



UNIVERSITY OF NAPLES
"PARTHENOPE"

Department of Science and Technology



COURSE LEADER

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WHERE WE ARE

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UNIVERSITY OF NAPLES
"PARTHENOPE"

GUIDANCE AND TUTORING

Department of
SCIENCE AND TECHNOLOGY

Master's Degree Course

Applied Computer Science
(Class LM-18)

www.uniparthenope.it

COURSE OVERVIEW

The specific aim of the master's degree course in Applied Computer Science is to train professionals with a thorough scientific and critical knowledge in the field of IT methodology, techniques and tools, and their application to real contexts, such as science, technology and services. In particular, subjects of study include machine learning, the processing of multimedia information (images, audio and video), parallel and distributed IT systems, territorial, geographical and environmental data, as well as networks security and bioinformatics. Graduates with a Master's Degree will be able to design, create and manage IT solutions for complex applied problems; to contribute to scientific-technological development and innovation in the field of Applied Computer Science; to interact with other professionals and scientists working in the various application sectors.

CAREER PROSPECTS

Graduates can find employment in all sectors in which the use of advanced IT methods and solutions are needed. In particular, graduates will acquire the appropriate skills to work on the analysis, design, development, management responsibility and training aimed to develop advanced IT solutions (such as complex web applications, distributed IT systems, databases systems, knowledge management systems and heterogeneous parallel systems) for IT firms, IT providers, research laboratories, state agencies, health bodies, cultural institutions, transport companies, business and territorial management agencies.

Graduates can also work as self-employed consultants in the above mentioned sectors. Further job opportunities are provided by specialist training in the areas of information management of geographical data and advanced IT services for environmental monitoring and numerical cartography (which are attracting the growing interest of state national and local bodies, as well as of private enterprises), multimedia technologies for the entertainment and publishing industry, video surveillance and multimedia services for digital TV companies.

SYLLABUS

The master's degree course in Applied Computer Science is a two-year programme that consists of 12 exams and a final examination totalling 120 ECTS credits. It is possible to register for a part-time master's degree. The syllabus encourages an operational approach and is devised to train professionals with excellent scientific and critical skills in the field of IT methodology, techniques and tools, and their application to real contexts. Scientific knowledge and skills are complemented by modules in the area of physics applied to systems and scientific calculus. In particular, we address issues of machine learning, information processing multimedia (images, sound, videos), parallel and distributed systems, parallel and distributed computing, advanced web applications, the processing of spatial, geographical and environmental data, network security, bioinformatics. The knowledge and skills of scientific teachings are completed through the area of applied physics systems and scientific computing.

SYLLABUS

Year I	ECTS
Scientific Computing Applications with Lab ACS	12
Physics for Systems and Applications	6
Pattern Recognition and Classification	9
Data bases II with Lab	9
Computer Graphics with Lab GI	6
Elective Module	6
Year II	
Parallel and Distributed Computing II with CPD Lab	6
Geographic Information Systems with SIT Lab	6
Multimedia Systems with SM Lab	9
Advanced Network Architecture and Programming with APRA Lab	12
Distributed Operating Systems with SOD Lab	6
Elective Module	6
Internships, further skills	3
Final Examination	21