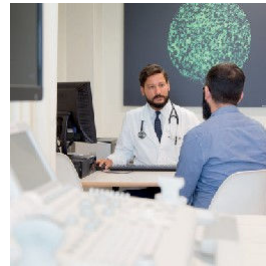




UNIVERSITA' CAMPUS BIO-MEDICO DI ROMA



**STUDENT HANDBOOK
ACADEMIC YEAR 2024/2025
Master's Degree Programme in Medicine and Surgery
'MedTech'**

**Campus Bio-Medico University of Rome
Department of Medicine and Surgery**

SYLLABUS AND ORGANISATION

DEGREE COURSE STRUCTURE

The Master's Degree Programme in Medicine and Surgery 'MedTech' is structured over six years for a total of 360 academic credits (CFU) in line with the graduation ministerial requirements.

The educational activity includes lectures, small group interactive teaching sessions, mandatory training and dissertation preparation activities.

Within the six years, the curriculum also foresees that students participate in training activities in the various clinical fields for at least 60 CFUs (corresponding to 1500 hours).

Students must also earn 8 CFUs in areas of their choosing. These elective learning activities (ADE) are part and parcel of the academic curriculum. ADEs can be seminars, clinical and laboratory training, volunteering activities or similar activities.

Students of the 'MedTech' Course are offered the opportunity to deepen their skills in engineering through the acquisition of 30 optional and additional CFUs, in addition to the 360 CFUs required for a Master's degree in Medicine and Surgery. These additional credits are chosen as part of a pathway approved in advance by the Departmental Faculty of Engineering of the University Campus Bio-Medico of Rome. Students who complete the integrated pathway (360 CFUs+30 CFUs) will be granted not only the Master's degree in Medicine and Surgery but also the three-year degree in Biomedical Engineering.

TRAINING GOALS

In order to achieve the training goals specified below, the Master's Degree Course in Medicine and Surgery 'MedTech' requires the student to achieve a total of 360 CFUs in six years, delivered entirely in English; at least 60 CFUs are to be earned through educational activities aimed at the acquisition of specific professional skills.

The University's website provides all the information related to the division into years and semesters, for integrated and non-integrated courses, the relevant CFUs, the training goals (including those related to the CFUs of the professionalisation-type activities) specific to each course, integrated and non-integrated, as well as the type of profit assessment. The latter are scheduled by the competent teaching body structure during the periods when frontal teaching activities are interrupted. If successfully passed, the profit test entitles the student to acquire the corresponding CFUs.

Mission

The mission of the Master's Degree Course in Medicine and Surgery 'MedTech' is to train future doctors who will have a solid basic preparation in the biological (biology, genetics, anatomy and physiology) and pathophysiological fields and who are able to manage all the phases of the treatment path (aetiology, prevention, diagnosis, treatment and rehabilitation) using a rich interdisciplinary training developed in the various fields of medicine. Graduates will have as their reference the centrality of the individual and an anthropological knowledge that recognises the dignity of humans and pays particular attention to the reality of the ill person and the value of suffering. The training will also be characterised by a profound knowledge of the ethical culture that will make it possible to operate in the field of advanced technologies without losing sight of the essential problems of life. This mission responds more adequately to the new needs of care and health, as it focuses not only on the disease, but also on the ill person considered in his or her entirety, in gender differences, and inserted in a dynamic social context. At the end of the Master's Degree Course in Medicine and Surgery 'MedTech', the graduate will be able to manage the transformation of the traditional concept of health understood as "treatment of disease", converting it into a broader and more complex approach based on the concepts of Precision, Prediction, Personalisation, Prevention and Participation (5P).

Medical training thus oriented is also seen as the first segment of an education that must last over time, and it is in this perspective that the knowledge that the student must acquire at this stage has been calibrated, giving due importance to self-learning, to experience not only in the hospital but also in the territory, allowing

the development of clinical reasoning and the culture of prevention.

