

Teaching Regulations of the Master's Degree Course in Medicine and Surgery

A.A. 2024/2025

Proposed by Council of the Course in Medicine and Surgery on May 15, 2024

Approved by Academic Senate on June 13, 2024

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Art. 1 - General directions of the Course of Study

The Degree Program in Medicine and Surgery belongs to the LM-41 degree class and is activated pursuant to the Decree of the Minister of University and Research of March 16, 2007, and subsequent amendments.

The Degree Program belongs to the Interdepartmental Department of Medicine within the School of Medicine. The didactic headquarters are located at:

- A.O.U. Policlinico Consorziale Bari.

These Regulations are drawn up in accordance with the didactic regulations of the Degree Program in Medicine and Surgery adopted in the academic year 2023-2024.

The management bodies of the Degree Program are the Coordinator Prof. Michele De Fazio, the Study Course Committee and the Class Council.

The teaching activities of the degree program are delivered in inglese.

The Degree Program has a WEB site containing all the information useful for students and teaching staff and ensures the maximum dissemination of the relative address. (Link [Corso di Laurea Magistrale a ciclo unico in Medicina e Chirurgia — Medicina e chirurgia.](#))

Art.2 - Specific educational objectives, expected learning outcomes and job outlets

2.1 Training Objectives.

For the purpose of achieving the aforementioned educational objectives, the single-cycle bachelor's degree program provides a total of 360 CFUs, spread over six years of the course, of which at least 60 are in Basic Sectors.

The course is organized into 12 semesters and 36 integrated courses; these are assigned specific CFUs by the Council of the teaching structure in compliance with the provisions of the table of indispensable educational activities. Each CFU corresponds to a student-commitment of 25 hours, of which not more than 10 hours are usually in frontal lectures, or 20 hours of assisted study within the teaching structure. Each professionalizing CFU corresponds to 25 hours of student work, including 15 hours of professionalizing activity with teacher guidance on small groups within the teaching structure and the territory and 5 hours of individual reworking of the learned activities.

The Board of the teaching structure determines in the 'Manifesto of Studies' and reports in the 'Student Guide' the articulation of integrated courses into semesters, the related CFUs, the 'core curriculum' and learning objectives (including those related to the CFUs of the professionalizing type activity) specific to each integrated course, and the type of profit verifications. The profit verifications, in a number not exceeding 36, are scheduled by the competent Council of the teaching structure during the periods when frontal teaching activities are interrupted. The profit verification, successfully passed, entitles the student to the acquisition of the corresponding CFUs.

The mission of the single-cycle Master's Degree Course is identified with the training of a physician at the initial professional level with a biomedical-psycho-social culture, possessing a multidisciplinary and integrated view of the most common problems of health and disease, with an education oriented to the community, the territory and fundamentally to the prevention of disease and health promotion, and with a humanistic culture in its implications of medical interest; such a specific mission responds more adequately to the new needs of care and health, in that it is centered

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not only on the disease, but above all on the sick man, considered in his totality of soma and psyche and inserted in the social context.

Medical training thus oriented is also seen as the first segment of an education that must last over time, and in this perspective the knowledge that the student must acquire at this stage has been calibrated, giving due importance to self-study, to experiences not only in the Hospital but also in the territory, and to epidemiology, for the development of clinical reasoning and the culture of prevention.

The qualifying characteristics of the physician to be trained include:

1. Good human contact skills (communication skills);
2. Ability to self-learning and self-evaluation (continuing education);
3. Ability to independently analyze and solve problems related to medical practice along with good evidence-based clinical practice (evidence-based medicine);
4. Habit of constant updating of knowledge and skills, and possession of the methodological and cultural basis for autonomous acquisition and critical evaluation of new knowledge and skills (continuing professional development);
5. Good practice in interdisciplinary and interprofessional work (interprofessional education);
6. Thorough knowledge of the methodological foundations necessary for a correct approach to scientific research in the medical field, together with the autonomous use of information technology indispensable in clinical practice.

The key words of the didactic method adopted, useful for the achievement of the expected qualifying characteristics, involve the horizontal and vertical integration of knowledge, a teaching method based on a solid cultural and methodological foundation achieved in the study of pre-clinical disciplines and later predominantly centered on the ability to deal with problems (problem oriented learning), early contact with the patient, a good acquisition of clinical skill along with a good acquisition of the ability to human contact. A highly integrated, flexible and modifiable teaching organization, a true laboratory of scientific experimentation, has therefore been planned, with the intention of promoting in students the ability to acquire knowledge not in a fragmentary but in an integrated way, and to keep it alive not only in the short term but also in the longer term. The student is therefore considered the pivot of the educational process, both in instructional design and in the improvement of the entire curriculum, with the aim of enhancing his or her autonomy of initiative.

A solid foundation of clinical knowledge is also ensured for the student through the organization of certified internships based on tutorial teaching, together with a strong understanding of the medical-scientific method and the humanities. True professional competence is achieved, in our opinion, only after a long habit of patient contact, which is promoted from the first year of the course and integrated with basic and clinical sciences throughout their training through extensive use of tutorial activities.

In the teaching design of our master's degree program, the right balance of integration is proposed between: 1) basic sciences, which must be broad and include knowledge of evolutionary biology and biological complexity aimed at understanding the structure and function of the human organism under normal conditions, for the purpose of maintaining health conditions, 2) clinical and methodological medical practice, which must be particularly solid, through extensive use of tutorial teaching capable of transforming theoretical knowledge into personal experience and building one's

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own scale of values and interests, 3) human sciences, which must constitute a useful baggage to achieve awareness of being a doctor.

The special features of the Bachelor of Medicine degree program aimed at achieving the general, intermediate, and specific objectives are summarized as follows:

- 1) Within the framework of what is provided by current legislation, the programming of objectives, programs, and teaching is multidisciplinary.
- 2) The teaching method implemented is interactive and multidisciplinary with the daily integration of basic sciences and clinical disciplines and early clinical involvement of students who are immediately oriented towards a correct approach to the patient. The problems of basic sciences and clinical areas are therefore addressed throughout the course (total integration model) even if in different proportions but with a unitary and strongly integrated vision also through the use of multi-voice teaching and learning based on problems and their solution with appropriate decision making.
- 3) Selection of the specific objectives of basic courses made primarily on the relevance of each objective in the context of human biology and the preparatory nature concerning current or foreseeable clinical themes with particular attention to the component concerning scientific methodology.
- 4) Selection of the specific objectives of characterizing courses made primarily based on the epidemiological prevalence, urgency of intervention, possibility of intervention, severity, and didactic exemplarity. The enhancement of attendance in hospital wards and outpatient facilities of territorial structures and the enhancement of the relationship with the patient, also from a psychological point of view, are also envisaged.
- 5) The teaching process makes use of and enhances the use of modern teaching tools consisting of the tutorial system, clinical trigger, problem-oriented learning, experiential learning, problem-solving, decision making, and extensive use of seminars and conferences.
- 6) Tutors who collaborate in the student's training process with functions of facilitating learning (area tutors) and supporting (personal tutors) students are predominantly used.
- 7) Particular attention is paid to the acquisition of practical skills through: 1) involvement in planning basic research in the first three years of the course 2) learning the semiological basics of clinical sciences at the patient's bedside and in laboratories in the intermediate period (internship organized as guided tutorial activity in the third year of the course) 3) attendance of university wards and outpatient clinics (clinical internship - clinical clerkship - from the fourth to the sixth year of the course) and territorial ones such as those of General Practitioners (from the fourth to the sixth year of the course) for the completion of the clinical internship in the last years of the course and the internship period for the preparation of the degree thesis 4) participation in research programs during the internship period for the preparation of the degree thesis.
- 8) Particular attention is paid to learning the English language;
- 9) Particular attention is paid to IT and multimedia methodologies, also through e-learning, tele-education, and telemedicine experiences, and to the correct use of bibliographic sources.
- 10) Enhancement of Clinical Methodology - Human Sciences (Methodologies) through integrated courses that accompany the student throughout the entire course of training (I-VI year). Everyone is familiar with the importance of method in medicine, both in terms of knowledge of medical methodology and its rules according to the principles of evidence-based medicine and clinical

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methodology applied to the individual patient. This integrated course immediately orients students toward a humanistic education, which will accompany them in the scientific-professional training process. This training will enable them to hone skills and acquire the correct and innovative means of clinical reasoning. This will be done through the applications of 'evidence-based medicine', 'evidence-based teaching' through the use of 'guidelines', 'concept maps' and 'algorithms'. Issues pertaining to interdisciplinarity and interprofessionalism, health economics, physician professionalism, physician social responsibility, social and gender perspectives, relationships with so-called complementary and alternative medicine, prevention, chronic patient education, addiction pathologies, palliative care for the terminally ill, gender medicine and narrative medicine are also to be addressed as part of this integrated course. The gradual acquisition of the method is coupled with the students' humanistic education. They can thus grow scientifically and likewise develop greater sensitivity to ethical and socio-economic issues, enabling them to interact with the patient in his or her entirety as a sick person, according to the concept of whole person medicine. This responds to the growing need for a rapprochement between the figure of the physician and that of the sick man, who are increasingly estranged from a uniquely technological medical practice. Within this framework, an attempt has also been made to use so-called narrative medicine, together with reflection grids, and the role-playing technique as important tools in the student's acquisition of true emotional and professional competence (used by Psychologists and Psychiatrists in the Methodology course and the Psychiatry course).

11) Students are also assessed through formative in itinere verifications (self-assessment tests and intermediate interviews), students' written reports on assigned topics, and through the evaluation of the overall profile drawn up according to predefined criteria. The examination tests can be articulated-as well as in the traditional modes of oral or written examination-also in a sequence of useful items to test acquired knowledge (knows and knows how) such as multiple-choice tests or written short answers organized on interdisciplinary problems or clinical cases, followed by examinations useful to ascertain acquired clinical skills, such as the Objective Structured Clinical Examination (shows how) or such as the mini-Clinical Evaluation Exercise, the Direct Observation of Procedural Skills and the use of the Portfolio (does). As a general rule that applies to all integrated courses, formal assessments will be based on written tests or oral tests.

2.1 Expected learning outcomes, expressed through the European qualification descriptors

Knowledge and Understanding

Graduates in medicine must be able to understand the basic principles of medical bioethics in the practice of their profession, comprehend the basics of the physiology of the functioning of the organism, understand the mechanisms underlying diseases, and study the fundamentals of pharmacology and treatment. Additionally, their knowledge should be enriched by understanding the determinants and major risk factors of health and disease, as well as the interaction between humans and their physical and social environment.

Ability to Apply Knowledge and Understanding

Graduates must be capable of applying their knowledge and understanding to socio-health problems. Their clinical skills should be comprehensive, starting from the excellent formulation of medical history to the execution of general and system-specific physical examinations and the formulation of a diagnostic hypothesis. This ability is further enhanced by selecting the best

diagnostic procedure and understanding the clinical-instrumental methods to reach a final diagnosis and therapy, with the primary goal being the care and health of the population.

Autonomy of Judgment

Graduates must have the ability to integrate knowledge and manage complexity, as well as formulate judgments based on limited or incomplete information, including reflection on the social and ethical responsibilities connected to the application of their knowledge and judgments. Therefore, they must be able to:

Critical Thinking and Scientific Research

1. Demonstrate a critical approach, constructive skepticism, and a creative attitude oriented towards research in their professional activities.
2. Consider the importance and limitations of scientific thinking based on information obtained from various resources to determine the cause, treatment, and prevention of diseases.
3. Formulate personal judgments to solve analytical and complex problems ('problem-solving') and independently seek scientific information without waiting for it to be provided.
4. Identify, formulate, and solve patient problems using the foundations of scientific thinking and research and based on information obtained and correlated from various sources.
5. Be aware of the role of complexity, uncertainty, and probability in decision-making during medical practice.
6. Formulate hypotheses, collect, and critically evaluate data to solve problems.

Professional Values, Skills, Behavior, and Ethics

1. Identify the essential elements of the medical profession, including moral and ethical principles and legal responsibilities underlying the profession.
2. Respect professional values that include excellence, altruism, responsibility, compassion, empathy, reliability, honesty, integrity, and commitment to following scientific methods.
3. Be aware that every doctor has the obligation to promote, protect, and improve these elements for the benefit of patients, the profession, and society.
4. Recognize that good medical practice depends heavily on the interaction and good relationships between the doctor, patient, and family, ensuring the well-being, cultural diversity, and autonomy of the patient.
5. Demonstrate the ability to correctly apply the principles of moral reasoning and make appropriate decisions regarding potential conflicts in ethical, legal, and professional values, including those arising from economic hardship, the commercialization of health care, and new scientific discoveries.
6. Respond with personal commitment to the need for continuous professional improvement, aware of one's own limits, including those of one's medical knowledge.
7. Respect colleagues and other health professionals, demonstrating the ability to establish collaborative relationships with them.
8. Fulfill the moral obligation to provide medical care in the terminal stages of life, including palliative care for symptoms and pain.
9. Implement ethical and deontological principles in handling patient data, avoiding plagiarism, maintaining confidentiality, and respecting intellectual property.
10. Plan and manage one's time and activities effectively and efficiently to cope with conditions of uncertainty, and exercise the ability to adapt to changes.

