



Study Plan for the Bachelor's Degree in Biotech Engineering for Health (Interclass L2/L8)
Enrolled in the 2025/2026 Academic Year

FIRST YEAR

A mandatory 16-hour training course on 'Workplace Safety and Protection' is required before the start of laboratory activities.

ACTIVITY NAME	Past Italian SSD Code (DM 4/10/2010)	New Italian SSD Code (DM 639/2024)	TAF L2	TAF L8	CFUs	Hours	SEM	COURSE TYPE	MANDATORY ACTIVITY	NOTES
Calculus (Mod. Calculus I)	MAT/05 Analisi Matematica	MATH-03/A Analisi matematica	A1	A1	6	48	I	Dual-module course	YES	
Calculus (Mod. Calculus II)	MAT/05 Analisi Matematica	MATH-03/A Analisi matematica	A1	A1	6	48	II			
Algebra and Geometry	MAT/02 Algebra	MATH-02/A Algebra	A1	A1	6	48	I		YES	
Fundamentals of Computer Science (Mod. Algorithms and Data Structures)	ING-INF/05 Sistemi di elaborazione delle informazioni	IINF-05/A Sistemi di elaborazione delle informazioni	A1	A1	5	40	II	Dual-module course	YES	
Fundamentals of Computer Science (Mod. Programming Fundamentals)	INF/01 Informatica	INFO-01/A Informatica	A1	A1	4	32	II			
Physics	FIS/01 Fisica Sperimentale	PHYS-01/A Fisica sperimentale delle interazioni fondamentali e applicazioni	A1	A2	9	72	I - II		YES	
Chemistry (Mod. General and Inorganic Chemistry)	CHIM/03 Chimica Generale e Inorganica	CHEM-03/A Chimica generale e inorganica	A2	A2	4	32	I	Dual-module course	YES	
Chemistry (Mod. Organic Chemistry)	CHIM/06 Chimica Organica	CHEM-05/A Chimica organica	A2	A2	6	48	II			
Biological and Morphological Basis of Life (Mod. General Biology)	BIO/13 Biologia Applicata	BIOS-10/A Biologia cellulare e applicata	A3	C	6	48	I	Dual-module course	YES	
Biological and Morphological Basis of Life (Mod. Histology and Anatomy)	BIO/17 Istologia e anatomia	BIOS-13/A Istologia ed embriologia umana	A3	C	4	32	II			
Fundamentals of Management	SECS-P/08 - Economia e gestione delle imprese	ECON-07/A Economia e gestione delle imprese	B2	C	4	32	II		YES	
Total Year Credit					60					



SECOND YEAR

ACTIVITY NAME	Italian SSD (DM 4/10/2010)	Italian SSD (DM 639/2024)	TAF L2	TAF L8	CFUs	Hours	SEM	COURSE TYPE	MANDATORY ACTIVITY	NOTES
Artificial Intelligence for Biomedical Data (Mod. Information Systems for Biomedical Data)	ING-INF/05 Sistemi di elaborazione delle informazioni	IINF-05/A Sistemi di elaborazione delle informazioni	C	B4	4	32	I	Dual-module course	YES	
Artificial Intelligence for Biomedical Data (Mod. Machine Learning for Biomedical Data)	ING-INF/05 Sistemi di elaborazione delle informazioni	IINF-05/A Sistemi di elaborazione delle informazioni	C	B4	6	48	II			
Control Systems and Robotics (Mod. Dynamic Systems and Control)	ING-INF/04 Automatica	IINF-04/A Automatica	C	B1	6	48	I	Dual-module course	YES	
Control Systems and Robotics (Mod. Robotics)	ING-INF/04 Automatica	IINF-04/A Automatica	C	B1	4	32	II			
Signal Analysis and Statistical Models	ING-INF/03 Telecomunicazioni	IINF-03/A Telecomunicazioni	C	B5	9	72	I - II		YES	
Biochemistry and Molecular Biology (Mod. Metabolic biochemistry)	BIO/10 Biochimica	BIOS-07/A Biochimica	B1	C	6	48	I	Dual-module course	YES	
Biochemistry and Molecular Biology (Mod. Molecular biology)	BIO/11 Biologia molecolare	BIOS-08/A Biologia molecolare	B1	C	6	48	I			
Physiology and Pathology (Mod. Physiology)	BIO/09 Fisiologia	BIOS-06/A Fisiologia	B1	C	6	48	I	Dual-module course	YES	
Physiology and Pathology (Mod. Pathology)	MED/04 Patologia generale e immunologia	MEDS-02/A Patologia generale	B1	C	6	48	II			
Genetics	BIO/18 Genetica	BIOS-14/A Genetica	B3	C	6	48	II		YES	
Total Year Credit					59					



