



**UNIVERSITÀ DEGLI STUDI
DELL'INSUBRIA**

**DIPARTIMENTO
DI SCIENZE TEORICHE E
APPLICATE**

**DESCRIPTION OF THE CURRICULUM
(TEACHING REGULATIONS OF THE COURSE)**

**MASTER'S DEGREE COURSE IN
COMPUTER SCIENCE**

a.y. 2022/2023



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Chiaramente Insubria!

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I. GENERAL INFORMATION

NAME OF THE DEGREE COURSE (DC)	Computer Science
CLASS	LM-18 – Computer Science
TYPE	2-year master's degree course
COURSE LOCATION	Varese
COURSE WEBSITE	For information on the learning objectives of the DC, occupational opportunities, access requirements, admission procedures, expected educational results, curriculum / study plan, final exam, you may refer to the Annual Program Report (DC-APR), published on the course website at: www.uninsubria.eu/master-computer-science
DEPARTMENT	Scienze teoriche e applicate - DiSTA (Theoretical and Applied Sciences – DiSTA)
DEGREE COURSE COORDINATOR	Prof. Davide Tosi
ACADEMIC OFFICE OF THE DEGREE COURSE	Servizio di Ascolto Manager Didattici per la Qualità - DiSTA (in Italian)
LESSONS TIMETABLE	<ul style="list-style-type: none">• 19/09/2022 - 22/12/2022 1st semester• 20/02/2023 - 01/06/2023 2nd semester• 09/01/2023 - 17/02/2023 1st exam session• 05/06/2023 - 22/09/2023 2nd exam session (August excluded) For the lessons suspension dates and holidays for national, local and other vacations (Christmas break, Easter break, University holidays), students should refer to the University's Academic Calendar approved by the University bodies at the following link: www.uninsubria.it/chi-siamo/sedi-e-orari/calendario-didattico-di-ateneo (in Italian)
FURTHER INFORMATION	<ul style="list-style-type: none">• COURSE ACCESS: open-access• DOUBLE-DEGREE PROGRAM: yes• TEACHING LANGUAGE: English• TEACHING PROCEDURES: traditional
TUTORS	The DC tutors orient and assist students during their entire educational path, making them actively participate in the educational process and removing obstacles to a profitable attendance to courses, also through specific initiatives related to the needs and predispositions of individual students. The TUTORS of the Master's DC in Computer Science are professors:



	<p>Carminati Barbara Ferrari Elena Lavazza Luigi Antonio</p> <p>www.uninsubria.it/magistrale-informatica (once opened, select "Organizzazione del Corso"; in Italian)</p>														
<p>LECTURERS OF THE DC</p>	<table border="1"> <thead> <tr> <th data-bbox="624 510 1037 548">Lecturer</th> <th data-bbox="1037 510 1492 548">Course</th> </tr> </thead> <tbody> <tr> <td data-bbox="624 548 1037 593">COEN PORISINI Alberto</td> <td data-bbox="1037 548 1492 593">1. Software engineering fundamentals</td> </tr> <tr> <td data-bbox="624 593 1037 638">FERRARI Elena</td> <td data-bbox="1037 593 1492 638">1. Data security and privacy</td> </tr> <tr> <td data-bbox="624 638 1037 683">GALLO Ignazio</td> <td data-bbox="1037 638 1492 683">1. Data mining</td> </tr> <tr> <td data-bbox="624 683 1037 728">LOCORO Angela</td> <td data-bbox="1037 683 1492 728">1. Data visualization</td> </tr> <tr> <td data-bbox="624 728 1037 772">MORASCA Sandro</td> <td data-bbox="1037 728 1492 772">1. Intelligence systems</td> </tr> <tr> <td data-bbox="624 772 1037 893">TROMBETTA Alberto</td> <td data-bbox="1037 772 1492 893">1. Fundamentals of distributed ledgers</td> </tr> </tbody> </table>	Lecturer	Course	COEN PORISINI Alberto	1. Software engineering fundamentals	FERRARI Elena	1. Data security and privacy	GALLO Ignazio	1. Data mining	LOCORO Angela	1. Data visualization	MORASCA Sandro	1. Intelligence systems	TROMBETTA Alberto	1. Fundamentals of distributed ledgers
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<p>ASSESSMENT OF CURRICULAR REQUIREMENTS AND OF THE ADEQUACY OF INDIVIDUAL PREPARATION</p>	<p>All students who have obtained a bachelor's degree in one of the following classes may be admitted to the Master's Degree Course in Computer Science:</p> <ul style="list-style-type: none"> - class L-31 (Computer Science and Technology) ex MD 270/04; - class L-8 (Information Engineering) ex MD 270/04; - class 26 (Computer Science and technology) ex MD 509/99; - class 09 (Information engineering) ex MD 509/99. <p>Or:</p> <p>those who hold a Degree obtained in other classes or previous systems, or a three-year university Diploma or other qualification obtained abroad and recognized as equivalent, who also hold the curricular requirements of minimum ECTS in the specific academic fields (or recognized as equivalent by the relevant teaching structure in case of foreign qualification or systems previous to MD 509/99):</p> <ul style="list-style-type: none"> - at least 60 ECTS in the academic fields INF/01 and ING-INF/05; - at least 18 ECTS in the academic fields MAT/01, MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08, MAT/09. <p>Linguistic skills:</p> <p>In order to be admitted to the Master's Degree Course in Computer Science, students must have an adequate knowledge of the English language, corresponding to at least a B2 level in the Common European Framework of Reference for Language (CEFR).</p> <p>The adequacy of the individual preparation is assessed through an interview which aims to verify the following points:</p> <ol style="list-style-type: none"> (1). the possession of the essential knowledge and skills of the degree classes of the MD 270/04 L-31 (Computer science and technology) and L-8 (Information Engineering); (2). the possession of adequate linguistic skills, corresponding to a B2 level in the Common European Framework of Reference for Languages (CEFR) in English. <p>Should candidates hold a degree in the L-31 or L-8 classes of the MD 270/04 or in the 26 or 9 classes of the MD 509/99, the adequacy of the individual preparation requirement, as described in point (1), is considered as met if the degree mark is greater or equal to 90/110 (candidates with a lower mark will have to take the interview).</p> <p>The linguistic skills requirement as described in point (2) is considered satisfied if candidates have passed an English language academic</p>														