11. Exercise personal responsibility in caring for individual patients.

Communication Skills

Graduates must be able to communicate their conclusions, knowledge, and the rationale behind them clearly and unambiguously to specialist and non-specialist interlocutors, as well as - as required by circumstances - to their patients. Therefore, they must be able to:

1. Listen carefully to extract and synthesize relevant information about all issues, understanding their content.
2. Apply communication skills to facilitate understanding with patients and their relatives, enabling them to share decisions as equal partners.
3. Communicate effectively with colleagues, faculty, the community, other sectors, and the media.
4. Interact with other professionals involved in patient care through efficient teamwork.
5. Demonstrate basic skills and the correct attitude in teaching others.
6. Show sensitivity towards cultural and personal factors that enhance interactions with patients and the community.
7. Communicate effectively both orally and in writing.
8. Create and maintain good medical documentation.
9. Summarize and present appropriate information according to the audience's needs, and discuss actionable and acceptable plans that represent priorities for the individual and the community.

Learning Skills

Graduates must have developed the learning skills that allow them to continue studying predominantly in a self-directed or autonomous manner. Therefore, they must be able to:

Information Management

1. Collect, organize, and correctly interpret health and biomedical information from various resources and databases.
2. Gather specific patient information from clinical data management systems.
3. Use information and communication technology as valid support for diagnostic, therapeutic, and preventive practices, and for monitoring and surveillance of health status.
4. Understand the application and limitations of information technology.
5. Maintain a good archive of their medical practice for subsequent analysis and improvement.

2.3 Employment outlets

Medical graduates have employment outlets within the profession of General Practitioner, Territorial Physician, Outpatient Specialist or Hospital Physician.

The course prepares for the profession of General Practitioner.

Art. 3 - Admission requirements and methods of verification of initial preparation

3.1 Admission Procedures

The specific admission procedures for the single-cycle Master's Degree Course in Medicine and Surgery are governed by national laws and ministerial regulations. The prerequisites required for

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students wishing to enroll in a medical degree course should include: good human contact skills, good teamwork abilities, problem analysis and solving skills, and the ability to independently acquire new knowledge and information while critically evaluating them (Maastricht, 1999). In addition to scientific knowledge useful for the first year of the course, students should also have good attitudes and strong motivational components, which are important for training a "good doctor" who can correctly relate to the social responsibilities required by institutions. To be admitted to the Master's Degree Course in Medicine and Surgery, one must have a high school diploma or other qualification obtained abroad and recognized as suitable. It is also required to possess or acquire an adequate initial preparation as stipulated by the current regulations concerning access to nationally limited-enrollment courses and the availability of teaching staff, educational structures (classrooms, laboratories), and healthcare facilities usable for conducting practical ward activities, in accordance with the recommendations of the Advisory Committee on Medical Training of the European Union, applying the parameters and directives set by the University and the School.

The limited number of admissions to the first year of the course is defined according to the current regulations regarding access to university courses.

3.2 Additional Educational Obligations

Admission to the single-cycle Master's Degree Course in Medicine and Surgery requires that students enrolled in the 1st year possess adequate initial preparation, achieved in their previous studies. As part of the educational organization, students who, after taking the admission test, are admitted with a score lower than a predetermined minimum score—to be established annually—are assigned Additional Educational Obligations (OFA).

To allow for the recovery of the OFA, the Council of the single-cycle Master's Degree Course in Medicine and Surgery provides for recovery during the educational activities of the 1st year. Before the start of the educational activities of each new academic year, supplementary teaching courses aimed at addressing the deficiencies highlighted during the admission tests will be offered. These courses will cover the subjects of Biology, Physics, and Chemistry. The verification of the results achieved in the preparatory educational activities will take place within the assessment of the corresponding courses. Students who have not fulfilled the OFA by the end of the first year will not be allowed to take the exams scheduled for the second year.

Art. 4 - Description of the training course and assessment methods

The educational activities included in the curriculum are shown in Tables 4.1. and 4.2

4.1. Training course

The course of education is described in Tables 4.1 and 4.2.

Part-time enrollment is not available for the Course of Study in Medicine and Surgery.

Tabella 4.1. Educational objectives of the courses in Medicine and Surgery, for the 2024/25 cohort, compulsory activities

Training activity	Teaching unit	Training objectives
Chemistry and Propaedeutic Biochemistry	Chemistry and Propaedeutic Biochemistry	Objective 1 Understanding the structure and transformations of matter and molecular phenomena that have a direct or indirect impact on clinical-medical applications, with particular attention to acid-base equilibria, physiological

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		<p>buffers, gas laws and solubility, osmotic phenomena, properties of solutions, and electrochemical potential.</p> <p>Objective 2 Understanding the functional groups of the main organic molecules and their reactivity in the perspective of metabolic mechanisms and the comprehension of the function of macromolecules in the human body.</p> <p>Objective 3 Understanding the main classes of macromolecules (carbohydrates, lipids, proteins, nucleic acids, vitamins, and coenzymes) present in the human body, with particular attention to the structure-function relationship and their possible involvement in physiopathological processes.</p> <p>Objective 4 Understanding the general characteristics of catalysts, with particular attention to the role played by enzymes in regulating reactions of metabolic pathways.</p>
Medical physics, Medical Statistics	Medical Physics	The course objective is to provide students with a basic understanding of general physics and to illustrate its applications in the biological and medical fields. By the end of the course, students will be able to comprehend the concepts and physical quantities necessary to describe physiological events in the human body. Additionally, students will acquire the skills to apply the scientific method in describing and interpreting simple natural phenomena.
	Medical statistics	<p>The educational activity aims to provide elements:</p> <ul style="list-style-type: none"> • In descriptive statistics, with the purpose of summarizing the results of data from sample surveys or other sources (systematic and/or continuous). • In inferential statistics, in order to translate research hypotheses into statistical hypotheses and identify and apply appropriate statistical methods of analysis. • For the critical reading of scientific literature and the interpretation of results from clinical studies. • For the use of statistical analysis software available online or with the most common commercial packages (Excel, Google Sheets, etc.).
Applied and Molecular Biology	General Biology	<p>The educational activity, in coherence with the declaration of the SSD BIO/13, aims to make students understand:</p> <ul style="list-style-type: none"> • The constructive logic of biological structures at the various levels of living organisms' organization. • The mechanisms responsible for the functioning and reproduction of the cell. • The structure and function of nucleic acids and the flow of information within cells. • The structure-function relationship and molecular recognition as the basis of the action of informational molecules and the expression of genetic information in cells. • The principles underlying the diversification of biological units. • The dynamic nature of living matter as a result of interactions between biological units and the environment. • Biotechnological applications related to the knowledge of the processes described above.
	General genetics	<p>The educational activity, consistent with the declaratory of SSD BIO/13, aims to provide an understanding of:</p> <ul style="list-style-type: none"> - The organization of genetic material in the cell and the processes of division - The fundamental mechanisms governing the transmission of hereditary traits - The balance between continuity and variability of genetic information in living organisms; - The modes of transmission of hereditary traits and the mechanisms that can give rise to normal and pathological phenotypic variants; - Applications of general and molecular genetics related to the knowledge of the above processes
Computer, linguistics and Professional Skills	English	The course aims to allow students to expand their knowledge of the English language in all its aspects, from listening to the drafting of scientific abstracts. It aims to deepen grammatical knowledge, expand vocabulary, and provide students with tools to carry out medical specialist translation and to accurately present scientific topics in medical conferences.

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	Informatics	<p>Knowledge and understanding: Acquisition of theoretical and experimental foundations of classical Informatics.</p> <p>Application of knowledge and understanding: Ability to identify the main components of a PC, manage networks, and use some applications (Office).</p> <p>Autonomy of judgment: Ability to install and use word processing, presentation software, and spreadsheet processing applications.</p> <p>Communicative skills: Ability to express oneself in a scientifically rigorous manner and communicate one's knowledge during exams.</p> <p>Learning ability: Learning basic notions and consolidating logical and scientific skills useful for further studies.</p>
	Health and Occupational Safety	The course aims to provide students with the main knowledge concerning the regulatory framework regarding health and safety in the workplace, occupational risks, the fundamentals of health surveillance according to Legislative Decree 81/08, suitability assessment for specific tasks, prevention of workplace accidents, and occupational diseases.
	Nursing sciences	<p>At the end of the course, the student should be able to:</p> <ul style="list-style-type: none"> • Understand the professional profile of a nurse and the specific and multidisciplinary approaches to care and assistance in both hospital and non-hospital settings. • Comprehend the main elements of the nursing process, identifying the key components of diagnostic reasoning applied to a clinical case. • Recognize and articulate the characteristic elements of some of the main basic nursing techniques and apply these contents within clinical-care pathways and PDTA (Diagnosis-Related Care Paths).
Applied and Molecular Biology	Molecular biology	<p>The course aims to provide fundamental knowledge of the molecular mechanisms regulating and underlying the maintenance and flow of genetic information in prokaryotic and eukaryotic organisms (including humans). It aims to provide information on the structural levels of nucleic acids and the molecular mechanisms of DNA replication and transcription, protein synthesis, and gene expression regulation. Special attention is also given to the study of mitochondrial genome and its alterations. Additionally, information is provided on the main techniques of molecular biology within the context of the emerging potential provided to medicine by new biomolecular technologies and the genome project.</p> <p>The expected learning outcomes at the end of the course include acquiring appropriate language skills with specialized and clear terminology. The attainment of such knowledge will be supported and ensured by classroom lectures using slides, textbooks, as well as educational material provided by the instructor to the students.</p>
Human Histology and Embryology	Histology	<p>The educational activity of the discipline of Histology aims to describe and provide an understanding of the structure and ultrastructure, along with biomolecular, functional, and applied aspects, of human cells and tissues. This is achieved through a systematic, nosological, and morphological analysis using both optical and electron microscopy of specific cellular specializations and tissue organization elements. Additionally, it introduces students to the fundamental molecular mechanisms of histogenesis, such as the regulation of stem cell stemness, proliferation, and cell death. The study of the correlations between the structure and function of normal cells and tissues also involves the analysis of histological preparations prepared using histochemical and immunohistochemical techniques. Interactive study of digitized histological preparations using optical and electron microscopy is also included among the learning methods. The final goal of the course is to equip students with the knowledge that forms the basis for understanding organ and systemic anatomy and physiology, as well as potential correlations in pathology.</p> <p>Regarding Histology specifically, students are expected to acquire the ability to understand the structural and ultrastructural organization of human tissues and the mechanisms of tissue histogenesis and regeneration. They should also understand the basics of tissue formation and development starting from the regulation of stem cell proliferation and self-maintenance processes. It will be essential for students to recognize the specific morphological characteristics of different tissues, the cells within them, and the supramolecular arrangements of the extracellular matrix, correlating them with the anatomical and functional aspects that oversee their integrity and inter-tissue integration in the composition of various organs. In addition to mastering correct histological classifications and the morpho-functional interpretation of tissues, the acquired knowledge should also include specific properties of</p>

