University of Camerino

Master degree in

Computer Science

Duration **2 years 120** **ECTS**

SCHOOL OF SCIENCE AND TECHNOLOGY **Director** prof. Marino Petrini
Computer Science Division - **Camerino** Palazzo Battibocca - via del Bastione 1

RESPONSIBLE FOR TEACHING prof. Andrea Polini, andrea.polini@unicam.it, +39 0737 402563

DEGREE COUNSELLOR prof. Leonardo Mostarda, leonardo.mostarda@unicam.it, +39 0737 402592

WEB SITE http://**computerscience.unicam.it** 🅕 Unicamente Informatica

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 Reykjavik University (RU) in Iceland, with the University of Applied Sciences and Arts Northwestern Switzerland of Olten (FHNW) in Switzerland, and with the 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+ program.

Students willing to enroll to the Master of Science in Computer Science must have a Bachelor Degree or an equivalent foreign degree as long as that is known to be valid under current regulations. To be admitted to the Master degree it is required to have a certification for the English language at least of level B1 of the Common European Framework of Reference for Languages, or at least 3 ECTS credits of English courses done during the Bachelor. Students with an Italian Bachelor Degree in Computer Science (L-31 class) access the course with no further checks, while for any other kind of Bachelor Degree the presence of sufficient knowledge, competences and skills of Mathematics and Computer Science will be checked before the student is admitted to the program.

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 (DPR n. 328 in 5/6/2001 published on GU n. 190 in 17/8/2001).

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.

The Master program obtained the GRIN (Gruppo di Informatica http://www.grin-informatica.it/opencms/opencms/grin) certification that guarantees high quality standards with respect to Computer Science Master degrees of Italian Universities.

In the following the programmes that can be chosen within the Master Degree of Computer Science are described in details.

SMV Programme: Software Modeling and Verification
The curriculum aims at forming highly specialized analysts and software designers able to manage large and complex software projects also involving safety critical aspects. Model-driven software engineering is the main paradigm taught in this curricululm.

SMV Compulsory Exams:

1st Year		2nd Year		Free Choice - SMV Exams	
English Language (B2 or C1 Level)	6	Real-time and Probabilistic Systems		Queuing Networks: Simulation	6
Complex Systems Design	12	Verification	6	Distributed Systems	6
Distributed Calculus and Coordination	12	Domain Specific Formal Languages	6	IT Security	6
Formal Modeling		Software Project Management	12	Business Process Management and Flexibility	6
of Software Intensive Systems	6	Free Choice	6	Knowledge Engineering	
Reactive Systems Verification	6	Thesis	30	and Business Intelligence	6
Free Choice - SMV Exam	6			Internetworking Ubiquitous Systems	6
Free Choice - Degree Exam	6			Formal Languages and Compilers	6
Free Choice	6				

ESS Programme: Enterprise Software Systems
The curriculum aims at integrating management concepts and information technology (IT). This results in a combination of expertises which is a prerequisite to successfully develop IT solutions for business and to provide information products and services.

ESS Compulsory Exams:

1st Year		2nd Year		Free Choice - ESS Exams	
English Language (B2 or C1 Level)	6	Business Process Digitalization		Queuing Networks: Simulation	6
Complex Systems Design	12	and Cloud Computing	6	Reactive Systems Verification	6
Advanced Databases	6	Mining Data and Processes	6	Knowledge Management	
Business Process Management and Flexibility	6	Software Project Management	12	and Competence Development	6
Knowledge Engineering		Free Choice	6	Formal Modeling	
and Business Intelligence	6	Thesis	30	of Software Intensive Systems	6
Alignment of Business and IT	6			Distributed systems	6
Free Choice - ESS Exam	6			IT Security	6
Free Choice - Degree Exam	6				
Free Choice	6				

SSI Programme: Software and Systems for Industries
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.

SSI Compulsory Exams:

1st Year		2nd Year		Free Choice - SSI Exams	
English Language (B2 or C1 Level)	6	Embedded Systems Programming	6	Queuing Networks: Simulation	6
Complex Systems Design	12	Cyber Physical systems	6	Networking discovery CISCO (III-IV)	6
IT Security	6	Software Project Management	12	Reactive Systems Verification	6
Embedded Systems: Architecture		Free Choice	6	Distributed Calculus	
and Basic Concepts	6	Thesis	30	and Coordination - Module I	6
Internetworking Ubiquitous Systems	6			Formal Modeling	
Distributed Systems	6			of Software Intensive Systems	6
Free Choice - SSI Exam	6			Formal Languages and Compilers	6
Free Choice - Degree Exam	6				
Free Choice	6				

Degree Free Choice Exams
Theory of Complexity	6
Queuing Networks: Modeling	6
Financial Management and Strategy	6
Software Engineering II - Software Testing	6
Networking fundamentals (CISCO I-II)	6
Neural Networks	6

DELEGATES

Stage and Placement
prof. Fausto Marcantoni
+39 0737 402105
fausto.marcantoni@unicam.it

International Mobility
prof. Francesco Tiezzi
+39 0737 402593
francesco.tiezzi@unicam.it

Tutoring
prof. Roberto Gagliardi
+39 0737 402115
roberto.gagliardi@unicam.it