University of Camerino
School of Science
and Technology

COMPUTER SCIENCE

MASTER DEGREE
Second Cycle Degree
Duration 2 years
ECTS credits 120
Campus Location Camerino
web site
computerscience.unicam.it
fb Studiare Informatica a Camerino
UNICAMente informatica

School of Science and Technology
Computer Science Division

School Director
prof. David Vitali
direttore.scienze@unicam.it

Course Coordinator
prof. Andrea Polini
andrea.polini@unicam.it

Delegates

Educational Guidance
prof. Roberto Gagliardi
roberto.gagliardi@unicam.it

Tutoring
prof. Leonardo Pasini
leonardo.pasini@unicam.it

International Mobility
prof. Michele Loreti
michele.loreti@unicam.it

Stage and Placement (Internship)
prof. Fausto Marcantoni
fausto.marcantoni@unicam.it

Educational Manager
dr. Anna Maria Santroni
annamaria.santroni@unicam.it

INTRODUCING THE MASTER

Nowadays, Computer Science has applications in several fields, that are very different from each other and in constant increasing number. UNICAM proposes the Master Degree in Computer Science (Laurea Magistrale) to allow graduate students in Computer Science to specialize their knowledge, competences and skills. Different specialization programmes are proposed within the Master Degree together with the possibility to gain, in addition to the UNICAM degree, a Master degree awarded by a partner University (Double Degree).

The degree, being 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. They can participate to international exchange programs such as Erasmus+ or Double Degree and spend a semester or one year abroad for exams and/or thesis. Double Degree programs are available with:
- Middlesex University of London,
- Reykjavik University (RU) in Iceland,
- University of Applied Sciences and Arts Northwestern Switzerland of Olten (FHNW) in Switzerland,
- Universidad Nacional de Catamarca (UNCa) in Argentina.

Scholarships of merit for supporting the mobility are offered to exchange students through UNICAM funds (if available) or, for European locations, through the Erasmus+ Programme

The Master of Science (Laurea Magistrale) in Computer Science allows to access the "Albo Professionale dell'ordine degli ingegneri" (National Engineer's Register), section A, sector "Information Engineering". To access the Register, a 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.

ADMITTANCE REQUIREMENTS
- Bachelor Degree that satisfies the requirements for access to University Master Degree courses
- Level of language proficiency (strongly recommended): ENGLISH level B2 (Independent User)
- Sufficient knowledge, competences and skills of Mathematics and Computer Science will be checked before the student is admitted to the program.

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

Classes are held in English

COURSE STRUCTURE

Thera are two semesters, from October to the end of January, and from March to mid-June June. The Winter Exam Session is In February.
Here below the curricula that can be chosen within the Master Degree of Computer Science are described in details.

Curriculum 1
Intelligent and Adaptive Systems (IAS)

Modern ICT systems are composed of a large number of interconnected devices that interact with each other and with users to reach a certain goal. IAS aims at forming highly specialized data analysts and software designers capable of developing and managing these complex systems. IAS students will also learn how to use the data collected during systems execution in order to detect and prevent critical situations and to identify the countermeasures that guarantee the expected quality of service and security.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Fundamentals of Reactive Systems	6
Distributed Calculus and Coordination	6
Systems Verification Lab	6
Machine Learning	6
Logic and Constraint Programming	6
Optional exam	6
Free Choice	6

Second Year	(60 Ects)
Software Project Management	12
Performance Analysis and Simulation	6
Multiagent Systems Lab	6
Free Choice	6
Master Thesis	30

Optional exam selection
Queueing Networks: Simulation	6
Queueing Networks: Modeling	6
Theory of Complexity	6
Compilers	6
Networking fundamentals CISCO (I-II)	6
Advanced Topics in Software Engineering	6

Curriculum 2
Enterprise Software Systems (ESS)

ESS aims at training professionals that can understand the potential of the digital transformation in complex organisations such as small and medium enterprises. In this context ESS graduates will be able to understand the dynamics underpinning the functioning of a company. The ESS graduate will learn the basic methodological and technological tools to define and identify the most appropriate ICT solutions that are essential to achieve the enterprise goals.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Enterprise and Business Process Modeling	9
Process Mining	6
Enterprise Data Analytics	6
Knowledge Engineering and Business Intelligence	9
Optional exam	6
Free Choice	6

Second Year	(60 Ects)
Software Project Management	12
Enterprise Software Infrastructures	12
Free Choice	6
Master Thesis	30

Optional exam selection
Knowledge Management and Competence Development	6
Queueing Networks: Simulation	6
Queueing Networks: Modeling	6
Financial Management and Strategy	6
Networking fundamentals CISCO (I-II)	6
Advanced Topics in Software Engineering	6

Curricula 3
Software and Systems for Industries (SSI)

Embedded systems are increasingly being joined together into an "Internet of things" or sensor networks to enable several applications such as smart homes, manufacturing, energy distribution and transportation. SSI provides students with a knowledge and understanding of embedded system architectures, the concepts underpinning their interconnection and programming. Security, simulation and verification of distributed systems, where possible tailored to embedded systems, will be also part of the programme.

First Year	(60 Ects)
English Language (B2 or C1 Level)	6
Complex Systems Design	12
Modeling and Simulation of Embedded Systems	6
Embedded Systems Architecture	12
Distributed Systems	6
IT Security: Foundation	6
Optional exam	6
Free Choice	6

Second Year	(60 Ects)
Software Project Management	12
Embedded Systems Programming	6
IT Security: Application and Technology	6
Free Choice	6
Master Thesis	30

Optional exam selection
Networking fundamentals CISCO (I-II)	6
Networking discovery CISCO (III-IV)	6
Queueing Networks: Simulation	6
Queueing Networks: Modeling	6
IoT and Data Analytics	6
Compilers	6
Advanced Topics in Software Engineering	

a.y. 2019/2020

QUALITY ASSURANCE SYSTEM

UNICAM Quality Management System Certificate ISO 9001:2008 (from AFAQ-France, a French leader and one of the first certification bodies at the global level) guarantees students the quality of services provided.
The guarantee is via a rigorous analysis of internal organizational procedures and the prompt addressing of any weaknesses or shortcomings whether detected or reported by the students themselves.
The Quality Management System includes the following support services for students: orientation and guidance, mentoring, International mobility, Internships and communication. These integrate with and support the educational activities, so as to contribute to the complete training of the student.

For 2019, in the **U-MULTIRANK** international ranking, UNICAM was placed among the top 25 universities in the world in the area of international orientation, chosen among 1700 universities (of which 49 are Italian) from 96 countries.
The annual ranking takes into consideration the areas of greatest interest to students such as teaching and learning, knowledge transfer, orientation and research.