The Course is characterised by and differs from the other courses of the same degree class (LM/41 - Medicine and Surgery) by the specific objective of integrating the skills typical of the professional figure of the Surgeon with basic and applied skills typical of Biomedical Engineering (and specifically of the degree class L/8). The qualifying characteristics of the doctor to be trained include:

- human contact skills (communication skills)
- self-learning and self-assessment (continuing skills);
- ability to independently analyse and solve problems related to medical practice, both related to good clinical practice based on scientific evidence (evidence based medicine) and those involving ethical aspects;
- aptitude for constant updating of knowledge and possession of the methodological and cultural foundations for the autonomous acquisition and critical evaluation of new knowledge (continuing professional development);
- aptitude for interdisciplinary and interprofessional work (interprofessional education);
- effective integration of medical skills with basic and applied engineering knowledge and skills (mathematics, chemistry, physics, data analysis and computer science) and methodology (modelling, problem solving, optimisation).

OCCUPATIONAL OPPORTUNITIES

The course prepares for the profession of general practitioner. The natural continuation of the course in Medicine and Surgery 'MedTech' is access to area specialisation schools or the three-year regional course of specific training in general medicine to which graduates in the LM-41 class are admitted.

The Decree *çaw* no. 18 of March 17, 2020, converted into Law no. 27 of April 24, 2020, has reformed the qualification to practice the profession of Doctor-Surgeon by providing in Article 102, paragraph 1, that the achievement of the Master's Degree in Medicine and Surgery – Class LM/41 qualifies for the practice of the profession of doctor-surgeon, subject to the acquisition of the judgment of suitability for the pre-lauream traineeship (referred to in Article 3 of MIUR Decree no. 58 of May 9, 2018). For further information, please refer to the didactic regulations.

STUDY MANIFESTO – CURRICULUM COHORT YEAR 2024-2025

Exam	Integrated Courses	Year	Semester	ECTS
1	Biology	I	1°/2°	9
2	Chemistry	I	1°	7
3	General Physics I	I	1°	7
4	Mathematics	I	1°	10
5	Fundamentals of Computer Science	I	2°	5
6	General Physics II	I	2°	5
7	Medical Humanities I	I	1°/2°	4
8	Basic Life Sciences 1	I	2°	11
9	Italian Language	I	1°/2°	4
10	English Language	I	1°/2°	4
11	Probability and Statistics	II	1°	6
12	Basic Life Sciences 2	II	1°	13
13	Biochemistry	II	1°/2°	12
14	Basic Life Sciences 3	II	2°	12
15	Medical Humanities II	II	1°	2
16	Pharmacology and Medical Genetics	II	2°	6
17	Medical Humanities III	III	2°	2
18	Pathology, Immunology and Microbiology	III	1°	19
19	Signal and Imaging Processing	III	1°/2°	10
20	Cardiorespiratory Diseases	III	2°	14
21	Biomechanics, biomaterials and telemedicine	IV	1°	12
22	Gastrointestinal Diseases	IV	1°	8
23	Genitourinary Diseases	IV	2°	9
24	Endocrinology and Metabolism	IV	2°	3
25	Dermatology, Clinical Immunology and Infectious Diseases	IV	2°	7
26	Locomotor System Diseases	V	1°	15
27	AI and Data Mining	V	1°	5
28	Cancer Medicine	V	2°	15
29	Clinical Neuroscience	V	2°	12
30	Child Medicine	VI	1°	5
31	Hygiene and Public Health and Business Administration	VI	1°	4
32	Internal Medicine	VI	1°/2°	13
33	Surgery	VI	1°	8
34	Head and Neck	VI	2°	5
35	Anaesthesiology and Emergency	VI	2°	3
36	Forensic Medicine	VI	2°	2
	Elective credits to obtain the degree in Biomedical Engineering	II-VI	1°/2°	30
	<i>Training and orientation internships</i>			60
	<i>Elective Courses</i>			8
	<i>Final Thesis</i>			8
	TOTAL			330