	<p>exam of at least B2 level or holds an internationally recognized certification of B2 level (other candidates will have to take the interview).</p> <p>The interview will take place online with a special committee composed of lecturers appointed by the Council of the Degree Course, following the procedure and schedule that will be made available on the web pages of the Degree Course.</p> <p>A negative assessment in the interview entails the exclusion from the master's degree course for the academic year of the interview.</p>
<p>ORIENTATION, ENROLLMENT PROCEDURES AND OTHER ADMINISTRATIVE ASPECTS</p>	<p>INFOSTUDENTI SERVICE</p> <p>The INFOSTUDENTI service is a web application that offers a communication channel through which students and future students can obtain some useful information by contacting the different offices of the University (Student Services office, Right to Study and Student Services, Orientation and Placement, Academic Offices and International Relations).</p> <p>Via this system, students can ask questions and receive answers, attach documents and follow the status of their requests.</p> <p>The service may be accessed at the following link: www.uninsubria.it/infostudenti (in Italian)</p>



II. STUDY PLAN

MANDATORY COURSES – 2022/2023 COHORT

Mandatory courses refers to all the courses provided for the entire degree course, which will have to be taken by all students enrolling in the current A.Y. (Enrollment cohort) in order to complete the degree program and obtain the qualification.

1st YEAR

INTEGRATED COURSE / COURSE Title	COURSE / MODULE Title	ECTS	Academic field	DISCIPLINARY FIELD / Type of Teaching Activity	HOURS	SEM.	ASSESSMENT METHOD*
DATA SECURITY AND PRIVACY		9	INF/01	B / Computer science disciplines	EXE:24 LECT: 56	Second	M
INTELLIGENT SYSTEMS		9	INF/01	B / Computer science disciplines	LEC:72	First	M
SOFTWARE ENGINEERING FUNDAMENTALS		9	ING-INF/05	B / Computer science disciplines	LEC:72	First	M
MODELS OF COMPUTATION		9	INF/01	B / Computer science disciplines	LEC:72	Second	M
ENGLISH FOR COMPUTER SCIENCE		6	L-LIN/12	F / Further linguistic skills	LEC:48	First	M

J - JUDGMENT M - EXAM Q - QUALIFICATION A - ATTENDANCE

OPTIONAL COURSES IN OPTIONAL BLOCKS

1st and 2nd YEAR

Students will have to choose 12 ECTS for the 1st year and 12 ECTS for the 2nd year among the courses activated in the B/ Computer Science disciplines academic field