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		repair, renewal, and aging of each tissue, fundamental prerequisites for understanding principles and applications of regenerative medicine. Finally, students should be able to analyze the structural organization of histological preparations (normal) obtained using histochemical and immunohistochemical techniques in optical microscopy and be able to recognize ultrastructural characteristics in images of electron microscopy preparations.
	Embryology	<p>The educational activity of the Embryology discipline aims to describe and bring to understanding the origin of embryonic cells and tissues, differentiation processes, as well as growth and developmental processes during embryonic and fetal stages. Among the learning methods, interactive use of digitized three-dimensional models concerning the main events of development and organogenesis is included. The final goal of the course is to provide students with the necessary knowledge to understand the correlations between ontogenesis, organogenesis, and the anatomy and physiology of neonates and adults, as well as to provide the basics for understanding the main developmental defects and malformation syndromes.</p> <p>Regarding Embryology specifically, students are expected to acquire basic knowledge of the maturation processes of germ cells and their characteristics, biological processes underlying fertilization, cellular differentiation, and morphodynamic events chronologically connected with human embryonic/fetal development. This will allow them to understand the formation of the definitive anatomical structure of the human body, as well as the mechanisms related to the onset of congenital malformations affecting various organs and systems. Students should also be familiar with the structure and maturation processes of embryonic appendages in order to understand their functional significance, physiological implications, and physio-pathological aspects related to pregnancy and various in vitro fertilization procedures.</p>
	Cytology	<p>The educational activity of the Cytology discipline aims to describe and bring to understanding the structure and ultrastructure, with biomolecular, functional, and applied aspects, of eukaryotic cells. Particular emphasis is placed on membrane specializations and junctional devices both between cells and between cells and the extracellular matrix. This will enable students to understand how cells, by assuming specific shapes and functions, can uniquely characterize various tissues.</p> <p>Regarding Cytology specifically, students are expected to acquire the ability to understand the morphological organization of eukaryotic cells and subcellular structures, their genesis, and their correlations. Special attention will be given to membrane specializations and junctional devices both between cells and between cells and the extracellular matrix. This will enable students to understand how cells, by assuming specific shapes and functions, can uniquely characterize various tissues.</p>
Biochemistry	Biochemistry	<p>The central objective of the course is to provide students with a method of critical reasoning on the biochemical-metabolic aspects of Medicine. Specifically, this course provides an overview of the main metabolic pathways and their functional correlations in the human body. Additionally, it describes the biochemical processes that characterize the specialized function of different tissues and organs. The theoretical knowledge gained from this Biochemistry course will serve as an essential foundation for subsequent professional applications.</p> <p>The primary goal of the course is to provide students with a method of critical reasoning on the biochemical-metabolic aspects of Medicine. The course lays the groundwork for understanding, on a molecular level, the complex processes underlying the metabolism of living organisms. Specifically, it aims to impart to the student the knowledge of the main metabolic pathways (anabolic and catabolic) and their functional correlations in the human body. Additionally, it describes the biochemical processes that characterize the specialized function of certain tissues and organs. The theoretical knowledge gained from this Biochemistry course will serve as an essential foundation for subsequent professional applications.</p>
Human Anatomy 1	Anatomy 1	<p>The educational activity aims to impart to students the knowledge necessary for understanding the following fundamental aspects of human morphology:</p> <ol style="list-style-type: none"> 1. All systems/apparatuses meet specific functional needs. 2. All systems/apparatuses comprise various interconnected organs with functional interconnections among them.

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		<p>3. The cardiovascular, nervous, and endocrine systems oversee the functional interconnection among all anatomical systems.</p> <p>Based on this, students will be required to have knowledge of the main concepts regarding:</p> <ol style="list-style-type: none"> a. Macroscopic normal structure of the major organs and systems, with particular emphasis on their topographical arrangement, including their vascularization, lymphatic drainage, and innervation. b. Microscopic structure correlated with function. c. Functional considerations applied to understanding morphological structure. <p>The course is structured regionally/topographically with frontal teaching hours and interactive laboratories of Surface Anatomy, Regional and Topographic Anatomy on Anatomage Table, and microscopic Anatomy laboratories, all conducted with small groups of students.</p> <p>While discussing the regions of the body and the organs and systems therein, special attention will also be given to highlighting the possible clinical implications resulting from the alteration of normal anatomy.</p> <p>The educational activity aims for students to achieve macroscopic and microscopic structural morphological knowledge of the human body, relative to all apparatuses and systems with the exception of the central and peripheral nervous system.</p>
Human Sciences	History of Medicine	<p>At the end of the course, the student will be able to:</p> <ul style="list-style-type: none"> • Illustrate the contents and evolution of medical thought and practice over time. • Illustrate the different approaches to illness, pain, and death throughout the centuries. • Describe the evolution of medical education from ancient Greek times to the present day.
	Bioethics and Patient Safety	<p>During the educational activities and upon their completion, students will be required to grasp the general principles of Bioethics, spanning from the times of Hippocrates to the present day, including the assimilation of the general criteria of North American Bioethics as defined by BEAUCHAMP and CHILDRESS. These principles will then be translated into practical terms, starting with the fundamental concept of "Primum Non Nocere."</p> <p>Furthermore, the assumptions and methodologies specific to patient safety will be developed. At the conclusion of the course, students will have both the theoretical and practical foundations for an integrated and systemic approach to patients and healthcare, with the hope that this will guide their knowledge, their way of being, and their actions as future physicians.</p>
	Moral philosophy and medicine	<p>Expected learning outcomes:</p> <ul style="list-style-type: none"> • Theoretical knowledge and critical understanding of the ontological foundations of ethics, the origins, and fundamentals of Bioethics. • Ability to apply ethical knowledge to the various issues raised by scientific research and technological progress in the medical and healthcare fields. • Development of a critical and autonomous ethical judgment supported by logical rigor and argumentative skills. <p>Contents: Bioethics as applied ethics, epistemological, anthropological, and moral foundations of bioethics, neuroethics, ethics of new technologies and medicine, analysis, and discussion of cases.</p>
	Epidemiology	<p>The educational activity aims to train young physicians in the use of methods for assessing the health needs and demands of the population, as well as the outcomes of healthcare interventions, in order to support the overall diagnostic-clinical process and provide a rationale for healthcare planning activities.</p>
Microbiology, Clinical Microbiology and Parasitology	Microbiology and Clinical Microbiology	<p>The course, aimed at second-year students of the degree program, intends to provide fundamental knowledge of microbiology, focusing on both general aspects of the discipline and those related to pathogenic microorganisms. General characteristics, pathogenesis, and related diseases of pathogenic microorganisms will be described. By the end of the course, the student will have acquired basic knowledge about major bacteria, viruses, and fungi, their pathogenicity, and methods for preventing infections. The student will understand the complex interaction between microorganisms and the environment and how pathogenic microorganisms can overcome human</p>

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		defense mechanisms to cause disease. Special attention will be given to clinical microbiology to identify etiological agents of infection by organ system and patient type, including epidemiological aspects, etiopathogenesis, and clinical relevance. Finally, laboratory investigation methods in microbiology and interpretive criteria will be illustrated.
	Parasitology	<p>The parasitology course aims to provide students with general concepts and theoretical foundations related to the taxonomy, morphology, and life cycle of the main endo- and ectoparasites of medical interest. Additionally, aspects of epidemiology, pathogenesis, clinical manifestations, diagnosis, and prophylaxis of parasitic diseases, including those of zoonotic interest and caused by pathogens transmitted by vector arthropods (e.g., ticks, fleas, mosquitoes, sandflies), as well as their importance in Public Health, will be described.</p> <p>In particular, the course, besides promoting the acquisition of skills necessary for understanding the biology of medically important parasites, will provide students with the basics for morphological recognition of parasites as etiological agents of disease, useful for disease diagnosis. The acquisition of these aspects will be fundamental for the later years of the educational path when students will engage in clinical activities.</p> <p>Student learning during the course will be stimulated by the interactivity of frontal lessons and practical training sessions.</p>
Clinical Methodology	Medical Semeiotics	<p>The training activity aims to provide students with the elements to:</p> <ul style="list-style-type: none"> • Understand the clinical and instrumental diagnostic methods of the main surgical pathologies. • Conduct a comprehensive clinical examination and complete a medical record. • Formulate a diagnostic hypothesis. • Communicate a clinical case clearly and with appropriate terminology. • Interact correctly with the patient, the animal owner, and colleagues.
	Joint Semiology	The course aims to teach students the principles of functional anatomy of the musculoskeletal system and joint physiology by analyzing the macro-structure of the different biological tissues composing muscles, tendons, bones, and cartilage. This is done to lay the foundation for medical and surgical semiotics knowledge useful for the clinical practice of future surgeons.
	Surgical Semeiotics	<p>The educational activity aims to provide students with the following elements:</p> <ol style="list-style-type: none"> 1. Understand the clinical and instrumental diagnostic methods of the main surgical pathologies. 2. Conduct a comprehensive clinical examination and complete a medical record. 3. Formulate a diagnostic hypothesis. 4. Communicate a clinical case clearly and with appropriate terminology. 5. Interact correctly with the patient, the animal owner, and colleagues. 6. Familiarize students with surgical pathologies, focusing on signs and symptoms, as well as instrumental diagnostic approaches.
	Elements of Emergencies and First Aid	The course aims to train future physicians in the fundamentals of approaching critical patients. As such, importance is placed on vital parameters (correct measurement, assessment based on the patient's age and physiopathological condition, concept of "trend" in vital parameter measurement). Another educational objective is to introduce the concepts of first aid for patients with cardiac arrest, especially concerning the initial approach (basic life support), followed by advanced techniques (advanced cardiac life support) and acute airway obstruction.
Human Anatomy 2	Anatomy 2	<p>The educational activity aims to complement the learning of Human Anatomy by acquiring data on macroscopic, microscopic, functional, and clinical anatomy of the Central Nervous System, Peripheral Nervous System, and Special Senses Organs.</p> <p>Expected outcomes: At the end of the course, the student should have acquired a series of knowledge foundational to the study of Human Physiology, Medical, and Surgical Pathologies (with particular focus on Neurological Clinic, Neurosurgical Clinic, Psychiatric Clinic, Ophthalmological Clinic, and Otorhinolaryngological Clinic). Additionally, the student should have gained the basics for the examination of radiodiagnostic images and for the execution of diagnostic and therapeutic maneuvers.</p>
Human Physiology. Part 1.a	Physiology	The course aims to provide an in-depth understanding of cellular physiology, muscle physiology, cardiovascular physiology, renal physiology, and

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		<p>respiratory physiology, with particular attention to functional, cellular, and molecular aspects. This approach helps articulate the exposition logically and enhances students' comprehension of the complex interactions among different body systems and how these interactions contribute to health and disease.</p> <p>Specifically, the objectives of the course are as follows:</p> <ol style="list-style-type: none"> 1. To provide a solid and detailed understanding of human bodily functions, ranging from the molecular scale to the systemic level. 2. To lay a foundation for understanding pathophysiology, preparing students to comprehend how physiological dysfunctions lead to pathological states. 3. To develop critical thinking skills and problem-solving abilities through the application of physiological principles. 4. To equip students with the necessary skills to continue learning and stay updated in the field of physiology throughout their professional careers.
Pathology and General Pathophysiology	Pathology and General Pathophysiology	<p>The educational activity aims to study the structural and functional changes that underlie diseases, with a focus on the role of the immune system. Additionally, it provides the methodological criteria to rationally address clinical issues, both in diagnostic-therapeutic and preventive approaches. Specifically, the educational objectives include understanding the general mechanisms of organism damage and inflammatory response, comprehending the fundamental principles of immune response, understanding the general pathogenetic and pathophysiological mechanisms of diseases, and grasping the molecular basis of oncology.</p>
Human Physiology	Physiology	<p>The course aims to provide a deep understanding of the physiology of the nervous system, focusing on the sensory system, motor systems, brain homeostasis, and higher integration systems. A fundamental objective is to give students a thorough understanding of the functioning of the organs and systems of the human body, with an emphasis on the nervous system. By integrating the acquired knowledge, the goal is to develop in students the ability to apply physiological knowledge to clinical practice, thereby contributing to the diagnosis and treatment of various medical conditions. Additionally, the course aims to offer opportunities to develop research skills through critical reading of scientific literature in the field of physiology.</p>
Pathology and General Pathophysiology	Pathology and General Pathophysiology	<p>The educational activity aims to study the structural and functional alterations underlying diseases, while delving into the role of the immune system. It also provides the methodological criteria to address clinical issues in a rational manner, both in diagnostic-therapeutic and preventive approaches. Specific educational objectives include understanding the general mechanisms of organism damage and inflammatory response, grasping the fundamental principles of immune response, comprehending the general pathogenetic and pathophysiological mechanisms of diseases, and understanding the molecular bases of oncology.</p>
Cardiovascular and Thoracic Diseases	Cardiology	<p>The educational activity aims to enable students to acquire basic concepts regarding diseases of the heart and blood vessels, cardiovascular semiotics, introduction to medical therapy, and interventional procedures for coronary and peripheral diseases. Additionally, it provides training at the patient's bedside and in specific specialty laboratories.</p>
	Pneumology	<p>The objective is to provide students with the main notions regarding the understanding of respiratory system diseases, both from a diagnostic and therapeutic approach perspective.</p>
	Thoracic surgery	<p>The educational activity, in line with the declaration of the SSD MED/21, aims to provide understanding of:</p> <ul style="list-style-type: none"> • The physiopathology, methodology, functional and instrumental semeiotics, and surgical therapy of respiratory system pathologies and thoracic structures, including oncological thoracic surgery, emergency thoracic surgery, and lung transplantation. • The differences between traditional thoracic surgery and minimally invasive techniques.
	Vascular surgery	<p>The educational activity aims to enable students to acquire basic concepts for the diagnosis and medical/surgical treatment of major arterial and venous pathologies in accordance with national and European guidelines. The specific objectives include:</p> <ul style="list-style-type: none"> • Understanding the pathophysiology and clinical presentation of the most common arterial and venous pathologies.

