Descrizione del percorso formativo

MASTER DEGREE COURSE IN ELECTRONIC ENGINEERING *Study programme for students enrolled in the academic year 2025-2026*		
NANOELECTRONICS AND PHOTONICS PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
OPTOELECTRONIC AND PHOTOVOLTAIC DEVICES	**72**	**9**
NANOELECTRONICS	**48**	**6**
12 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
PHYSICS AND OPTICS AT THE NANOSCALE (1ST year)	**48**	**6**
QUANTUM OPTICS AND LASER (2nd year)	**48**	**6**
QUANTUM TECHNOLOGIES (2nd year)	**48**	**6**
INDUSTRIAL APPLICATIONS OF IONIZING RADIATION SOURCES (2nd year)	**48**	**6**
12 ADDITIONAL FREE-CHOICE CREDITS		
MICROELECTRONICS AND GEOPOLITICS (1ST year)	**72**	**9**
BIOPHOTONICS (2nd year)	**48**	**6**
NANOPHOTONICS AND METASURFACES (2nd year)	**48**	**6**
QUALITY AND RELIABILITY IN ELECTRONICS (2nd year)	**72**	**9**

ORGANIC AND MOLECULAR ELECTRONICS	**48**	**6**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

ELECTRONICS FOR ENERGY PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
POWER ELECTRONICS DESIGN	**72**	**9**
SMART GRIDS	**48**	**6**
15 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
SYSTEMS THEORY (1^{ST} year)	**72**	**9**
INDUSTRIAL AUTOMATION (1^{ST} year)	**72**	**9**
DIGITAL CONTROL (1^{ST} year)	**48**	**6**
MODELLING AND CONTROL OF ELECTRIC DRIVES (2^{nd} year)	**72**	**9**
CONTROL ENGINEERING LABORATORY (2^{nd} year)	**72**	**9**
ELECTROCHEMICAL ENERGY STORAGE TECHNOLOGIES (2^{nd} year)	**48**	**6**
9 ADDITIONAL FREE-CHOICE CREDITS		
ANALOG ELECTRONIC DESIGN (2^{nd} year)	**72**	**9**
ELECTROMEGNETIC COMPATIBILITY (2^{nd} year)	**72**	**9**
OPTOELECTRONIC AND PHOTOVOLTAIC DEVICES (2^{nd} year)	**72**	**9**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

INTEGRATED CIRCUITS PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
INTEGRATED CIRCUITS FOR SIGNAL PROCESSING	**72**	**9**
RADIOFREQUENCY INTEGRATED CIRCUITS DESIGN	**72**	**9**
12 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
COMPUTER VISION (1ST year)	**48**	**6**
DIGITAL CONTROL (1ST year)	**48**	**6**
MACHINE LEARNING FOR BIOENGINEERING (1ST year)	**48**	**6**
INTERNET OF THINGS AND SMART CITIES (2nd year)	**48**	**6**
9 ADDITIONAL FREE-CHOICE CREDITS		
ANALOG ELECTRONIC DESIGN (2nd year)	**72**	**9**
ELECTROMAGNETIC COMPATIBILITY (2nd year)	**72**	**9**
DIGITAL CIRCUIT FOR NEURAL NETWORKS (2nd year)	**72**	**9**
ANTENNAS AND WIRELESS PROPAGATION (2nd year)	**72**	**9**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

BIOMEDICAL AND HEALTHCARE PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
BIOSENSORS	**72**	**9**
INTEGRATED CIRCUITS FOR SIGNAL PROCESSING	**72**	**9**
12 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
MACHINE LEARNING FOR BIOENGINEERING (1ST year)	**48**	**6**
BIOMEDICAL WEARABLE TECHNOLOGIES FOR HEALTHCARE AND WELLBEING (2nd year)	**48**	**6**
CONTROL OF BIOLOGICAL SYSTEMS (2nd year)	**48**	**6**
IMAGING FOR NEUROSCIENCE (2nd year)	**48**	**6**
9 ADDITIONAL FREE-CHOICE CREDITS		
ELECTROMAGNETIC COMPATIBILITY (2nd year)	**72**	**9**
RADIOFREQUENCY INTEGRATED CIRCUITS DESIGN (2nd year)	**72**	**9**
WEARABLE SENSING DESIGN FOR HEALTHCARE (2nd year)	**72**	**9**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

CONSUMER ELECTRONICS AND DOMOTICS PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
INTEGRATED CIRCUITS FOR SIGNAL PROCESSING	**72**	**9**
AUTOMOTIVE AND DOMOTICS	**72**	**9**
12 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
COMPUTER VISION (1ST year)	**48**	**6**
ELECTROCHEMICAL ENERGY STORAGE TECHNOLOGIES (2nd year)	**48**	**6**
INTERNET OF THINGS AND SMART CITIES (2nd year)	**48**	**6**
9 ADDITIONAL FREE-CHOICE CREDITS		
DIGITAL CIRCUITS FOR NEURAL NETWORKS (2nd year)	**72**	**9**
QUALITY AND RELIABILITY IN ELECTRONICS (2nd year)	**72**	**9**
RADIOFREQUENCY INTEGRATED CIRCUITS DESIGN (2nd year)	**72**	**9**
OPTOELECTRONIC AND PHOTOVOLTAIC DEVICES (2nd year)	**72**	**9**
ANTENNAS AND WIRELESS PROPAGATION (2nd year)	**72**	**9**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

SMART INDUSTRY AND AUTOMOTIVE PATH		
1st YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
ANALOG ELECTRONICS	**48**	**6**
ELECTRONIC MEASUREMENTS	**72**	**9**
MICROWAVE DEVICES	**72**	**9**
MICROELECTRONICS	**72**	**9**
ANALOGUE INTEGRATED CIRCUIT DESIGN	**72**	**9**
POWER ELECTRONICS	**72**	**9**
2nd YEAR		
MANDATORY UNITS	**HOURS**	**CREDITS**
QUALITY AND RELIABILITY IN ELECTRONICS	**72**	**9**
OPTOELECTRONIC AND PHOTOVOLTAIC DEVICES	**72**	**9**
12 FREE-CHOICE CREDITS AMONG THE FOLLOWING:	**HOURS**	**CREDITS**
COMPUTER VISION (1^{ST} year)	**48**	**6**
DIGITAL CONTROL (1^{ST} year)	**48**	**6**
INDUSTRIAL APPLICATIONS OF IONIZING RADIATION SOURCES (2^{nd} year)	**48**	**6**
9 ADDITIONAL FREE-CHOICE CREDITS		
ELECTROMAGNETIC COMPATIBILITY (2^{nd} year)	**72**	**9**
INTEGRATED CIRCUITS FOR SIGNAL PRECESSING (2^{nd} year)	**72**	**9**
POWER ELECTRONICS DESIGN (2^{nd} year)	**72**	**9**
AUTOMOTIVE AND DOMOTICS (2^{nd} year)	**72**	**9**
FURTHER MANDATORY ACTIVITIES	**HOURS**	**CREDITS**
PRACTICAL TRAINING	**-**	**9**
FINAL THESIS	**-**	**21**

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ANY FURTHER NOTES

The Master Degree in Electronic Engineering is managed by the Department of Information Engineering (https://www.dei.unipd.it/) which belongs to the School of Engineering (https://www.ingegneria.unipd.it/).

Educational activities are organized in semesters.

Class attendance is not compulsory, but strongly recommended.