Students will have to choose 6 ECTS for the 1st year and 6 ECTS for the 2nd year among the courses activated in the C/Related or supplementary educational activities academic field

Please note: some courses may be activated every other year. The final list of courses activated in the relevant year will be made available when the online study plan submission/modification opens

INTEGRATED COURSE / COURSE Title	COURSE / MODULE Title	ECTS	Academic field	DISCIPLINARY FIELD / Type of Teaching Activity	HOURS	SEM.	ASSESSMENT METHOD*
CLOUD DATA MANAGEMENT		6	INF/01	B / Computer science disciplines	EXE:12 WRK:16, LEC:32	Second	M
DATA MINING		6	INF/01	B / Computer science disciplines	LEC:48	Second	M
NOSQL DATABASES		6	INF/01	B / Computer science disciplines	LEC:48	Second	M



REQUIREMENTS ENGINEERING		6	ING-INF/05	B / Computer science disciplines	LEC:48	First	M
INNOVATIVE TELECOMUNICATION SYSTEMS		6	ING-INF/05	B / Computer science disciplines	EXE:12 WRK:16, LEC:32	Second	M
SECURITY RISK MANAGEMENT		6	INF/01	B / Computer science disciplines	LEC:48	Second	M
DATA SCIENCE FOR BUSINESS		6	INF/01	B / Computer science disciplines	WRK:16 LEC:40	Second	M
DATA VISUALIZATION		6	INF/01	B / Computer science disciplines	LEC:48	First	M
SOFTWARE PROJECT MANAGEMENT		6	ING-INF/05	B / Computer science disciplines	LEC:48	First	M
PROCESS ALGEBRAS		6	INF/01	C/Related or supplementary educational activities	LEC:48	First	M
MODELS FOR BIOLOGICAL SYSTEMS		6	INF/01	C / Related or supplementary educational activities	LEC:48	First	M
WEB SERVICES		6	ING-INF/05	B / Computer science disciplines	LEC:48	Second	M
FUNDAMENTALS OF DISTRIBUTED LEDGERS		6	INF/01	C/Related or supplementary educational activities	LEC:48	Second	M

*J - JUDGMENT M - EXAM Q - QUALIFICATION A - ATTENDANCE

FURTHER MANDATORY COURSES

2nd YEAR							
INTEGRATED COURSE / COURSE Title	COURSE / MODULE Title	ECTS	Academic field	DISCIPLINARY FIELD / Type of Teaching Activity	HOURS	SEM.	ASSESSMENT METHOD*
ELECTIVE		12	NN	D / Elective		ND	M
THESIS PROJECT		1	NN	F / Educational and orientation internships	INT:25	Annual	Q
FINAL EXAM	DEGREE THESIS PREPARATION	28	FINEX_S	E / For the final exam	FE:725	Second	M
	FINAL DISSERTATION	1					

*J - JUDGMENT M - EXAM Q - QUALIFICATION A - ATTENDANCE



RULES FOR THE CURRICULUM

PREREQUISITES: NOT APPLICABLE

VALIDATION OF LINGUISTIC AND COMPUTER SCIENCE CERTIFICATIONS: NOT APPLICABLE

VALIDATION OF PROFESSIONAL ABILITIES

Pursuant to article 5, paragraph 7 of the Ministerial Decree 270/04, the Council of the Degree Course may validate:

- professional knowledge and skills certified pursuant to current regulations;
- knowledge and skills developed in educational activities at a post-secondary level in whose organization and implementation the university was involved. The validation application will be assessed by the Council of the Degree Course. The validation may take place if the activity is related to the specific educational objectives of the degree course and of the educational activities for which the validation is being requested, also taking into consideration the content and duration in terms of hours of the activity.

Already validated activities for the attribution of ECTS in the Bachelor's degree courses may not be validated again as ECTS. The maximum number of ECTS that may be validated is 9.

ATTENDANCE OBLIGATION: NOT APPLICABLE

ENROLLING IN SUBSEQUENT YEARS

CAREER BLOCKS: not applicable

TRANSFER PROCEDURES FROM OTHER DEGREE COURSES

Students from other Universities or from another Degree Course of the University of Insubria, or from previous systems, can apply for a transfer/change to the Degree Course. Transfer/change applications will be assessed by the Council of the Degree Course, which will proceed to the validation of the ECTS according to the following criteria:

- analysis of the curriculum
- assessment of the adequacy of the academic fields and of the contents of the activities undertaken by the student in their previous career, with regard to the specific educational objectives of the degree course and of the individual educational activities provided for in the curriculum.