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		<ul style="list-style-type: none"> Independently diagnosing surgical diseases by integrating medical history with physical examination, followed by prescription, evaluation, and interpretation of laboratory and imaging tests. Learning about the indications for medical treatment and prognosis of arterial and venous pathologies. Understanding the basic principles of traditional and endovascular surgical procedures.
	Cardiac Surgery	<p>The educational objectives of the cardiac surgery module include:</p> <ol style="list-style-type: none"> Understanding the pathophysiology and functional symptomatology of various cardiovascular conditions that require surgical intervention. Familiarity with the main types of cardiac surgical procedures, including surgical approaches to specific cardiac conditions. Understanding the technological advancements in the field of cardiac surgery, including the therapeutic value and risks associated with mechanical assistive or replacement heart systems. Acquiring knowledge of the principles and techniques of extracorporeal circulation, which is essential during many cardiac surgical interventions.
Sense Organs	ENT	<p>The educational objectives are:</p> <ol style="list-style-type: none"> Understanding the pathologies of the ear, nose, pharynx, and larynx. Familiarity with inner ear pathologies that present with vertigo and balance disturbances. Understanding the principles of medical and surgical therapy for otorhinolaryngological pathologies.
	Audiology and Phonetics	<p>The educational objectives are:</p> <ol style="list-style-type: none"> Implementing a correct diagnostic pathway for hearing loss and differential diagnoses. Addressing phoniatric issues and making accurate diagnoses.
	Maxillofacial surgery	<p>The educational objective is to enable the student to learn the surgical anatomy of the maxillofacial region and to develop knowledge about the etiopathogenetic principles, diagnosis, and treatment of the following pathologies:</p> <ol style="list-style-type: none"> Acquired and congenital malformations of the maxillofacial region. Benign and malignant pathologies of the salivary glands. Trauma involving the maxillofacial region. Obstructive sleep apnea syndrome. Malignant and benign tumors of the head and neck region. Osteolytic lesions of the maxillary bones. <p>Additionally, the student should acquire specific skills regarding the main techniques of reconstructive surgery used in the maxillofacial field.</p>
	Ophthalmology	<p>The educational activity aims to provide students with knowledge, skills, and attitudes necessary to understand and manage diseases and disorders of the visual system. Specifically, the objectives are:</p> <ol style="list-style-type: none"> Acquisition of Knowledge: The main goal is to provide students with a comprehensive understanding of the anatomy, physiology, and pathophysiology of the eye and its associated structures. Students should gain knowledge about various eye diseases, their causes, symptoms, diagnostic methods, and treatment options. Development of Clinical Skills: Students should develop the clinical skills necessary to examine patients with ocular disorders. This includes learning how to perform a detailed ophthalmic examination, interpret results, and make appropriate diagnoses. Additionally, they should acquire proficiency in using ophthalmic tools and techniques such as slit-lamp biomicroscopy, funduscopy, and tonometry.

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		<p>3. Disease Management: The goal is to educate students on the management and treatment of common eye diseases. This includes understanding therapeutic options, both medical and surgical, and developing skills in prescribing medications, performing minor procedures, and recognizing when to refer patients to specialists for advanced care.</p> <p>4. Patient Communication and Education: Students should learn effective communication skills to interact with patients and their families. This includes explaining diagnoses, treatment plans, and prognosis clearly and compassionately. They should also be able to provide adequate patient education regarding eye health, preventive measures, and lifestyle modifications.</p> <p>5. Professionalism and Ethical Conduct: The objective is to instill professionalism and ethical conduct in students' interactions with patients, colleagues, and other healthcare providers. Students must understand and adhere to ethical principles, maintain patient confidentiality, demonstrate empathy, and practice within legal and regulatory frameworks.</p> <p>6. Research and Lifelong Learning: Encouraging a culture of research and lifelong learning is crucial. Students should be introduced to the importance of evidence-based medicine, research methodologies, and critical evaluation of scientific literature. They should develop skills to stay updated with advances in the field and engage in continuous professional development throughout their careers.</p> <p>By focusing on these educational objectives, students can develop a solid foundation in ophthalmology and be prepared to provide competent and compassionate care to patients with eye problems.</p>
	Dental diseases	<p>The educational activity aims to provide students with knowledge, diagnosis, and treatment of the main pathologies relevant to dentistry.</p> <p>Students should acquire the elements of clinical methodology for the correct execution of the first dental visit (clinical records, medical history, informed consent, etc.) and should learn the dental medical terminology necessary for completing clinical records. They should have a general understanding of common instrumental investigations and be aware of rare diseases. Additionally, they should learn techniques and types of sutures through theoretical and practical courses.</p>
Anatomo-Pathology Part 1.a	Anatomo-Pathology	<p>The educational activity aims to correlate tissue and organ morphological alterations with disease diagnosis. It covers topics according to the program and introduces students to anatomopathological diagnosis and classifications of tumors of various organs following the guidelines updated by the WHO. It introduces students to immunohistochemical and molecular diagnostic techniques necessary for the differential diagnosis of diseases. Students are also introduced to the validation of histological samples intended for transplantation (renal, cardiac, and hepatic).</p> <p>The course includes practical exercises to be carried out in the laboratory, following daily diagnostic activities, to help students understand the work of a Pathologist and potentially engage them in research activities for future career choices. Activities and interviews dedicated to students with documented disabilities are also provided. Modern study texts and research articles from sources like PubMed are recommended.</p> <p>The educational activity aims to introduce students to the study of the subject, starting from tissue and organ morphological alterations to understand clinical symptoms and arrive at a disease diagnosis. It provides insight into the workings of a Pathological Anatomy laboratory, including associated risks and medical responsibilities. Students are introduced to innovative techniques in</p>

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		<p>anatomopathological diagnosis and to the autopsy examination, emphasizing its necessity in selected cases not pertaining to forensic medicine.</p> <p>Furthermore, didactic activities are planned to accommodate students with documented disabilities. Training exercises are provided to validate knowledge and learning. Modern study texts are recommended to students.</p>
Surgical and Medical Systemic Pathologies 1	Allergology and Clinical Immunology	<p>The educational activity aims to provide students with the fundamental principles governing the immune system. It essentially consists of two parts:</p> <ol style="list-style-type: none"> Basic Immunology: In this part, students acquire the foundation to understand the cells and organs comprising the immune system, as well as the basic processes of pathogen recognition as danger signals and the immunological mechanisms responsible for their elimination. Immunopathology: The second part allows students to comprehend the mechanisms underlying immunopathologies originating from immune system defects or abnormal immune responses, which will be further explored in clinical disciplines. <p>This approach enables students to grasp both the physiological functioning of the immune system and its pathological implications, providing a comprehensive understanding that bridges basic immunology with clinical applications.</p>
	Plastic surgery	<p>The learning objectives include acquiring the fundamental principles underlying the discipline. Specifically, indications and methods for using basic techniques such as sutures, grafts, and flaps are taught, with a particular focus on highly specialized areas of interest within the discipline. These may include the treatment of malignant skin and soft tissue tumors, post-oncologic and post-traumatic reconstruction of various body regions, hand surgery, facial (craniofacial) and hand malformations, microsurgical treatment of lymphedema, medical and surgical treatment of burn patients, breast reconstruction, and regenerative surgery.</p>
	Infective Diseases	<p>The learning objectives include the recognition of clinical, prognostic, and therapeutic characteristics of various infectious diseases such as tuberculosis, endocarditis, meningitis, osteoarticular infections, HIV/AIDS, COVID-19, zoonoses, parasitic diseases, and emerging and re-emerging viral infections. Other areas of focus include infections of the central nervous system, hepatitis, infections in immunocompromised individuals, sepsis, and septic shock. Principles of antibiotic therapy (classifications and appropriate use of antimicrobial therapies), recognition of appropriate Infection Prevention and Control measures, and correct indication for contact, respiratory, and droplet isolation for specific pathogens are also covered.</p>
	Dermatology	<p>The educational activity aims to provide knowledge of the main dermatological diseases, particularly through the recognition of elementary lesions and the correct use of diagnostic investigations. The topics are approached from an etiopathogenetic, clinical, and therapeutic perspective.</p>
III Year Internship	Ophthalmology	Practical knowledge of the main diseases of the visual system
	ENT	Practical knowledge of the main diseases of the hearing system
	Thoracic Surgery	Practical knowledge of the main diseases of the thoracic system
	Cardiac Surgery	Practical knowledge of the main diseases of the cardiac system
	Vascular Surgery	Practical knowledge of the main diseases of the vascular system
	Cardiovascular Diseases	Practical knowledge of the main heart diseases
	Plastic Surgery	Practical knowledge of the main activities of Plastic Surgery
	Allergology and Immunology	Practical knowledge of the main immunological and allergic diseases
	Dermatology	Practical knowledge of the main skin and venereal diseases
	Infective Diseases	Practical knowledge of the main infectious diseases
Pneumology	Practical knowledge of the main diseases of the respiratory system	
Anatomo pathology	Anatomo-pathology	<p>The educational approach includes:</p> <ol style="list-style-type: none"> Introducing students to the subject through lectures and laboratory exercises, in accordance with the credits allocated to the course. Assessing student learning throughout the course to ensure understanding and progress. Providing support to individual learners with specific disabilities through dedicated meetings to address their difficulties.

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		<p>4. Engaging learners in training activities, such as "in-house" conferences, if they contribute to the acquisition of training hours and are relevant to the topics being studied.</p> <p>5. Recommending modern textbooks suggested by the teacher at the beginning of the course to supplement learning materials.</p>
Pharmacology	Pharmacology	<p>Educational Objectives The course aims to provide students with knowledge of the rational basis of drug therapy and clinical applications of drugs. At the end of the course, students should be able to evaluate and describe the general properties of a drug and prospect its possible therapeutic uses, taking into account the structure, mechanism of action, kinetics, and the relationship between pharmacological effects and toxicological effects.</p> <p>Expected Learning Outcomes Students, by re-elaborating what they have learned during lectures and individual study, should have acquired knowledge of the fundamental mechanisms regulating pharmacokinetics and cellular and molecular pharmacology. They should understand the main factors responsible for variability in drug response, as well as the mode of action, side effects, pharmacological interactions, indications, and limitations of clinical use of drugs active on major neurotransmitter systems, the endocrine system, gastrointestinal, respiratory, and cardiovascular systems. They should also have acquired knowledge on the clinical use of anti-inflammatory drugs, antimicrobial agents, antibiotics, antivirals, and major traditional and biological anticancer agents. By integrating the knowledge and understanding acquired in this course with that derived from other biomedical and clinical teachings of the degree course, students should be able to understand the rational basis of clinical drug use and predict pharmacological effects both from a diagnostic-therapeutic and toxicological perspective.</p> <ul style="list-style-type: none"> • Knowledge and Understanding : Students should demonstrate understanding of the topics covered in the Pharmacology program. • Application of Knowledge and Understanding : Students should be able to apply the acquired knowledge for the correct use of drugs in diagnostic, preventive, curative, and surgical support contexts. • Autonomy of Judgment : Students, through independent deepening of the knowledge acquired and according to the reference ethical principles, should be able to develop good autonomy of judgment and analysis of issues related to drug use. • Communication Skills : Students should acquire the ability to transmit the knowledge learned clearly and comprehensibly, bearing in mind the importance of adequate communicative-relational skills and appropriate language use in building relationships with both specialist (doctors) and non-specialist (patients) interlocutors. • Learning Skills : Students should acquire the right methodological approach to studying the subject and the ability to refine and deepen their knowledge, continuing independently in updating the skills necessary for the role of a physician.
Diagnostic Imaging	Radiology	<p>Educational Objectives: The educational activity aims to provide medical graduates with basic knowledge of radiological semiotics of major pathological conditions.</p> <p>The educational activity aims to provide medical graduates with basic knowledge of the descriptive appropriateness of various imaging techniques.</p> <p>The educational activity aims to provide medical graduates with basic knowledge of radioprotection.</p> <p>Discussion of some pathological cases with evaluation of images and differential diagnoses in relation to the topics covered in lectures.</p>
	Radiotherapy	<p>The educational activity aims to provide basic knowledge of radiobiology to understand the mechanisms of interaction of ionizing radiation with biological systems. Additionally, fundamental principles and indications for oncological radiotherapy treatments for patients with malignant neoplasms are introduced during the course.</p>
	Nuclear Medicine	<p>The educational activity aims to teach the fundamentals of Nuclear Medicine and multimodal imaging and, more broadly, to provide the necessary knowledge for the use of various radiopharmaceuticals in various fields of application. Additionally, it aims to provide useful elements for interpreting reports and nuclear medicine images, as well as for appropriateness of requests for scintigraphy and PET/CT exams.</p>

