
UNIVERSITÀ DEGLI STUDI MEDITERRANEA

ENGINEERING

SUMMARY SHEETS OF THE DEGREE PROGRAMMES

DICEAM
Department of Civil, Energy, Environmental and Materials Engineering

DIIES
Department of Information, Infrastructure and Sustainable Energy Engineering
DEPARTMENT OF EXCELLENCE

BACHELOR'S DEGREE COURSES

CIVIL AND ENVIRONMENTAL ENGINEERING FOR SUSTAINABLE DEVELOPMENT

Class: L-7 R - Civil and Environmental Engineering

Specific educational objectives of the Course: The course aims to train professionals who, through a broad and significant knowledge of basic sciences, develop through the learning of engineering disciplines a general competence in the field of civil works (structural, geotechnical, hydraulic, infrastructures and transport systems, sustainable construction, works for the production of electricity from renewable sources) and environmental (planning, design and management of interventions for the protection of the soil and the protection of the environment and the related plants/systems/structures) and for the defense against natural risks.

Curricula: Civil; Transport infrastructure; Environmental; Civil engineering.

The course prepares for the profession of (ISTAT codes): ■ Civil construction technicians and similar professions - (3.1.3.5.0) ■ Construction site management technicians - (3.1.5.2.0) ■ Water and other fluid network operators - (3.1.4.2.2) ■ Railway traffic organisation technicians - (3.1.6.4.0)

COMPUTER AND TELECOMMUNICATIONS ENGINEERING

Class: L-8 R - Information Engineering

Specific educational objectives of the Course: The course offers transversal training in the disciplinary areas typical of Information Engineering. Depending on the study plan chosen, it is possible to specialize in key areas of Information and Communication Technologies (ICT), such as the Internet, cybersecurity, wireless communications, electromagnetic sensing, neural networks, artificial intelligence and smart cities. The course prepares graduates to work in the design, development, management and maintenance of ICT systems, offering opportunities in companies of different sizes, public bodies and research institutes, as well as in the freelance profession. Thanks to its interdisciplinary approach, the training course responds to the needs of a constantly evolving market.

The course prepares for the profession of (ISTAT coding): ■ Database management technicians - (3.1.2.4.0) ■ Programmer technicians - (3.1.2.1.0) ■ Telecommunications technicians - (3.1.2.6.1) ■ Network and telematic systems management technicians - (3.1.2.5.0)

ELECTRONIC AND BIOMEDICAL ENGINEERING^ *Class: L-8 R - Information Engineering*

New course in activation

Specific learning objectives of the course: The course trains professionals in the field of information engineering, with particular attention to the electronics and biomedical sectors. The educational path integrates solid scientific foundations with laboratory and design experiences, developing skills in the design of circuits, embedded systems, devices for industry 5.0 and innovative solutions for biomedicine and digital health.
The skills acquired range from the design, development and management of electronic devices and systems to the integration of technologies for medical instrumentation and biomedical devices, finding outlets in ICT and manufacturing companies, P.A. and healthcare facilities. The course offers customizable orientations, promotes international mobility and a strong connection with the world of research and business in Italy and abroad. It promotes entry into the world of work and an ideal preparation for access to Master's degrees. It is the ideal path for those who want to combine engineering, health, innovation and social impact.

The course prepares for the profession of (ISTAT codes): ■ Electronic technicians - (3.1.3.4.0.) ■ Medical and diagnostic technicians - (3.1.7.3.0.)

MECHANICAL ENGINEERING *Class: L-9 R - Industrial Engineering*

Specific educational objectives of the course: The course has the specific objective of training an engineer with a wide spectrum of technical-scientific skills, typical of industrial engineering but with a specific preparation in the fields of mechanics, industrial safety and protection and materials for mechanical processing. The type of course is mainly methodological and a company-type experience is strongly encouraged through the tool of the training internship and through specific training courses prepared by teachers who are experts in business relations and European planning and followed by company tutors. Throughout the training course, from its design, continuous communication with important companies in the sector is privileged.

