Università di Camerino

Computer Science

Master degree
Second Cycle Degree
Duration 2 years
ECTS credits 120
Campus Location Camerino

School of Science and Technology
Computer Science Division

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INTRODUCING THE MASTER

Nowadays, Computer Science has applications in almost any human field. The discipline has enlarged its sphere of influence greatly, and specialization is more and more relevant to start a professional career. For such a reason the MSc in Computer Science active at UNICAM has structured its didactic offer over 5 different curricula trying to satisfy the formative expectations of students, and the market. In addition to a set of "up-to-date" curricula, as detailed in the following, the MSc in Computer Science offers many interesting opportunities to students to enlarge their formative perspectives.

First of all, by enrolling in the MSc in Computer Science at UNICAM the student will have the possibility of getting admitted to one of the four Double Degree programs. These study programs permit the student to gain, in addition to the UNICAM degree, a Master degree awarded by a partner University. Active Double Degree programs are in place with the following Universities:

- Reykjavik University in Iceland;
- University of Applied Sciences and Arts Northwestern Switzerland of Olten in Switzerland;
- Universidad Nacional de Catamarca in Argentina;
- University of Tirana in Albania.

The Double Degree programs ask the students to spend at least 6 months at the partner university site. Scholarships are provided by UNICAM in order to cover associated expenses.

The degree, being delivered in collaboration with European and international institutions, is completely taught in English. Students at UNICAM are immersed in an international environment with foreign students coming from different countries. CENSIS has repeatedly recognized UNICAM as one of the most international MSc degrees among the Computer Science degrees, in Italy. Students can participate in international exchange programs such as Erasmus+ or/and spend part of their study period abroad for exams and/or thesis. Scholarships of merit, to support the mobility, are offered to exchange students through UNICAM funds or, for European locations, through the Erasmus+ Programme.

Students at UNICAM can take advantage of a big and lively community, constituted by more than 750 students enrolled in UNICAM at a Bachelor or Master level in Computer Science. For some years now UNICAM, in order to help students in their study activities, has adopted a platform that permits students to access the lessons remotely and to possibly rewatch recorded lessons.

Students graduated with a Master of Science in Computer Science can access the "Albo Professionale dell'ordine degli ingegneri" (National Engineer Register), section A, sector "Information Engineering". To access the Register, the student must pass a special exam (Esame di Stato), for which UNICAM is an entitled site.

CISCO activities, certified by the Cisco Networking Academy Program, are available as part of the degree program. This is another important opportunity for our students as Cisco Networking Academy Program is introductory for CISCO Industrial certifications, which are highly spendable in the job market.

According to AlmaLaurea statistics, one year after the degree the employment rate of those who graduated in Computer Science at the University of Camerino is 87,5%. The percentage increase 100% five years after the degree.

Further information on admission rules, pre-admission deadline, and other services is at http://international.unicam.it

Business Informatics and Data Science (BIDS)

Nowadays, companies experiment with a continuous push toward the adoption of ICT systems and infrastructures. The introduction of ICT systems has to be carefully considered and planned, to avoid expensive failures. At the same time, the adoption of such systems enables a "Data-Oriented perspective" on the company itself permitting to analyze, starting from collected data, of the organization's strengths and weaknesses.
The curriculum intends to equip the student with knowledge and capabilities in relation to methodologies and tools to govern the digital transformation of a company, and to take advantage of such a transformation.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Fundamentals of Machine Learning	6
Technologies for Big Data Management	6
Distributed Systems	6
Business Process Modeling and Enactment	6
Financial Management and Strategy	6
Knowledge Engineering and Business Intelligence	6
Process Mining	6

Second Year	(60 Ects)
Software Project Management	12
Blockchain and Distributed Ledger Technologies	6
Free Choice	12
Thesis	30

Artificial Intelligence and Informatics for Robotics (AIIR)

The world is nowadays witnessing a pervasive introduction of synthetic intelligence in almost all human contexts (e.g manufacturing, agriculture, and health). Particularly interesting and challenging are those contexts in which synthetic intelligence is used to concretely manipulate and have an effect on reality in order to reach specific objectives, as it is the case, for instance, of smart cities and smart manufacturing scenarios. In some cases, the system to engineer will involve the coordination of autonomous agents (e.g. robots).
The curriculum intends to equip the student with knowledge and competencies in relation to methodologies and tools to permit the engineering of intelligent systems that could include a physical part.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Fundamentals of Machine Learning	6
Distributed Calculus and Coordination	6
Multiagent Systems Lab	9
Distributed Systems	9
Knowledge Engineering and Business Intelligence	6
Deep Learning and Computer Vision	6

Second Year	(60 Ects)
Autonomous and Collaborative Robotics	6
Cyber Physical Systems Design	6
Parallel and Distributed Programming	6
Free Choice	12
Thesis	30

Software Development and Technologies (SDT)

Nowadays software systems are more and more pervasive. Methodologies, technologies, and tools to develop such systems are continuously changing and the engineering of complex software systems requires the acquisition of complex competencies in many different aspects of the discipline.
The curriculum intends to equip the student with knowledge and competencies on methods and tools for the engineering of Complex Software Systems. A student who graduates in such a curriculum aims at starting a career in software development and wants to acquire a clear understanding of the activities composing a development process, as well as the effective techniques available to perform such activities, also considering different application contexts.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Fundamentals of Machine Learning	6
Technologies for Big Data Management	6
Distributed Systems	6
Business Process Modeling and Enactment	6
Fundamentals of Software Testing	6
Free Choice	12

Second Year	(60 Ects)
Blockchain and Distributed Ledger Technologies	6
Cyber Physical Systems Design	6
Software Project Management (DevSecOps)	12
Parallel and Distributed Programming	6
Thesis	30

CyberSecurity (CySec)

Nowadays software systems are more and more pervasive. As they become pervasive the risks associated with their usage increase. The society is in urgent need of professionals that are able to evaluate risks and find solutions connected to the introduction of an ICT based system.
The curriculum intends to equip the student with knowledge and competencies on methods and tools for engineering secure software systems, as well as to analyze the risks associated with the usage of ICT systems, so as to derive security assessment for a given software solution, and to possibly plan risk mitigation activities.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Static Analysis and Program Verification	6
Data and Network Security	6
Security By Design	6
Distributed Systems	6
Fundamentals of Software Testing	6
Free Choice	12

Second Year	(60 Ects)
Software Project Management	12
Cryptography: Theory and Applications	6
Parallel and Distributed Programming	6
Blockchain and Distributed Ledger Technologies	6
Thesis	30

Methodologies and Technologies for Digital Communication (MTDC)

Nowadays the relevance of digital communication is increasing. Channels used to convey any kind of information are changing and in need of continuous innovation. The organization of software systems supporting such digital communication is somehow peculiar and needs "hybrid" competencies. In particular novel paradigms, such as gaming, are more and more relevant in such a context.
The curriculum intends to equip the student with knowledge and competencies on methods and tools to conceive and implement effective digital communication technologies with a special focus on digital technologies for the enhancement of the cultural heritage.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Fundamentals of Machine Learning	6
Technologies for Big Data Management	6
Knowledge Engineering and Business Intelligence	6
Applied Game Design	6
Financial Management and Strategy	6
Free Choice	12

Second Year	(60 Ects)
Software Project Management	12
Digital Technologies for Cultural Heritage	6
Technologies for Extended Reality	6
Web 3D and Immersive Communication	6
Thesis	30

More information
https://**www.unicam.it/didattica/guida-dello-studente**
https://**www.unicam.it/international-student**

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