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	Neuroradiology	The educational activity aims to provide medical graduates with basic knowledge of neuroanatomical radiology. It also aims to provide medical graduates with basic knowledge of the different technologies used in neuroradiological studies, particularly concerning advanced magnetic resonance imaging sequences. Furthermore, the activity aims to provide medical graduates with basic knowledge of the radiological semiotics of the main pathological frameworks in neuroradiology. Finally, it involves the discussion of some pathological cases with an evaluation of the images and the differential diagnoses in relation to what has been covered in frontal lectures.
Laboratory Medicine and Genetics	Medical genetics	<p>The training activity aims to provide students with the tools and theoretical concepts necessary for understanding the basic principles of Human Genetics, to delve into the aspects of Human Molecular Genetics and Cytogenetics, and to introduce them to the most advanced laboratory techniques required for a proper diagnostic and research approach to human diseases.</p> <p>The training activity has the following objectives:</p> <ul style="list-style-type: none"> - Acquire specific skills and knowledge related to the application of genetics in medical practice through an in-depth exploration of the genetic basis of human diseases, multifactorial diseases, and the contribution of genetic factors to disease susceptibility. - Develop skills in gathering detailed information on family history, consanguinity, and other relevant hereditary characteristics. - Cultivate proficiency in molecular approaches useful for the study of hereditary diseases and understand how to interpret the results of cytogenetic and molecular analyses of the human genome for genetic counseling purposes. - Evaluate and interpret genetic tests: Students should be able to comprehend the different types of genetic tests available. - Assess the clinical relevance of identified genetic variants and understand the limitations and implications of genetic tests for patients and their families. - Develop skills in genetic counseling. - Understand the ethical and social implications associated with the use of genetic information in medical practice.
	Clinical pathology	<p>The training activity aims to acquire adequate skills for a good understanding and interpretation of laboratory tests useful in the diagnosis of human diseases. It aims to achieve, based on the study of the correlation between pathophysiological and molecular mechanisms and the alteration of diagnostic tests, a good prescribing appropriateness.</p> <p>The training activity aims to provide skills in laboratory diagnostics in all conditions of human pathophysiology and pathology, as well as methodological skills for the use of even complex analytical instrumentation used in diagnostic field, with particular attention to the collection, preservation, and processing of biological samples, also for the purpose of setting up biological banks.</p>
	Clinical biochemistry and clinical molecular biology	<p>Acquire skills:</p> <ul style="list-style-type: none"> • in laboratory diagnostics in conditions of pathophysiology; • on methodologies for the use of even complex analytical instrumentation used in the diagnostic field; • in the sector of preventive, personalized, and predictive medicine; • for the use, development, and implementation of instrumentation in the Clinical Biochemistry laboratory, particularly the use of omics-type equipment.
Neurological Science and Rehabilitation	Neurology	The course aims to provide the necessary knowledge to understand the aspects of the main neurological pathologies by delving into their pathophysiological, clinical, diagnostic, and therapeutic aspects.
	Physical and Rehabilitation Medicine	The training aims to provide students with the necessary knowledge to understand effective means, in line with Evidence-Based Medicine (EBM), for reducing the burden of disability and improving the possibilities for disabled individuals affected by orthopedic and traumatic pathologies. Students will acquire tools for understanding the clinical areas of Physical Medicine and Rehabilitation in these disabling outcomes. Through knowledge of the cultural evolution of rehabilitation intervention models, students will be able to plan and verify the Rehabilitation Medicine process, using objective evaluation methods and effective medical therapies, within the most appropriate

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		<p>Rehabilitation Setting (Hospital, Community), to promote the maximum possible recovery and integration of individuals affected by disabling outcomes of musculoskeletal diseases.</p> <p>Specifically, the objectives include providing students with useful knowledge and understanding regarding:</p> <ul style="list-style-type: none"> • Diagnosis determination. • Determination of functional capacity and adaptability. • Determination of activity and participation, and contextual factors. • Setting up an Individual Rehabilitation Project in a multidisciplinary team. • Knowledge, experience, and application proposal of rehabilitation treatments in the field of Rehabilitation Medicine. • Pain assessment and knowledge of effective pain medications, in accordance with Law 38/2010. • Outcome assessment and measurement. • Prevention and management of complications. • Prognosis on disease/health condition and Rehabilitation Medicine outcomes. • Knowledge of rehabilitation technology and particularly Physical Therapies. • Prescription methods for Prostheses, Orthoses, and Aids. <p>The training also aims to provide students with the necessary knowledge to understand the main aspects of disabling pathologies most common in neurological diseases that require an appropriate and shared rehabilitation pathway (project and program) within the rehabilitation team (Physiatrist, Physiotherapist, Occupational Therapist, Nurse, Speech Therapist, etc.). This includes integrating hospital rehabilitation assistance activities (in disabling acute onset neurolesions) and territorial activities (chronic and/or chronic-evolutive pathologies). Through knowledge, including the cultural evolution of neuro-rehabilitation intervention models, students will be able to plan and verify the rehabilitation process using objective evaluation methods and effective therapies within the most suitable rehabilitation setting to promote maximum recovery and integration of individuals affected by neurolesions.</p> <p>Specifically, the objectives include providing students with useful knowledge and understanding:</p> <ul style="list-style-type: none"> • The meaning of "disability" and "participation restrictions" according to the International Classification of Functioning, Disability, and Health (ICF). • The causes and biological substrate of neurolesions. • Rehabilitation models for stroke, spinal cord injuries, Multiple Sclerosis, Parkinson's Disease, and Peripheral Paralyzes. • Generalities, classification, etiopathogenesis of disorders of consciousness, general severity indices, and possible associated damages in traumatic brain injury and coma, with specific care and rehabilitation deep dives in individuals affected by Prolonged Vegetative State, Minimally Conscious State, and Locked-in Syndrome.
	Neurosurgery 1	<p>The training activity aims to provide useful anatomical, physiological, and pathophysiological knowledge of the most important neurosurgical conditions, both pediatric and adult. This includes anatomoclinical correlations, differential diagnosis, and treatment principles. The training activity also aims to provide clinically applicable knowledge of the most important pathological conditions of neurosurgical interest in both adults and children, including anatomoclinical correlations, differential diagnosis, and treatment principles. Additionally, the training activity aims to provide useful knowledge of cranial and spinal trauma, including principles of clinical and instrumental diagnosis and treatment. Furthermore, the training activity aims to provide useful knowledge of the most important pathological conditions of neurosurgical interest in both adults and children, including principles of clinical, instrumental diagnosis, and treatment.</p>

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Pharmacology	Pharmacology	<p>Educational Objectives</p> <p>The course aims to provide the student with knowledge of the rational basis of drug therapy and the clinical applications of drugs. At the end of the course, the student must be able to evaluate and describe the general properties of a drug and to envisage its possible therapeutic uses, taking into account the structure, the mechanism of action, the kinetics as well as the relationship between pharmacological effects and toxicological.</p> <p>Expected learning outcomes</p> <p>By re-elaborating what they have learned during the lessons and in individual study, students must have acquired knowledge of the fundamental mechanisms that regulate pharmacokinetics and cellular and molecular pharmacology; the main factors responsible for the variability in drug response; the mode of action, side effects, drug interactions, indications and limitations to the clinical use of drugs active on the main neurotransmission systems, on the endocrine system, gastrointestinal, respiratory and cardiovascular. They must also have gained knowledge of the clinical use of anti-inflammatories, antimicrobial, antibiotic and antiviral drugs, and of the main traditional and biological antineoplastic agents. By integrating the knowledge and understanding acquired with this Course with those derived from other biomedical and clinical Courses of the Degree Course, the student must be able to know the rational bases of the clinical use of drugs and predict the pharmacological effects both in terms of diagnostic -therapeutic and toxicological.</p> <ul style="list-style-type: none"> • Knowledge and understanding: Students will need to demonstrate an understanding of the topics in the Pharmacology program • Ability to apply knowledge and understanding: Students must be able to apply the acquired knowledge for the correct use of drugs in the diagnostic, preventive, curative and surgical support fields • Autonomy of judgment: The students, through the autonomous deepening of the notions learned and according to the ethical principles of reference, will have to be able to develop a good independence of judgment and analysis of problems related to the use of drugs • Communication skills: Students will have to acquire the ability to transmit the knowledge learned in a clear and understandable way, bearing in mind the importance of adequate communicative-relational skills and a suitable property of language in building relationships with specialist (doctors) and non-specialist (patients) interlocutors) • Learning ability: Students will have to acquire the right methodological approach to the study of the subject and the ability to refine and deepen their knowledge, continuing autonomously in updating the skills necessary to carry out the role of doctor
Surgical and Medical Systemic Pathologies 2	General Surgery	The training activity consists of frontal lessons and aims to provide students with the main surgical knowledge on epidemiology, pathogenesis, clinical manifestations, diagnosis, and therapy of diseases of the digestive tract (esophagus, stomach, small and large intestine), as well as hepatic and pancreatic diseases.
	Gastroenterology	The frontal lessons aim to provide students with the main knowledge on epidemiology, pathogenesis, clinical manifestations, diagnosis, and therapy of diseases of the digestive tract (esophagus, stomach, small and large intestine), as well as hepatic and pancreatic diseases.

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	Medical Oncology	<p>The training activity aims to make students aware of the epidemiology of neoplasms and the risk factors for their development.</p> <p>It also aims to familiarize students with the pathogenetic mechanisms of carcinogenesis, metastasis, and tumor progression, as well as the basics of the immune response to tumors.</p> <p>Additionally, the activity aims to prepare students to approach oncology patients.</p> <p>Furthermore, it seeks to educate students on the principles of prevention, diagnosis (including molecular diagnosis), and staging of tumors.</p> <p>Moreover, the activity aims to inform students about the main therapeutic strategies in Oncology, including:</p> <ul style="list-style-type: none"> ● Cytotoxic chemotherapy ● Molecularly targeted therapies ● Hormonal therapies ● Immunotherapy <p>It also aims to educate students on the etiopathogenetic factors, clinical presentation, and principles of therapy of the following major solid tumors:</p> <ul style="list-style-type: none"> ● Lung cancer and pleural mesothelioma ● Prostate cancer ● Bladder cancer ● Kidney tumors ● Melanoma ● Breast carcinoma ● Hepatocellular carcinoma and biliary tract neoplasms ● Gastrointestinal tract neoplasms (esophagus, stomach, colon-rectum, GIST, NET) ● Primary and secondary skeletal neoplasms ● Soft tissue sarcomas <p>The training activity also aims to familiarize students with the issues related to paraneoplastic syndromes.</p> <p>Lastly, it aims to introduce students to the general methodology of clinical studies in Oncology.</p>
	Hematology	<p>The training aims to provide the tools for conducting clinical and laboratory diagnostics, prognostic stratification, and personalized and precision medicine approaches for all hematologic diseases, both neoplastic and non-neoplastic. This includes:</p> <p>a) Innovations in advanced diagnostic techniques such as flow cytometry, cytogenetics, and molecular biology;</p> <p>b) Treatments involving targeted therapies, immunotherapies, autologous and allogeneic hematopoietic stem cell transplantation, and other cellular therapies;</p> <p>c) Multidisciplinary interactions;</p> <p>d) Training in conducting clinical studies.</p>
Tirocinio IV anno	Neurosurgery	Practical knowledge of the main neurosurgical activities
	Anatomo-pathology	During the internship in Pathology, the trainee acquires skills related to diagnostic procedures specific to pathology. Specifically, they perform autopsies on small and large animals and examinations of isolated organs from slaughterhouse animals, with the production of appropriate reports. They also become familiar with the technical procedures for preparing specimens for histopathological and cytological examinations, as well as the general criteria for interpretation and reporting in cytological and histological diagnostics.
	Radiology	Practical knowledge of CT, MRI, Breast exams
	Gastroenterology	Practical knowledge of the main gastroenterological diseases
	Hematology	Practical knowledge of the main blood diseases
	Medical Oncology	Practical knowledge of the main oncological diseases