Curricula: Production plants; Vehicles.

The course prepares for the profession of (ISTAT codes): ■ Mechanical engineers - (2.2.1.1.1) ■ Mechanical technicians - (3.1.3.1.0) ■ Technical draftsmen - (3.1.3.7.1) ■ Occupational safety technicians - (3.1.8.2.0) ■ Foreign language and maximum correspondents - (3.3.1.5.0) ■ Factors of production organization and management technicians - (3.3.1.5.0)

MANAGEMENT ENGINEERING *Class: L-9 R - Industrial Engineering*

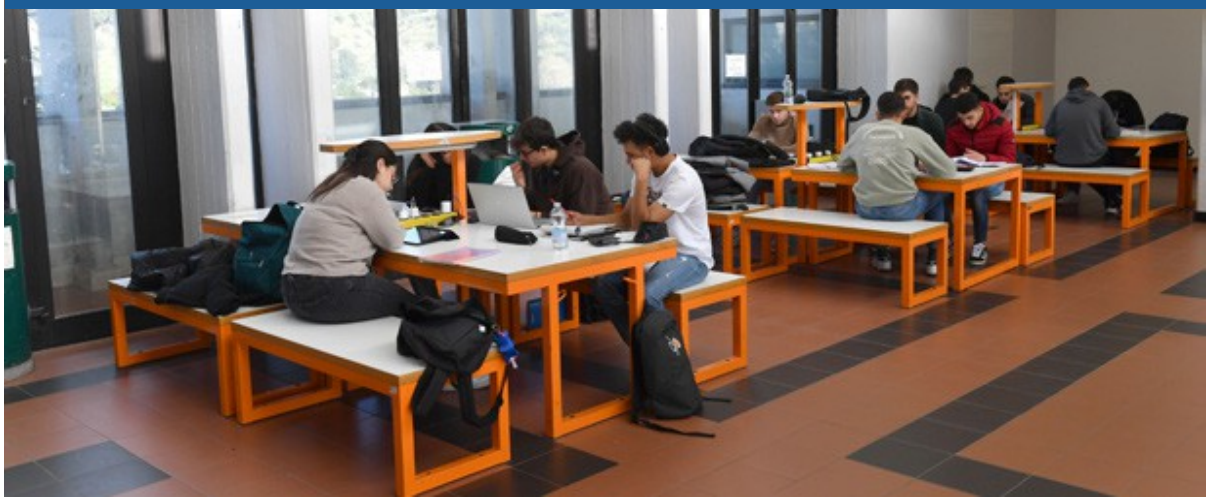
Specific educational objectives of the Course: The Degree Course in Management Engineering has the specific objective of training an engineer with a wide spectrum of technical-scientific skills typical of industrial engineering with particular reference to the electrical, energy and management fields.

Curricula: Business Processes, Sustainable Energy, Industrial Automation.

The course prepares for the profession of (ISTAT codes): ■ Technicians of the organization and management of production factors - (3.3.1.5.0.) ■ Financial Management Technicians - (3.3.2.1.0.) ■ Manufacturing Technicians - (3.1.5.3.0.) ■ Thermal and electrical power generation technicians - (3.1.4.2.1.) ■ Energy saving and renewable energy technicians - (3.1.3.6.0.)

The teaching structure of the Bachelor's Degree Courses in Civil and Environmental Engineering for Sustainable Development (L-7), Mechanical Engineering (L-9), Management Engineering (L-9) is at the DICEAM Department.

The teaching structure of the Bachelor's Degree Courses in Computer and Telecommunications Engineering (L-8), Electrical and Biomedical Engineering (L-8) is at the DIIES Department. ^in the course of initial accreditation



TWO-YEAR MASTER'S DEGREE COURSES

CIVIL ENGINEERING *Class: LM-23 R - Civil Engineering*

Specific educational objectives of the Course: The course aims to train a professional profile with interdisciplinary knowledge and a strong role of coordination and responsibility, from the design phase to the executive and management phase of major engineering works in the hydraulic and maritime, transport, geotechnical and structural infrastructures. The structure of the training course aims, on the one hand, to consolidate basic knowledge and, on the other, to offer an in-depth study of key topics in Civil Engineering. The level of preparation achieved returns qualified professionals, ready to respond to the needs of the labor market and to face the most innovative challenges that characterize civil works.

