DEPARTMENT OF INFORMATION ENGINEERING
SCHOOL OF ENGINEERING
UNIVERSITY OF PISA
STUDY PLAN - ENROLLED STUDENTS 2025-2026

Master's Degree BIONICS ENGINEERING

First year (delivery 2025/26)	SSD	CFU	
Neuroanatomy and Cognitive Neuroscience	MPSI/02	6	
Statistical Signal Processing	ING-INF/03	6	
Bioinspired Computational Methods	ING-INF/05	6	6
Analysis of Bionic and Robotic Systems	[ING-INF/06, ING-IND/34]	6	6
Student's Choice Activities		12	
Neural Engineering curriculum (12 CFU)			
Applied Brain Science	[INF/01, MPSI/02]	6	6
Biorobotics curriculum (12 CFU)			
Bioinspired and Soft Robotics	ING-IND/34	6	6
Second year (delivery 2026/27)	**SSD**	**CFU**	
Lab Training		3	
Final Dissertation		15	
Neural Engineering curriculum (42 CFU)			
Human-Computer Interaction and Affective Computing	[INF/01, ING-INF/06]	6	6
Neural Prostheses	ING-INF/06	6	6
Neural Signal Processing and Measurement Techniques	ING-INF/06	6	6
Bionic Senses	ING-INF/06	6	
Biorobotics curriculum (42 CFU)			
Design Principles for Bionic Tissue Engineering	ING-INF/06	6	
Wearable Robotics	ING-IND/34	6	6
Rehabilitation and Assistive Technologies	ING-IND/34	6	6
Advanced Interventional and Therapeutic Technologies	ING-IND/34	6	6

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Details of integrated courses	Modules	SSD
Bioinspired Computational Methods	Neural and Fuzzy Computation	ING-INF/05
	Biological Data Mining	ING-INF/05
Analysis of Bionic and Robotic Systems	Principles of Bionics and Biorobotics Engineering	ING-IND/34
	Modeling of Multi-physics Phenomena	ING-INF/06
Applied Brain Science	Integrative Cerebral Function	MPSI/02
	Computational Neuroscience	INF/01
Bioinspired and Soft Robotics	Mechanics of Smart Materials and Structures	ING-IND/34
	Soft Robotics Technologies	ING-IND/34
Human-Computer Interaction and Affective Computing	Human-Computer Interaction, Tools and Strategies	INF/01
	Affective Computing	ING-INF/06
Neural Prostheses	Neural Tissue Engineering	ING-INF/06
	Neural Interfaces and Bioelectronic Medicine	ING-INF/06
Neural Signal Processing and Measurement Techniques	Methods and Techniques of Measurement Signal Processing	ING-INF/06
	Advanced Neural Signal Processing	ING-INF/06
Wearable Robotics	Prostheses	ING-IND/34
	Exoskeletons	ING-IND/34
Rehabilitation and Assistive Technologies	Biomechanics of Human Motion	ING-IND/34
	Robotic and Data-driven Rehabilitation	ING-IND/34
Advanced Interventional and Therapeutic Technologies	Robotics for Minimally Invasive and Targeted Therapy	ING-IND/34
	Bionic Organs and Tissues	ING-IND/34

Elective exams	SSD	CFU
Robot Programming Frameworks and IoT Platforms	ING-IND/34	6
Electronics for Bionics Engineering	ING-INF/01	6
Advanced Materials for Bionics	ING-IND/34	6
Neuromorphic Engineering	ING-IND/34	6
Biometric Systems	ING-INF/06	6
Probability and Biostatics	ING-INF/06	6