Master Degree's Course in
Telecommunication Engineering: Smart Sensing, Computing and Networking

Context

The Master of Science (MSc) in Telecommunication Engineering: Smart Sensing, Computing and Networking provides students with in-depth knowledge and practical skills on the design, development and management of advanced telecommunication systems.
Thanks to its markedly cross-curricular approach, it provides a multidisciplinary training with innovative courses in the areas of waves communication, computer science and telecommunication networks and systems.
The program offers lectures (in English), and learning-by-doing teaching with laboratories, seminars and internships in Telecommunications, Wavefield and Information Technology research centres and companies. The final thesis project offers students the opportunity to develop further specific skills in the framework of hands-on experiences in international ICT research labs.

Double Degree

The MSc offers the possibility of obtaining a Dual Degree in collaboration with the Telecom SudParis University.

Learning objectives and outcomes

The MSc in Telecommunication Engineering: Smart Sensing, Computing and Networking aims to provide the necessary skills to work in all areas of Telecommunication Engineering. Its main objective is to train high-level professionals, with a solid background, a multidisciplinary knowledge on modern technology development, and the capacity to face the challenges for the development of a smart society. In particular, graduates will possess high expertise in IoT systems and applications, smart systems, wireless sensors, next-generation mobile networks (5G/6G), smart antennas, modern radar systems, machine learning, IoT security, cloud/edge computing, programmable networks and devices.

Employability and careers

Graduates with a MSc in "Telecommunication Engineering: Smart Sensing, Computing and Networking" find employment as experts in the:
– design, production and management of 5G and 6G telecommunication networks and systems;
– design, production and management of radar systems for smart mobility and localization;
– development of advanced ICT applications aimed at different vertical markets (such as smart home, smart city, environmental monitoring, smart health and telemedicine).

Skills and methodologies acquired in the study program will enable graduates to either find employment or work as freelance for: network and telecommunication system operators and manufacturers, radio system operators, system integrators and consulting companies, developers and providers of ICT applications and services.

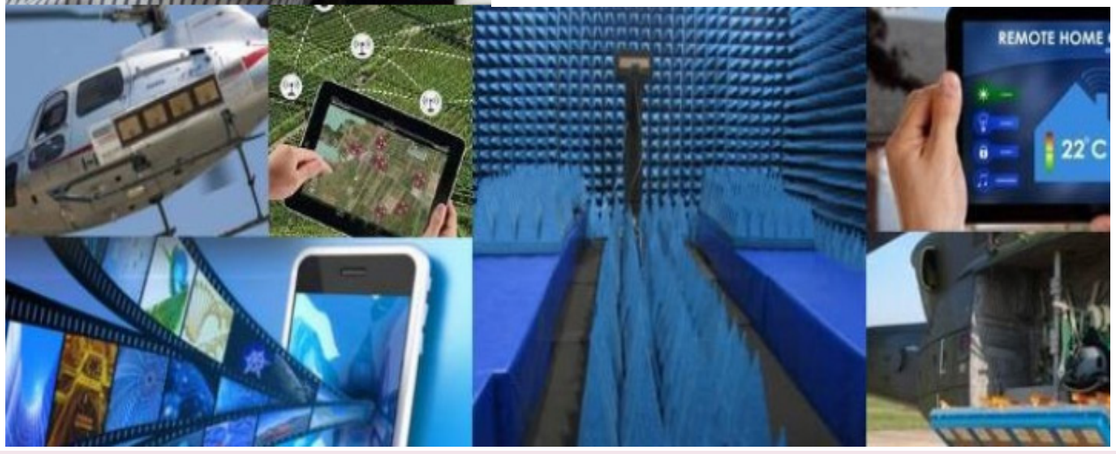
Main topics

– Simulation and Performance Evaluation
– Networking aspects of the Internet of Things
– Antennas and Propagation
– IoT Sensor Device Programming
– IoT Mobile Device Programming
– Wireless Devices and Networks
– Telecommunication Systems Measurements

Keywords

Smart sensors. Smart systems.
5G/6G networks.
Internet of Things.
Radar systems and imaging for health diagnostics
Wireless and mobile networks and propagation.

Year	Course	Area	Credits
1	SIMULATION AND PERFORMANCE OPTIMIZATION	MAT/09	6
	WIRELESS DEVICES AND NETWORKS	ING-INF/03	6
	ANTENNAS AND PROPAGATION	ING-INF/02	9
	IoT DEVICE PROGRAMMING - *Module 1: IoT SENSOR DEVICE PROGRAMMING*	ING-INF/05	6
	IoT DEVICE PROGRAMMING - *Module 2: IoT MOBILE DEVICE PROGRAMMING*	ING-INF/05	6
	NETWORKING ASPECTS OF INTERNET OF THINGS	ING-INF/03	6
	MEASUREMENTS FOR TELECOMMUNICATION SYSTEMS	ING-INF/07	6
	DISTRIBUTED SYSTEMS AND CLOUD/EDGE COMPUTING	ING-INF/05	6
	Free choice		6
2	IoT SECURITY	ING-INF/05	6
	SMART AND PROGRAMMABLE NETWORKS – *Module 1: Fundamentals of smart and programmable networks*	ING-INF/03	9
	DIGITAL ECONOMICS	SECS-P/03	6
	ELECTROMAGNETIC SENSORS AND IMAGE DIAGNOSTICS – *Module 1: Signals and Sensors for Image Diagnostics*	ING-INF/02	6
	ELECTROMAGNETIC SENSORS AND IMAGE DIAGNOSTICS – *Module 2: Laboratory of Electromagnetic Sensors for Image Diagnostics*	ING-INF/02	3
	MOBILE RADIO NETWORKS	ING-INF/03	6
	SMART AND PROGRAMMABLE NETWORKS – *Module 2: Laboratory of smart and programmable networks*	ING-INF/03	3
	Free choice	ING-INF/03	6
	Thesis		18



Duration: 2 years
Total number of hours (number of ECTS credits): 3000 hours (120 ECTS credits)
Admission requirements: A minimum of three-year undergraduate degree (or equivalent) in a related field, with preference to graduates in Computer Engineering, Telecommunication Engineering, Computer Science, Electronics Engineering and Information Technology.

for details https://corsilaurea23-24.unical.it/corso/telecommunication-engineering-smart-sensing-computing-networking/

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