The abovementioned validation is carried out as provided for in article no. 3, paragraphs 8 and 9 of the ministerial decree of Class redefinition (16 March 2007). The validation is carried out until the ECTS provided for by the curriculum are reached.

FINAL EXAM AND THESIS PROJECT

The final exam consists in presenting and discussing a master's degree thesis written in English, originally elaborated by students, under the supervision of a lecturer (tutor). The thesis will have to entail an organic and complete work aimed to demonstrate the students' research, elaboration and synthesis skills. The thesis may have to do with a work carried out within the University on a topic indicated by the lecturer who functions as tutor, or a work carried out at an external company or institution on a topic approved by the tutor. The Council of the Degree Course has not established any minimal requirements, however, the Internship Committee may carry out some evaluations on the admissibility of the individual curricular internship activation requests. The 29 ECTS of the final exam are thus divided: 28 ECTS for the Thesis preparation and 1 ECTS for the Final dissertation. Moreover, the curriculum provides for 1 ECTS for the Thesis project within the Educational and orientation internships field. For further information please visit: www.uninsubria.it/link-veloci/cerca-i-servizi/tirocini-curricolari-dista (in Italian)

The degree mark, expressed out of 110 and, if applicable, the summa cum laude, is determined by the sum of the following members:

- 1) the weighted average score according to ECTS of the marks obtained in the individual exams, out of 110, following the provisions established in the University's Students Regulations;
- 2) an increment from 0 to 7 points, related to the mark obtained in the final exam;
- 3) an increment from 0 to 3 points of the degree mark for students who have spent a period abroad within the context of the ERASMUS program, decided upon according to two parameters which indicate the students' profit in the study abroad period, that is:
 - the number N of validated ECTS in the student's career after having passed the exams included in the Learning Agreement (including any subsequent modifications) and taken at the foreign host institution;
 - the average score A of the marks, converted out of 30, validated on the students' career after having passed the exams included in the Learning Agreement (including any subsequent modifications) and taken at the foreign host institution.

Additional points are calculated according to the following rules:



1 point if N is between 20 and 29 ECTS, included;
2 points if N is equal to or higher than 30 ECTS and M is not higher than 25/30;
3 points if N is equal to or higher than 30 ECTS and M is higher than 25/30.

RULES FOR THE SUBMISSION OF STUDY PLANS AND INDIVIDUAL STUDY PLANS

Students will have to submit their Study Plan during the first year, with the possibility to modify it in the following year, following the University's administrative fulfillments calendar. Information on how to submit and fill in the study plan are available on the Students Services webpage: www.uninsubria.it/servizi/presentazione-piano-di-studio (in Italian).

Elective educational activities may be chosen among all courses activated by the University, with the exception of some integrated courses offered by the limited access healthcare degree courses. The Council of the Degree Course will assess the coherence of these elective activities with the educational curriculum students have enrolled in. Please note that the lessons of elective courses taken from other Degree Courses of the University may take place at the same time as the lessons of the Degree course.

INTERNATIONAL INTEGRATED COURSE (DOUBLE DEGREE) ENROLLMENT PROCEDURES

The Course offers the possibility to participate in a study program in collaboration with the Master Informatique of the Université Côte d'Azur (France). The two partner Universities will put forward the candidates who intend to participate in the program. Students who are admitted to the international curriculum (up to 5 students for each University) are selected by a special committee composed of lecturers from both Universities. Admitted students will obtain a second-level qualification in both partner Universities, provided that they have met the qualification obtainment requirements themselves. The University of Insubria and the Université Côte d'Azur will issue the Master's Degree in Computer Science and the Master parcours Informatique et Interactions diplomas, according to the curriculum they followed. The program has many benefits, including the possibility for students to diversify their educational curriculum, by attending courses that complete the curriculum of the master's degree in Computer Science offered by the University of Insubria. Students will also have to opportunity to make an important experience abroad, which will allow them to gain and/or improve their knowledge of a foreign language, of a different nation and culture, as well as of acquiring notable cross skills of a communicative-relational type.

For further information and for the program participation procedures, please see the following link:
www.uninsubria.eu/double-degree-programs

For further information please refer to the degree course webpage.

www.uninsubria.eu/master-computer-science

For students with disabilities and/or specific learning disorders, please visit:

www.uninsubria.it/studentidisabilidsa (in Italian)