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	Clinical Pathology ClinicalBiochemist	Practical knowledge of analytical techniques, laboratory management, study of the analytical, pre-analytical and post-analytical phase with particular detail for poct systems.
	Neurology	Practical knowledge of the main neurological diseases
Muscular-skeletal Diseases	Orthopedics	The course aims to teach students the principles of epidemiology, etiopathogenesis, biomechanics, clinical examination, and the diagnostic and therapeutic options—both medical and surgical—for the main pathologies in the fields of traumatology and orthopedics. These are conditions that physicians will encounter in patients with acute and/or chronic musculoskeletal problems.
	Bioengineering and Motor Analysis	The course aims to teach students the principles of biomechanical analysis applied to the diagnosis and treatment of pathologies related to the musculoskeletal system, with reference to the characteristics of the individual materials used in the design and creation of surgical implants and orthopedic braces.
	Rheumatology	The training aims to provide students with knowledge of the pathophysiological and clinical issues related to rheumatic diseases, including autoimmune and immune-mediated conditions. By the end of the module, students will be able to recognize common and rare presentations of musculoskeletal and connective tissue pathologies and their complications, identifying conditions that require specialist input, even urgently. Moreover, as current therapies for rheumatic diseases represent the forefront of medical science, students will, through an understanding of immunological and molecular bases, comprehend the mechanisms of action of biological drugs and how these have contributed to a better understanding of the molecular mechanisms underlying rheumatic diseases themselves.
Psichiatria e Psicologia neuropsihiatria infantile	Psychiatry	The objective of the Psychiatry course is to provide the basics for an understanding of psychiatric disorders, covering both etiopathogenetic aspects and symptomatic and psychopathological ones, along with the basics of pharmacological treatment.
	Physiological Psychology	The course provides the basics of Cognitive Neuroscience and presents current models of the functioning of the human central nervous system at the system level and how the synergy of brain activity and connectivity is disrupted following pathological conditions, such as neurovascular, neurodegenerative, and neurodevelopmental disorders.
	Clinical Psychology	The objective of the Clinical Psychology course is to provide epistemological, methodological, and procedural foundations of clinical psychology applied to the study of relationships between individuals and families, as well as psychological and/or psychopathological functioning. Special attention is given to learning techniques for psychological and neuropsychological assessment, as well as therapeutic intervention.
	General Psychology	The course aims to illustrate the fundamental principles of general psychology concerning cognitive and emotional processes. Additionally, it aims to provide basic knowledge necessary for applying general psychology in the field of medicine.
	Child Neuropsychiatry	The objective of the Child Neuropsychiatry course is to provide the foundations on the theoretical and practical aspects of the main psychopathological disorders of childhood and adolescence (0-18 years), from etiopathogenesis to clinical-diagnostic and treatment aspects. Educational objectives include: Understanding the theoretical and practical foundations of etiopathogenesis, diagnosis, and treatment in the main neuropsychiatric disorders that arise in childhood. Additionally, understanding the theoretical and practical foundations of etiopathogenesis, diagnosis, and treatment in the main psychopathological disorders that arise in childhood and adolescence.
Patologia sistematica medico chirurgica 3	Endocrinology	The educational activity aims to provide knowledge about the pathophysiology of the main endocrine gland axes and systems of the body (e.g., hypothalamus-pituitary-thyroid/adrenal/gonads, parathyroids, pancreatic islets), and about the main pathological conditions associated with references to epidemiology, disease mechanisms, clinical picture, diagnosis, and therapy. Additionally, the activity aims to provide knowledge about the pathophysiology of carbohydrate and lipid metabolism and the main metabolic pathologies (diabetes mellitus, obesity, dyslipidemia) with

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		<p>references to epidemiology, disease mechanisms, clinical picture, diagnosis, and therapy.</p> <p>The frontal teaching and practical internship aim to convey theoretical, scientific, and professional knowledge in the field of pathophysiology and clinical aspects of diseases of the endocrine system and metabolism. Specifically, fundamental aspects of endocrine pathophysiology, functional and instrumental endocrine-metabolic semiology, pathophysiology and clinical aspects of diseases of the pituitary, thyroid, parathyroids, adrenal glands, endocrine pancreas, and gonads; pathophysiology and clinical aspects of metabolic diseases, with particular regard to obesity and carbohydrate, lipid, and electrolyte metabolism.</p> <p>The objective is for the student to acquire the fundamental elements to recognize, evaluate, and treat the main diseases of the endocrine system and metabolism: hypopituitarism, growth hormone deficiency, pituitary adenomas and related clinical conditions, diabetes insipidus, hypo- and hyperthyroidism, thyroid tumors, thyroiditis, hypo- and hyperparathyroidism, adrenal insufficiency, Cushing's syndrome, adrenocortical neoplasms, pheochromocytoma, neuroendocrine tumors, diabetes mellitus, obesity, disorders of the gonadal axis in men and women.</p>
	Nutritional Science	<p>Specific educational objectives of the study path vary according to three application areas:</p> <p>Biomolecular Area:</p> <ul style="list-style-type: none"> - Specifically understand the biochemical and physiological mechanisms of digestion and absorption. <p>Biomedical Area:</p> <ul style="list-style-type: none"> - Understand the main techniques for assessing nutritional status and interpret the results for dietary planning in individuals. - Know the techniques and methods for measuring body composition and energy metabolism. - Understand the role of nutrition and diet in maintaining adequate health under physiological conditions, including life stages (growth, pregnancy, breastfeeding, aging), and in athletes. - Understand the role of nutrition in various pathological conditions, allergies, and intolerances. - Understand the methods and techniques underlying dietary surveys for assessing consumption and dietary habits of individuals and communities for nutritional surveillance purposes. - Recognize the safety levels of substances contained or conveyed by the diet, including undesired ones. <p>Industrial/Regulatory Area:</p> <ul style="list-style-type: none"> - Understand the main techniques for producing high-impact nutritional products (functional foods, foods and supplements for special dietary purposes, foods for special medical purposes, novel foods). - Understand national and international regulatory issues in the food and food ingredient sector, including nutritional labeling of foods and labeling, health claims, registration, and placing on the market of supplements and novel foods. - Understand the properties of nutrients and bioactive substances present in foods or used in supplement form.
	Urology	<p>The educational activity aims to provide skills regarding the diagnosis and treatment of the main diseases of the genitourinary system, with particular attention to uro-oncological pathology. Additionally, educational objectives include acquiring adequate knowledge about the diagnosis and management of urological emergencies and learning the basic concepts of renal transplantation.</p>

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	Nephrology	<p>The educational activity aims to provide students with essential theoretical and practical knowledge of the main primary and secondary diseases affecting the kidneys and the urinary tract, allowing them to achieve the following educational objectives:</p> <ul style="list-style-type: none"> • A correct methodological and knowledge-based approach; • Characterization of the pathogenesis and histological picture of the main kidney pathologies; • Acquisition of clinical pictures and knowledge of the differential diagnosis, clinical course, and possible complications. At the end of the course, the student will have a basic understanding of the main nephrological diseases in their acute phase and the biochemical, instrumental, and clinical investigations necessary for their diagnosis, as well as an overview of therapy. Thanks to participation in planned internships with the discussion of clinical cases, by the end of the course, the student will have the theoretical-practical basis to recognize the type of pathology by evaluating clinical signs and laboratory/instrumental tests. Teaching methods: Lectures and exercises/discussion of clinical cases. <p>Methods of assessment and evaluation of learning: The final exam aims to assess the achievement of the following educational objectives:</p> <ul style="list-style-type: none"> • Detailed knowledge of the pathogenesis and clinical presentation of the main kidney pathologies. • Basic understanding of diagnostic principles for recognizing kidney-related pathologies. • Basic knowledge of renal histology and histopathology related to the clinical scenarios illustrated. • Essential elements of therapy for kidney-related pathologies. The exam is conducted orally with questions related to the above-mentioned educational objectives, with a final grade on a scale of thirty. <p>The educational activity aims to provide students with knowledge, practical skills, and guidance for autonomous research and in-depth investigation in the following areas: Definition, classification, diagnosis, prognosis, and therapy of all nephrological conditions, including strategies for preventing chronic kidney disease, preventing the progression of chronic kidney disease, and substitutive therapy for deficient renal function (hemodialysis, peritoneal dialysis, kidney transplantation, and other extracorporeal purification techniques).</p>
Public Health	Forensics Medicine	<p>The educational activity aims to provide newly graduated physicians, who are projected towards any specialization, with doctrinal bases of law applied to medicine (notions of private law and laws of medical interest).</p> <p>The educational activity aims to provide newly graduated physicians, who are projected towards any specialization, with fundamental knowledge of medicolegal thanatology and the main categories of lesions of interest in forensic pathology.</p> <p>The educational activity aims to provide newly graduated physicians, who are projected towards any specialization, with doctrinal bases of civil disability, INPS (National Institute for Social Security), insurance medicine for work-related accidents, and occupational diseases.</p> <p>The educational activity aims to provide newly graduated physicians, who are projected towards any specialization, with doctrinal bases of forensic toxicology.</p>

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		The educational activity aims to provide newly graduated physicians, who are projected towards any specialization, with doctrinal bases of general criminology and forensic psychopathology.
	Occupational Medicine	The course aims to provide the main knowledge related to the Consolidated Health and Safety at Work Act (Legislative Decree 81/08), health surveillance, the fundamentals of environmental and biological monitoring, prevention of work-related accidents and occupational diseases, occupational risk from exposure to biological, physical, chemical, carcinogenic agents, indoor and outdoor pollutants such as xenobiotics and asbestos, as well as psychosocial occupational risks (i.e., work-related stress), new emerging risks, and health promotion in work environments from a total worker health perspective.
	General and Applied Hygiene Environmental Hygiene	The educational activity aims to provide future doctors with methodological and content-related elements in the field of Public Health. Specifically, students are expected to acquire knowledge concerning the epidemiology of infectious and non-communicable chronic diseases, environmental and hospital hygiene, epidemiological methodology, vaccination prophylaxis, organizational management, health promotion, as well as the ability to address health issues from the perspective of population health, global health, and community medicine. Students should develop communication skills to engage with individual patients and the population regarding major contemporary public health issues and the management of public health emergencies.
Pediatrics Science	Pediatrics	The educational activity aims to enhance understanding of the main medical and surgical pathologies in pediatric patients, spanning from the neonatal period to adolescence. It includes tools for prevention, methods for obtaining medical history, and communication with caregivers. Furthermore, it covers conducting physical examinations, assessing and interpreting vital signs, anthropometric measurements based on percentile charts, as well as laboratory and instrumental tests, considering the specific characteristics of different pediatric age groups.
	Pediatrics Surgery	The educational activity aims to achieve the following objectives: <ul style="list-style-type: none"> • Develop fundamental organizational diagnostic skills for managing pediatric surgical patients in various emergency/urgent conditions. These skills are essential not only for those opting for specialization in Pediatric Surgery but also for future physicians whose work will take place in Pediatric, General Surgery, or Emergency Departments in peripheral hospitals. • Develop skills for managing surgical pediatric cases in the Emergency Department, from initial assessment to evaluating clinical evolution, with a good interpretation of blood tests and instrumental examinations. • Develop fundamental organizational diagnostic skills for recognizing the most important oncological pathologies in children, allowing for rapid assessment and management of such conditions. • Foster teamwork, creating the right synergy with all professionals who may be involved in patient management. • Enhance communication skills and the ability to relate to and communicate with even very young patients and their families in all circumstances.
Gynecology and Obstetrics	Gynecology and Obstetrics	The educational activity aims to provide the following competencies: <ol style="list-style-type: none"> 1. Conducting a correct medical history and physical examination in obstetrics and gynecology. 2. Understanding obstetric and gynecological anatomy and physiology. 3. Knowledge of the main characteristics of spontaneous delivery and cesarean section. 4. Understanding the main characteristics of obstetric pathologies. 5. Understanding the main characteristics of oncological gynecological pathology. 6. Understanding the main characteristics of benign gynecological pathology. 7. Understanding the pathophysiology of reproduction.