TEACHING ORGANISATION: Integrated Courses and Coordinators

First Year	<i>Credits C.I.</i>	<i>SSD</i>	<i>Credits SSD</i>	<i>Semester</i>	<i>Coordinator</i>
Biology (exam)	9			I-II	Elena Santonico
Molecular Biology		BIO/11	1		
Experimental Biology		BIO/13	8		
Chemistry (exam)	7			I	Sara Maria Giannitelli
Chemistry		CHIM/07	7		
General Physics I (qualifying exam)	7			I	Alessandro Loppini
Physics		FIS/07	7		
Mathematics (exam)	10			I	Marta Menci
Mathematics		MAT/05	10		
General Physics II (exam)	5			II	Alessandro Loppini
Physics		FIS/03	5		
Fundamentals of Computer Science (exam)	5			II	Rosa Sicilia
Fundamentals of Computer Science		ING-INF/05	5		
Medical Humanities 1 (exam)	4			I-II	Giampaolo Ghilardi
History of Medicine		MED/02	1		
Social Psychology		M-PSI/05	1		
Moral Philosophy / Fundamentals of Anthropology and Ethics		M-FIL/03	2		
Basic Life Sciences 1 (exam)	11			II	Giovanni Di Pino
Physiology		BIO/09	4		
Human Anatomy		BIO/16	3		
Histology		BIO/17	4		
Language (qualifying exam)	4			I-II	CLA
English Language / Italian Language			4		

Second Year	<i>Credits C.I.</i>	<i>SSD</i>	<i>Credits SSD</i>	<i>Semester</i>	<i>Coordinator</i>
Probability and Statistics (exam)	6			I	Massimo Ciccozzi
Statistics		SEC-S/02	5		
Medical Statistics		MED/01	1		
Basic Life Sciences 2 (exam)	13			I	Giovanni Di Pino
Human Anatomy		BIO/16	7		
Physiology		BIO/09	6		
Medical Humanities 2 (exam)	2			I	Francesco De Micco
Bioethics		MED/43	2		
Biochemistry (exam)	12			I-II	Alessandro Leuti
Biochemistry		BIO/10	10		
Clinical Biochemistry		BIO/12	2		
Basic Life Sciences 3 (exam)	17			II	
Human Anatomy		BIO/16	6		
Physiology		BIO/09	6		
Physiological Models		FIS/03	5		
Pharmacology and Medical Genetics	6			II	Fiorella Gurrieri
Pharmacology		BIO/14	2		
Medical Genetics		MED/03	4		

Third Year	<i>Credits C.I.</i>	<i>SSD</i>	<i>Credits SSD</i>	<i>Semester</i>	<i>Coordinator</i>
Medical Humanities 3 (exam)	2			II	Laura Campanozzi
Ethics of Technology		MED/43	2		
Pathology Immunology and Microbiology (exam)	20			I	Andrea Marra
Microbiology and Clinical Microbiology		MED/06	4		
Experimental Medicine And Pathophysiology		MED/04- MED/05- MED/06- MED/07	11		
Clinical Pathology		MED/05	1		
Pathology		MED/08	4		
Electronics (exam)	3	ING-INF/01	3	I	Giorgio Pennazza
Signal and Imaging Processing (exam)	12			I/II	Rosario Francesco Grasso
Processing of biomedical signals I		ING-INF/06 ING-INF/05	5		
Image processing		ING-INF/05	4		
Clinical Imaging		MED/36	3		
Measurements, sensors and instrumentation (exam)	5	ING-IND/12	5	II	Daniela Lo Presti
Cardiorespiratory Diseases (exam)	20				Francesco Stilo
Cardiovascular Diseases		MED/11	7		
Heart Surgery		MED/23	3		
Vascular Surgery		MED/22	2		
Respiratory Diseases		MED/10	3		
Thoracic Surgery		MED/21	2		
Pharmacology		BIO/14	2		
Clinical Imaging and Diagnostic		MED/36	1		

ACADEMIC CALENDAR

SEMESTER	TEACHING ACTIVITIES	EXAM SESSIONS	TEACHING ACTIVITIES BREAKS
I semester	From September 23 (I year), 2024- from 30 September (after I year) -To January 11, 2025	From January 13, 2025 To March 1, 2025	Christmas Break From December 23, 2024 To January 6, 2025
II semester	From March 3, 2025 To May 31, 2025	From June 3, 2025 To July 31, 2025	Easter Break From April 17, 2025 To April 22, 2025
Catch-up session: Autumn From September 1, 2025 to September 27, 2025			

Please note: opening and closing dates indicated in the table above

Teaching activities are suspended during the following holidays:

All Saints' Day: November 1st, 2024

Immaculate Conception: December 8th, 2024

Liberation Day: April 25th, 2025

Labour Day: May 1st, 2025

Republic Day: June 2nd, 2025

Saint Josèmaria Escrivá de Balaguer: June 26th, 2025

Saint Peter and Saint Paul - only in Rome: June 29th, 2025