THIRD YEAR

ACTIVITY NAME	Italian SSD (DM 4/10/2010)	Italian SSD (DM 639/2024)	TAF L2	TAF L8	CFUs	Hours	SEM	COURSE TYPE	MANDATORY ACTIVITY	NOTES
Biotech Interfaces, Design and Regulation	ING-INF/06 Bioingegneria elettronica e informatica	IBIO-01/A Bioingegneria	C	B2	3	24	II		YES	
Electronics (Mod. Circuit Theory)	ING-IND/31 Elettrotecnica	IJET-01/A Elettrotecnica	C	B6	3	24	I	Dual-module course	YES	
Electronics (Mod. Electronic Circuits)	ING-INF/01 Elettronica	IINF-01/A Elettronica	C	B3	7	70	I			
Drugs and Therapeutic Proteins (Mod. Mechanism of Drug Action)	BIO/14 Farmacologia	BIOS-11/A Farmacologia	B3	C	6	48	I	Dual-module course	YES	
Drugs and Therapeutic Proteins (Mod. Production and Properties of Drugs and Therapeutic Proteins)	CHIM/08 Chimica Farmaceutica	CHEM-07/A Chimica farmaceutica	B4	C	6	48	II			
Microbiology and Regenerative Medicine (Mod. Microbiology and Microbial Biotechnologies)	MED/07 Microbiologia	MEDS-03/A Microbiologia e microbiologia clinica	B5	C	4	32	I	Dual-module course	YES	
Microbiology and Regenerative Medicine (Mod. Stem Cells and Regenerative Medicine)	BIO/17 Istologia	BIOS-13/A Istologia ed embriologia umana	B3	C	4	32	I			
<i>One elective course to be chosen from the following group (A1 or A2)</i>										
A1) Sensors and Biosensors	CHIM/01 Chimica analitica	CHEM-01/A Chimica analitica	B4	C	6	48	I		NO	
A2) Biomaterials	CHIM/03 Chimica generale ed inorganica	CHEM-03/A Chimica generale e inorganica	B4	C	6	48	I		NO	
<i>One elective course to be chosen from the following group (B1 or B2 or B3 or B4)</i>										
B1) Advanced Control and Robotics	ING-INF/04 Automatica	IINF-04/A Automatica	C	B6	6	48	II		NO	
B2.1) Digital Embedded Systems for Biotechnology (Mod. Embedded Systems)	ING-INF/01 Elettronica	IINF-01/A Elettronica	C	B6	3	30	II	Dual-module course	NO	



B2.2) Digital Embedded Systems for Biotechnology (Mod. C Language)	ING-INF/05 Sistemi di elaborazione delle informazioni	IINF-05/A Sistemi di elaborazione delle informazioni	C	B6	3	30	II			
B3.1) Electromagnetics and Imaging for Biomedicine (Mod. Electromagnetics for Biomedicine)	ING-INF/02 Campi Elettromagnetici	IINF-02/A Campi elettromagnetici	C	B6	3	24	II	Dual-module course	NO	
B3.2) Electromagnetics and Imaging for Biomedicine (Mod. Imaging for Biomedicine)	ING-INF/03 Telecomunicazioni	IINF-03/A Telecomunicazioni	C	B6	3	24	II			
B4) Signal Acquisition and Measurement Systems	ING-INF/07 Misure Elettriche e Elettroniche	IMIS-01/B Misure elettriche ed elettroniche	C	B6	6	60	II		NO	
Elective Courses (see table below)			D	D	12		I-II		YES	
Internship			F	F	1	25	II		YES	
Final Exam			E	E	3		II		YES	
					Total Year Credits	61				

TABLE LEGEND

TAF = Activity Category (A, B, C, D, E, F)

CFUs = UNIVERSITY CREDITS

Hours = Number of Lecture Hours

SEM = Semester (I or II)

COURSE TYPE = indicates whether the course consists of two modules or is a single-module course

MANDATORY ACTIVITY = indicates whether the course is compulsory or optional



List of Approved Eligible Courses

Students are required to complete their study plan by selecting 12 credits from the following optional courses.

ACTIVITY NAME	Italian SSD (DM 4/10/2010)	Italian SSD (DM 639/2024)	TAF L2	TAF L8	CFUs	Hours	SEM	COURSE TYPE	MANDATORY ACTIVITY	NOTES
A) Advanced Control and Robotics	ING-INF/04 Automatica	IINF-04/A Automatica	D	D	6	48	II		NO	
B) Biomaterials	CHIM/03 Chimica generale ed inorganica	CHEM-03/A Chimica generale e inorganica	D	D	6	48	I		NO	
C1) Digital Embedded Systems for Biotechnology (Mod. Embedded Systems)	ING-INF/01 Elettronica	IINF-01/A Elettronica	D	D	3	30	II	Dual-module course	NO	
C2) Digital Embedded Systems for Biotechnology (Mod. C Language)	ING-INF/05 Sistemi di elaborazione delle informazioni	IINF-05/A Sistemi di elaborazione delle informazioni	D	D	3	30	II			
D1) Electromagnetics and Imaging for Biomedicine (Mod. Electromagnetics for Biomedicine)	ING-INF/02 Campi Elettromagnetici	IINF-02/A Campi elettromagnetici	D	D	3	24	II	Dual-module course	NO	
D2) Electromagnetics and Imaging for Biomedicine (Mod. Imaging for Biomedicine)	ING-INF/03 Telecomunicazioni	IINF-03/A Telecomunicazioni	D	D	3	24	II			
E) Sensors and Biosensors	CHIM/01 Chimica analitica	CHEM-01/A Chimica analitica	D	D	6	48	I		NO	
F) Signal Acquisition and Measurement Systems	ING-INF/07 Misure Elettriche e Elettroniche	IMIS-01/B Misure elettriche ed elettroniche	D	D	6	60	II		NO	