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		<p>Furthermore, the activity aims to provide competencies regarding the main pathologies of pregnancy and the peripartum period, obstetric emergencies, prenatal diagnosis, placental pathology, management of infections during pregnancy, and recommended vaccinations.</p> <p>The educational activity also aims to equip the learner with essential knowledge to:</p> <ol style="list-style-type: none"> 1. Gather adequate specialist medical history. 2. Appropriately frame the symptomatology. 3. Direct a diagnostic pathway. 4. Formulate a diagnostic hypothesis. 5. Guide treatment for the correct management of the patient. <p>The focus of the activity is mainly on gynecological and obstetric anatomy, physiology, epidemiology of major pathological conditions, hormonal therapies, and major pathologies affecting fertility (both benign and malignant).</p> <p>Specific attention is given to the physiology of the vaginal ecosystem, with a focus on major infectious pathologies. Special emphasis is placed on HPV-related lower genital tract pathology and its potential progression to dysplasia or neoplasia, discussing the main screening techniques for cervical dysplasia.</p> <p>Additional learning objectives include understanding the physiology of labor, describing major postpartum hemorrhagic pathologies, addressing issues related to twin pregnancies, and discussing major pathologies of monochorionic twin pregnancies. A solid understanding of pelvic anatomy, embryology in the first four weeks of development, and hygiene-epidemiology is recommended for better comprehension of the lectures.</p> <p>The primary teaching method is frontal didactics, with reference texts including "Manuale di ginecologia ed ostetricia (Pescetto, de Cecco)" and teacher's notes.</p>
V Year Internship	Gynecology and Obstetrics	Practical knowledge of the main gynecological diseases
	Endocrinology	Practical knowledge of the main endocrinological diseases
	Urology	Practical knowledge of the main urological diseases
	Nephrology	Practical knowledge of the main kidney diseases
	Rheumatology	Practical knowledge of the main rheumatological diseases
	Orthopedics	Practical knowledge of the main diseases of the musculoskeletal system
	Pediatrics	Practical knowledge of the main pediatric diseases
	Child Neuropsychiatry	Practical knowledge of the main diseases of child neuropsychiatry
	Psychiatry	Practical knowledge of the main psychiatric diseases
	Forensics Medicine	the acquisition of knowledge in the clinical field on the cadaver must be verified
	Hygiene	During the internship, the student will have to acquire skills related to venous sampling maneuvers, execution of the Mantoux test and administration of vaccines.
Occupational Medicine	the acquisition of knowledge in the clinical field on workers must be verified	
Clinical Medicine and Geriatrics	Internal Medicine	<p>The teaching of Internal Medicine in the Integrated Course of Clinical Medicine, Genetics, and Geriatrics aims to provide sixth-year medical students with diagnostic and therapeutic competence in the field of internal, genetic, and geriatric pathologies to complete their professional profile as future physicians. Specifically, students should:</p> <ol style="list-style-type: none"> 1. Enhance their ability to perform a differential diagnosis of diseases based on symptoms and clinical signs, integrating these data with those from instrumental and laboratory exams. 2. Learn the therapeutic modalities for the main diseases of internal medicine interest. <p>In essence, students should be able to critically analyze and interpret symptoms and clinical signs in patients, using advanced diagnostic tests when necessary. They should then be able to formulate an accurate differential diagnosis and plan appropriate treatment for the medical conditions addressed in internal medicine.</p>
	Geriatrics	<p>Understanding the most common medical issues in the elderly population is crucial. By the end of the training, students should be able to:</p> <ol style="list-style-type: none"> 1. Describe the pathophysiology, diagnosis, treatment, and prevention of geriatric syndromes such as chronic pain, dementia, delirium, falls and movement disorders, sensory impairments, malnutrition, sarcopenia, pressure ulcers, and urinary and fecal incontinence.

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		<ol style="list-style-type: none"> 2. Describe the pathophysiology, diagnosis, treatment, and prevention of common age-related diseases including cardiovascular diseases (including heart failure and hypertension), cerebrovascular diseases and stroke, chronic obstructive pulmonary disease and pneumonia, depression, and diabetes. 3. Develop the necessary skills to conduct multidimensional geriatric assessments using appropriate tools to evaluate activities of daily living, cognitive function, gait and balance, and nutritional status. 4. Understand appropriate prescribing practices for older adults, including considerations for over- and under-prescribing, inappropriate medication use, and polypharmacy, while taking into account individual preferences and values in therapeutic decision-making. 5. Define the criteria of the International Classification of Functioning, Disability, and Health (ICF) of the World Health Organization and understand the concept of frailty in the elderly population. 6. Define multidimensional geriatric assessment and understand its characteristics, as well as interpret the results and initiate appropriate management and treatment pathways for any identified pathological findings. <p>This training aims to provide a foundation in the epidemiology and biology of aging, multidimensional assessment of the elderly, the use of tools such as the Multidimensional Prognostic Index in clinical decision-making for the elderly, appropriate prescribing practices in geriatric patients and the risk of adverse drug reactions, the management of various geriatric syndromes and diseases across different clinical settings, clinical decision-making for terminally ill patients, and an overview of innovations in geriatric research.</p>
	<p>Family Medicine – Community Medicine</p>	<p>Cultural Aspects and Reference Care Context</p> <p>Family Medicine-Community Medicine is the branch of medicine that incorporates the cultural and care contents of Primary Health Care (WHO). The cultural contents of Family Medicine-Community Medicine refer to:</p> <ol style="list-style-type: none"> 1. Health (multidimensional health); 2. Patient and family (centrality of patient and family, complex patient, caregiver of the complex patient, patient and family participation); 3. Service and professional offering (global and integrated service offering, continuity of care and assistance, network services, multiprofessional-interdisciplinary team, coordination, therapeutic education, therapeutic alliance); 4. Results (global care, cost sustainability, appropriateness); 5. Outcomes (effects on health, autonomy, quality of life, satisfaction). <p>The care context of Community Medicine is represented by integrated territorial services with the Hospital.</p> <p>The tools of Family Medicine-Community Medicine are:</p> <ol style="list-style-type: none"> 1. Traditional diagnostic and therapeutic clinical tools; 2. Tools for the assessment of health complexity (ICD-10, CIRS), care complexity (Barthel), environmental complexity (ONAS form); 3. Tools for multidimensional assessment (ICF checklist); 4. Tools for drafting individual care plans (PAI form); 5. Therapeutic education tools (specific sheets); 6. Management tools (procedures, coordination). <p>Teaching Activity</p> <p>The training aims to provide the basic concepts and methodological tools underlying Family Medicine-Community Medicine, identifying the care of the individual within their family context and community as the main goal of the physician, with a clear understanding of the difference between person-centered and disease-centered medicine.</p> <p>It describes the "complex patient" (patient with health, care, and environmental complexity) and indicates the main care pathways feasible in a hospital setting (pathways between different levels of care units), at hospital discharge (assisted discharge and transfer to home or residential care), in territorial services (care pathways for chronic diseases).</p> <p>The complex patient and their family are described, focusing on their caregiver, with care and assistance pathways for global care; the application of the bio-psychosocial approach and the application of the Protected Hospital Discharge (DOP) procedure and care in a Long-Term Care Facility or Residential Care Home for patients with co-morbidities.</p> <p>Specifically, the student must acquire the following skills:</p>

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		<ul style="list-style-type: none"> • Prevention, diagnosis, and treatment of chronic pathologies with a high impact on the population. • Management of complexity and particularly developed multi-pathologies in the frail and elderly population. • Management of the most common acute pathologies in the community, being able to detect warning signs and indicators of clinical severity. • Use of basic semiotics, including some instrumental maneuvers (reading and interpretation of ECG, spirometry, ultrasound, etc.). • Application of techniques that characterize the clinical methodology of General Medicine, with particular regard to the ability to address and solve complex problems, manage nonspecific and indistinct symptoms, and operate in conditions of diagnostic uncertainty. • Activation of prevention, diagnosis, therapy, and assistance pathways also based on specific gender differences. • End-of-life management of the patient in coordination with the support network, knowing and applying the palliative approach, especially for end-stage organ diseases and Law 219/2017 (Provisions on informed consent and advance treatment directives). • Knowledge of ethical standards and those contained in the current Conventions for General Medicine that regulate its activity. • Integration with other professionals within communities of practice, working groups, even multi-professional, sharing and respecting diagnosis and care pathways. • Sensitization to prevention and health promotion campaigns promoted by the National Health Service.
Clinical Surgery	General Surgery	<p>The training activity aims to provide the student with useful, sufficient, and adequate knowledge to:</p> <ul style="list-style-type: none"> • Diagnose the main surgically relevant diseases; • Perform a differential diagnosis among various pathologies; • Understand the basic elements of related surgical therapies. <p>It aims to lead the student to an understanding of surgically relevant pathologies, with particular reference to therapy, and introduce them to the training path in the operating room.</p>
Medical – Surgical Emergencies	Anesthesiology	The course aims to provide future physicians with the fundamentals of both general and regional anesthesia. Specifically, it will cover the pharmacological principles and stages of "balanced" surgical anesthesia (preoperative assessment, pre-anesthesia, induction, maintenance and awakening, postoperative pain management), as well as post-operative intensive care therapy, with the goal of educating the student in modern perioperative medicine.
	Intensive Care	The course aims to train future physicians in the advanced approach to critically ill patients (with impairment of one or more vital organs or functions). Therefore, it will initially focus on the determinants of arterial oxygen availability and the oxygen availability/extraction ratio. Based on these principles, the course will address the pathophysiological characteristics of cardiac arrest and subsequent post-anoxic coma, various types of circulatory shock, sepsis, anaphylaxis, and severe acute respiratory failure, describing possible therapeutic approaches and pharmacological-instrumental interventions for these conditions. The course also aims to educate students on advanced extracorporeal life support techniques in the treatment of refractory hypoxemic-hypercapnic acute respiratory failure (veno-venous ECMO) and severe heart failure.
	Pain Therapy	With the aim of providing students with a comprehensive approach to the diagnosis and treatment of acute and chronic pain, the course addresses various aspects, including the definition, pathogenesis, and pathophysiology of acute and chronic pain, as well as the available therapeutic options. The basics of pharmacokinetics and pharmacodynamics of the main drugs used in pain management will be explored, along with the indications and side effects associated with each drug. Additionally, interventional techniques of neuromodulation, both electrical and pharmacological, used to manage pain in a more targeted and personalized manner, will be discussed.
	Palliative Care	With the aim of providing students with elements of palliative care, concepts such as the definition of palliative care, end of life, and terminal phase will be

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		introduced. The provisions of Law 38/2010 will be examined, along with the concept of simultaneous care and care continuity. Different care models for patients with cancer in various care settings will also be discussed.
	Surgical Emergencies and ER	Provide basic knowledge of acute traumatic and non-traumatic surgical situations, their complications, the pathophysiological mechanisms that determine them and possible treatments.
	Medical Emergencies and ER	The course in Emergency Medicine and Emergency Room, within the Integrated Course of Medical and Surgical Emergencies, aims to provide sixth-year students with the necessary skills for the correct diagnostic and therapeutic management of internal medicine pathologies presenting with urgency, essential for the development of the practical professional profile of future physicians. Specifically, students are expected to refine their ability to perform a differential diagnosis of internal medicine diseases with urgent characteristics, starting from symptoms and clinical signs, integrating this information with first and second-level instrumental and laboratory data useful for rapid diagnosis. Additionally, students should learn about the emergency therapy for these pathologies. The educational activity aims to provide the foundations for managing the main pathologies of interest in emergency departments, including ischemic heart disease, acute coronary syndrome, pulmonary embolism, acute aortic dissection, acute pericarditis, diagnostic and therapeutic pathway of chest pain, heart failure, acute cardiogenic pulmonary edema, ARDS, syncope, acute respiratory failure, acid-base balance disturbances, interpretation of blood gas analysis, hypertensive emergencies, shock, acute bronchial asthma, and internist approach to coma.
VI Year Internship	Internal Medicine	the acquisition of knowledge in the clinical field of internal medicine patients must be verified
	General Surgery	the acquisition of knowledge in the clinical field on surgical patients must be verified
	Anesthesiology	the acquisition of knowledge in the clinical field of critically ill patients must be verified
Practical Traineeship	Medical Traineeship	Acquisition of the management of the patient of internal interest
	Surgical Traineeship	Acquisition of patient management of surgical interest
	Traineeship with General Practitioner	Acquisition of the management of General Medicine patients

Tabella 4.2. Study course in Medicine and Surgery: training course planned for full-time students for the cohort a.y. 2023/24

Integrated course	Teaching	SSD	CFU/ECTS			TAF	MV	Propaedeutic Si refer paragraph 4.5
			Total	Lesson	Practical technical activity			
Chemistry and Propaedeutic Biochemistry	Chemistry and Propaedeutic Biochemistry	BIO/10	6	60		A	O/S	
Medical physics, Medical Statistics	Medical Physics	FIS/07	6	60		A	O/S	
	Medical Statistics	MED/01	5	50		A	O/S	
Applied and Molecular Biology	General Biology	BIO/13	4	40		A	O/S	
	General Genetics	BIO/13	2	20		A	O/S	
Computer, linguistics and	English	L-LIN/12	4	40		B	I	
	Informatics	INF/01	1	10		B	O/S	

