [F2Y-A] Methods for information technology security

1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Methods for information technology security

Learning activity		Ects	Sector
ADVANCED BIOMETRICS		6	INF/01
INFORMATION SYSTEM SECURITY MANAGEMENT		6	ING-IND/35
LOGIC		6	INF/01
	Total compulsory credits	18	

Further elective courses Curriculum-specific features Methods for information technology security

Students must choose 6 credits from the following courses:

ADVANCED COMPUTER PROGRAMMING		6	INF/01
ARTIFICIAL INTELLIGENCE		6	INF/01
DEPENDABILITY		6	ING-INF/07
INFORMATION MANAGEMENT		6	INF/01

CURRICULUM: [F2Y-B] Safe systems

1st COURSE YEAR Core/compulsory courses/activities Curriculum-specific features Safe systems

Learning activity		Ects	Sector
BIOMETRIC SYSTEMS		6	INF/01
COMPUTER FORENSICS		6	ING-INF/05
CRYPTOGRAPHY		6	INF/01
NETWORK SECURITY		6	INF/01
	Total compulsory credits	24	