The course prepares for the profession of (ISTAT codes): ■ Construction and Environmental Engineers - (2.2.1.6.1) ■ Hydraulic Engineers - (2.2.1.6.2)

COMPUTER AND TELECOMMUNICATIONS SYSTEMS ENGINEERING

Class: LM-27 - Telecommunications Engineering

Specific educational objectives of the Course: The course aims to train professional figures, with skills in the field of Information Technology and Telecommunications, two key sectors in the global technological landscape.
Students will acquire a multidisciplinary preparation capable of responding to the growing needs of a constantly evolving labor market. They will learn how to design, operate and evaluate advanced telecommunications devices and systems for signal transmission and information exchange, and how to protect data on computer networks and computer systems, mostly of a distributed nature, thanks to cybersecurity, a crucial issue to ensure the reliability and security of modern societies.
The enabling technologies for innovation learned (Internet of Things, artificial intelligence, 5G/6G) will be applied in various domains (smart cities, Intelligent Transportation Systems).
The teaching methodology adopted will make extensive use of an approach based on the development of design skills, in addition to the exercises offered in the various courses.

The course prepares for the profession of (ISTAT codes): ■ Telecommunications Engineers - (2.2.1.4.3)

■ Specialists in computer networks and communications - (2.7.2.1.1)

ELECTRONIC AND BIOMEDICAL ENGINEERING

Class: LM-29 - Electronic Engineering

Specific educational objectives of the Course: The Master's Degree Course in Electronic and Biomedical Engineering aims to train professionals with a solid preparation in the scientific, technological and applied aspects of electronics, biomedical engineering, electromagnetism and electronic measurements. The educational path integrates the use of advanced tools of mathematics, solid state physics and specific technologies, fundamental for the numerous applications in the electronic and biomedical sectors. The intensive use of laboratories and project activities enhance problem-solving skills and promote the development of transversal skills.
Master's graduates have access to numerous professional opportunities ranging from technological innovation to advanced design, up to the development and management of complex systems, finding outlets in manufacturing and service companies, in the freelance profession, in the P.A. and in healthcare facilities.

The course prepares for the profession of (ISTAT codes): ■ Electronic engineers - (2.2.1.4.1)
■ Computer design engineers and their peripherals - (2.2.1.4.2) ■ Researchers and technicians with degrees in industrial and information engineering sciences - (2.6.2.3.2)

ENGINEERING FOR SUSTAINABLE ENVIRONMENTAL AND ENERGY MANAGEMENT

Degree Course: Interclass

Class: LM-30 R - Energy and Nuclear Engineering & LM-35 R - Environmental and Land Engineering

Specific educational objectives of the Course: The Interclass Master's Degree Course in Engineering for Sustainable Environmental and Energy Management aims to train highly specialized professionals, capable of meeting the needs of the strategic sectors of management, environmental/territorial protection and sustainable energy production; only a training that refers in a balanced way to both classes can allow the achievement of this general objective.

Curricula: Protection from natural and anthropogenic risks; Sustainable energy management.

The course prepares for the profession of (ISTAT codings):
- Energy and Nuclear Engineers - (2.2.1.1.4)
- Construction and Environmental Engineers - (2.2.1.6.1)

The teaching structure of the two-year Master's Degree Courses in Civil Engineering (LM-23), Engineering for the Sustainable Management of the Environment and Energy (interclass LM-30 & LM-35) is at the DICEAM Department.

The teaching structure of the two-year Master's Degree Courses in Computer Engineering and Telecommunications Systems (LM-27), Electronic and Biomedical Engineering (LM-29) is at the DIIES Department.