BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING

DEGREE PROGRAMME 2025/26

Course contents are available at this link

1st year

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Mathematical Analysis 1	MAT/05	A	9	90
1	Chemistry	CHIM/07	A	6	60
1	Physics 1	FIS/01	A	8	80
	Integrated Course: Information Processing Systems				
1	- Module: Fundamentals of Computer Science	ING-INF/05	A	6	60
2	- Module: Computer Architectures	ING-INF/05	A	6	60
2	Physics 2	FIS/01	A	7	70
2	Geometry and Algebra	MAT/03	A	7	70
	Integrated Course: Human Body Biology				
2	- Module: Biochemistry	BIO/10	C	2	20
2	- Module: Human Anatomy	BIO/16	C	4	40
2	- Module: Fundamentals of Physiology	BIO/09	C	3	30

2nd year

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Mathematical Analysis 2	MAT/05	A	8	80
	Integrated Course: Fundamentals of Mechanics and Biomaterials				
1	- Module: Fundamentals of Mechanics and Biomechanics	ING-IND/14	B	5	50
1	- Module: Biomaterials	ING-IND/24	B	5	50
1	Applied Mathematics	MAT/08	A	6	60
	Integrated Course: Biochemical Engineering				
1	- Module: Fundamentals of Biochemical Engineering	ING-IND/24	B	5	50
2	- Module: Applications of Biochemical Engineering	ING-IND/24	B	5	50
	Integrated Course: Fundamentals of Information Engineering				
2	- Module: Fundamentals of Systems Theory	ING-INF/04	B	5	50
2	- Module: Fundamentals of Biomedical Signals Analysis	ING-INF/06	B	7	70
	Integrated Course: Electronic Design				
2	- Module: Analog Electronics	ING-INF/01	B	5	50
2	- Module: Digital Electronics	ING-INF/01	B	5	50
2	Lab of Matlab Fundamentals for Bioengineers	ING-INF/06	F	2	20

3rd year

Sem	Teaching course	SSD*	TAF*	Credits	h
1	Electric Actuators and Converters	ING-IND/32	B	5	50
1	Integrated Course: Mechanical Bioengineering				
	- Module: Strenght of Materials	ING-IND/14	B	5	50
	- Module: Design of medical devices with structural functions	ING-IND/34	B	5	50
1	Bioelectronics Fundamentals	ING-INF/06	B	8	80
	Integrated Course: Fundamentals of Clinic and Pathology				
2	- Module: Pathology	MED/08	C	2	20
2	- Module: Internal Medicine	MED/09	C	2	20
2	- Module: Radiology and Nuclear Medicine	MED/36	C	2	20
2	- Module: Technologies and Instruments in Surgery	MED/18	C	2	20
	Choose between:				
2	Medical Instrumentation	ING-INF/06	B	5	50
2	Applied Biomechanics	ING-IND/34	B	5	50
	Choose between:				
1	Technologies and numerical techniques for clinical image processing	ING-INF/02	C	5	50
1	Power and Electrical Safety in Hospital	ING- IND/33	C	5	50
	Integrated Course: Biosignals and Image Processing				
2	- Module: Processing of Digital Images	ING-INF/05	C	3	30
2	- Module: 1-D Biosignal Processing	ING-INF/06	C	2	20
2	Electromagnetic Compatibility	ING-INF/02	C	5	50
2	Data acquisition systems	ING-INF/07	C	5	50

Additional credits to be acquired

Sem	Activity	SSD*	TAF*	Credits	h
	English Language Test - B1[1]		E	3	
	Elective activities[2]		D	12	
	Other activities		F	2	
	Final Exam		E	6	

Other optional activities (from 2nd year):

Sem*	Laboratory	SSD*	TAF*	Credits	h
2	Numerical Algorithms for Engineering	MAT/08	F	2	20

The semester could change; check in Course bulletin of the academic year.

TOTAL CREDITS 180

(1) The credits of European language level can be acquired:
- passing the English language test at B1 European level (CEFR) at Centro Linguistico d'Ateneo,
- showing appropriate certification of B1 European level (CEFR) knowledge.

(2) The elective activities must be consistent with the personal educational plan and they need approval by the Degree Programme Board.

***Abbreviations**

SSD	Scientific Disciplinary Sector
TAF	Type of Educational Activity