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Professional Skills	Health and Work Safety	MED/44	1	10		C	O/S	
	Nursing Science	MED/45	2		24	C	O/S	
Applied and Molecular Biology	Molecular Biology	BIO/11	3	30		A	O/S	
Human Histology and Embryology	Histology	BIO/17	5	40	12	A	O/S	
	Embryology	BIO/17	3	30		A	O/S	
	Cytology	BIO/17	1	10		A	O/S	
Biochemistry	Biochemistry	BIO/10	8	80		A	O/S	
Human Anatomy 1	Anatomy 1	BIO/16	10	90	12	A	O/S	
Human Sciences	History of Medicine	MED/02	1	10		B	O/S	
	Bioethics and Patient Safety	MED/43	1	10		C	O/S	
	Medical and Moral Philosophy	M-FIL/03	1	10		C	O/S	
	Epidemiology	MED/42	1	10		B	O/S	
Microbiology, Clinical Microbiology and Parasitology	Microbiology and Clinical Microbiology	MED/07	5	50		B	O/S	
	Parasitology	VET/06	2	10	12	C	O/S	
Clinical Methodology	Medical Semiotics	MED/09	4	30	12	B	O/S	
	Joint Semiology	MED/33	1	10		B	O/S	
	Surgical Semiotics	MED/18	4	30	12	B	O/S	
	Elements of Emergencies and First Aid	MED/41	1	10		B	O/S	
Human Anatomy 2	Anatomy 2	BIO/16	6	60		A	O/S	
Human Physiology Parte 1.a	Physiology	BIO/09	9	90		A	O/S	
Patologia e Fisiopatologia generale	Pathology and General Pathophysiology	MED/04	6	60		A	O/S	
Human Physiology	Physiology	BIO/09	7	70		A	O/S	
Patologia e Fisiopatologia generale	Pathology and General Pathophysiology	MED/04	6	60		B	O/S	
Cardiovascular and Thoracic Disease	Cardiology	MED/11	5	50		B	O/S	
	Pneumology	MED/10	3	30		B	O/S	
	Thoracic Surgery	MED/21	2	20		B	O/S	
	Vascular Surgery	MED/22	2	20		B	O/S	
	Cardiac Surgery	MED/23	2	20		B	O/S	
Sense Organs Clinical Medicine and Surgery	ENT	MED/31	2	20		B	O/S	
	Audiology and Phonetics	MED/32	1	10		B	O/S	
	Maxillofacial Surgery	MED/29	1	10		B	O/S	
	Ophthalmology	MED/30	2	20		B	O/S	
	Dental Diseases	MED/28	1	10		B	O/S	

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Anatomo-Pathology Part 1.a	Anatomo- Pathology	MED/08	8	80		B	O/S	
Surgical and Medical Systemic Pathologies 1	Allergology and Clinical Immunology	MED/09	1	10		B	O/S	
	Plastic Surgery	MED/19	2	20		B	O/S	
	Infective Diseases	MED/17	3	30		B	O/S	
	Dermatology	MED/35	2	20		B	O/S	
III Year Internship	Ophthalmology	MED/30	1		12	F	O/S	
	ENT	MED/31	1		12	F	O/S	
	Thoracic Surgery	MED/21	1		12	F	O/S	
	Cardiac Surgery	MED/23	1		12	F	O/S	
	Vascular Surgery	MED/22	1		12	F	O/S	
	Cardiovascular Diseases	MED/11	1		12	F	O/S	
	Plastic Surgery	MED/19	1		12	F	O/S	
	Allergology and Immunology	MED/09	1		12	F	O/S	
	Dermatology	MED/35	1		12	F	O/S	
	IV Year Internship	Infective Diseases	MED/17	1		12	F	O/S
	Pneumology	MED/10	1		12	F	O/S	
Anatomo pathology	Anatomo- pathology	MED/08	4	40		B	O/S	
Farmacology	Pharmacology	BIO/14	3	30		B	O/S	
Diagnostic Imaging	Radiology	MED/36	3	30		B	O/S	
	Radiotherapy	MED/36	1	10		B	O/S	
	Nuclear Medicine	MED/36	1	10		B	O/S	
	Neuroradiology	MED/37	1	10		B	O/S	
Laboratory Medicine and Genetics	Medical Genetics	MED/03	5	50		A	O/S	
	Clinical Pathology	MED/05	3	30		B	O/S	
	Clinical Biochemistry and Clinical Molecular Biology	BIO/12	3	30		B	O/S	
Neurological Science and Rehabilitation	Neurology	MED/26	4	40		B	O/S	
	Physical and Rehabilitation Medicine	MED/34	2	20		B	O/S	
	Neurosurgery 1	MED/27	1	10		B	O/S	
Farmacology	Pharmacology	BIO/14	6	60		B	O/S	
Surgical and Medical Systemic Pathologies2	General Surgery	MED/18	1	10		B	O/S	
	Gastroenterology	MED/12	3	30		B	O/S	
	Medical Oncology	MED/06	2	20		B	O/S	
	Hematology	MED/15	2	20		B	O/S	
IV Year Internship	Neurosurgery	MED/27	1		12	F	O/S	
	Anatomia Patologica Anatomo- pathology	MED/08	1		12	F	O/S	

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	Radiology	MED/36	1		12	F	O/S	
	Hematology	MED/12	1		12	F	O/S	
	Medical Oncology	MED/15	1		12	F	O/S	
	Medical Oncology	MED/06	1		12	F	O/S	
	Clinical Pathology	BIO/12					O/S	
	Clinical Biochemistry	MED/05	1		12	F		
	Neurology	MED/26	1		12	F	O/S	
Muscular-skeletal Diseases	Orthopedics	MED/33	3	30		B	O/S	
	Bioengineering and Motor Analysis	ING-IND/34	1	10		A		
	Rheumatology	MED/16	2	20		B	O/S	
Psychiatry, Psychology and Child Neuropsychiatry	Psychiatry	MED/25	3	30		B	O/S	
	Physiological Psychology	M-PSI/02	1	10		C	O/S	
	Clinical Psychology	M-PSI/08	2	20		B	O/S	
	General Psychology	M-PSI/01	1	10		A	O/S	
	Child Neuropsychiatry	MED/39	2	20		B	O/S	
Surgical and Medical Systemic Pathologies 3	Endocrinology	MED/13	4	40		B	O/S	
	Nutritional Science	MED/49	1	10		B	O/S	
	Urology	MED/24	2	20		B	O/S	
	Nephrology	MED/14	3	30		B	O/S	
Public Health	Forensics Medicine	MED/43	5	50		B	O/S	
	Occupational Medicine	MED/44	5	50		B	O/S	
	General and Applied Hygiene	MED/42	3	30		B	O/S	
	Environmental Hygiene	MED/42	2	20		B	O/S	
Pediatrics Science	Pediatrics	MED/38	5	50		B	O/S	
	Pediatrics Surgery	MED/20	1	10		B	O/S	
Gynecology and Obstetrics	Gynecology and Obstetrics	MED/40	6	60		B	O/S	
V Year Internship	Gynecology and Obstetrics	MED/40	2		24	F	O/S	
	Endocrinology	MED/13	1		12	F	O/S	
	Urology	MED/24	1		12	F	O/S	
	Nefrology	MED/14	1		12	F	O/S	
	Reumatology	MED/16	1		12	F	O/S	
	Orthopedics	MED/33	1		12	F	O/S	
	Pediatrics	MED/38	1		12	F	O/S	
	Child Neuropsychiatry	MED/39	1		12	F	O/S	
	Psichiatria	MED/25	1		12	F	O/S	
Forensic Medicine	MED/43	1		12	F	O/S		

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	Higiene	MED/42	1		12	F	O/S	
	Occupational Medicine	MED/44	1		12	F	O/S	
Clinical Medicine and Geriatrics	Internal Medicine	MED/09	4	40		B	O/S	
	Geriatrics	MED/09	2	20		B	O/S	
	Family Medicine – Community Medicine	MED/09	1	10		B	O/S	
Clinical Surgery	General Surgery	MED/18	6	60		B	O/S	
Medical – Surgical Emergencies	Anesthesiology	MED/41	1	10		B	O/S	
	Intensive Care	MED/41	2	20		B	O/S	
	Pain Therapy	MED/41	1	10		B	O/S	
	Palliative Care	MED/41	1	10		B	O/S	
	Surgical Emergencies and ER	MED/18	2	20		B	O/S	
	Medical Emergencies and ER	MED/09	2	20		B	O/S	
VI Year Internship	Internal Medicine	MED/09	7		84	F	O/S	
	General Surgery	MED/18	7		84	F	O/S	
	Anesthesiology	MED/41	1		12	F	O/S	
Practical Traineeship	Medical Traineeship	MED/09	5		60	F	O/S	
Practical Traineeship	Surgical Traineeship	MED/18	5		60	F	O/S	
Practical Traineeship	Traineeship with General Practitioner	NN	5		60	F	O/S	

4.2. Elective courses and activities chosen by the student

The student's elective training activities are provided for in the study plan for a total of eight (8) CFU to be acquired from all the courses activated at the University - including transversal skills - provided they are recognized as coherent with the study path by the Course Committee in Medicine and Surgery. Attendance at these elective activities is 100% mandatory.

Elective educational activities chosen by the student (ADE):

- Activities aimed at acquiring "Transversal Skills" programmed by the University and available on the institutional website <https://www.uniba.it/didattica/competenze-trasversali>, provided they are recognized as coherent with the study path by the Course Committee in Medicine and Surgery;
- Activities proposed and approved annually by the Council of the Course in Medicine and Surgery:

ADE	hours	CFU
Seminar/tutorial monodisciplinary	2	0,20
Multidisciplinary seminar/tutorial	≥2	0,30
Elective internship	25	1
Conferences/Congresses	5h	0,50
Conferences/Congresses	>5h	1
Monographic course	≥5	0,50

4.3. Organization of teaching activities

All educational activities correspond to the acquisition of CFUs (Crediti Formativi Universitari), each of which equals 25 hours of overall student commitment. The study plan requires the acquisition of 360 CFUs distributed over 6 years of the course.

Each CFU assigned to in-person lectures equals 10 hours, each CFU assigned to practical activities and professionalizing internships equals at least 12 hours, and each CFU assigned to the Practical Traineeship (Tirocinio Pratico Valutativo, TPV) equals at least 20 hours of professionalizing training activities.

The remaining portion of the educational credit is available to the student for self-study.

CFUs corresponding to each educational activity are acquired by the student upon passing the exam or through other forms of assessment of the preparation or skills acquired. The holders of professionalizing teaching are responsible for practical activities and/or professionalizing internships related to the teaching.

The basic, characterizing, related, and integrative educational activities, chosen by the student, as well as the training internships, including the evaluative practical internship, for the preparation of the practical exam and the subsequent achievement of the final exam, are grouped into disciplinary areas to which the scientific-disciplinary sectors that contribute to defining the training objectives of that area belong.

The study plan organizes the educational activities provided by the disciplinary areas into single-discipline teaching courses and/or integrated courses consisting of teaching modules characterized by different scientific-disciplinary sectors, defining for each of them: the number of CFUs assigned to each teaching or module; the reference educational activity (basic, characterizing, related, and/or integrative, chosen by the student, internships); the year and semester of the course; the rules concerning attendance at educational activities; the methods of acquiring CFUs (examination or eligibility); the prerequisites that must be met to access the verification tests.

For integrated courses consisting of two or more teaching modules, the professor in charge of the teaching with the highest number of CFUs assumes the role of coordinator of the integrated course (in case of equal CFUs, the order of priority considers full professors, associate professors, researchers, contract professors, and, in case of equal rank, seniority). The coordinator, in agreement with the other professors, is responsible for organizing the specific didactic activities of

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the integrated course, establishing the exam dates, chairing the examination board, and proposing its composition to the Coordinator of the Medicine and Surgery Study Course.

For each academic year, the Class Council in Medicine and Surgery annually appoints, upon proposal by the Study Course Coordinator, a year coordinator tasked with organizing all the didactic activities relevant to that year of study.

The Class Council in Medicine and Surgery proposes to the School Council, within the established deadlines, the assignment of teaching courses and any other educational activities to professors and researchers, having acquired their consent, based on the didactic needs of the Course and the affiliation of the professors to the scientific-disciplinary sectors for a balanced distribution of the teaching load.

All didactic activities (lectures, exercises, seminars, laboratory and integrative activities, practical activities, professionalizing internships) for each year of study are organized into two semesters: the first semester begins within the first ten days of October and ends within January; the second semester begins within the first ten days of March and ends within the first half of June. The schedule of lectures is announced by publication on the Study Course's website.

The Study Course provides the following exam sessions:

- Winter (January - April), Summer (May - July),
- Autumn (September - December).

The March and November exam sessions are scheduled during the didactic break week, indicated at the beginning of each academic year to avoid interference with didactic activities.

For sixth-year students, out-of-course students, and repeating students without attendance requirements, an additional exam session is scheduled in May; exams taken in May by students enrolled in the course will be automatically annulled.

Exam sessions must be separated by at least two weeks.

The exam schedule is announced by September for all sessions of the following year.

The final exams take place over three exam sessions distributed as follows:

- from June to September;
- from October to December;
- from February to April.

4.4. Attendance obligations

Each student is required to attend educational activities to a minimum extent of 67% of the hours scheduled for each integrated course. The verification of attendance is carried out, following the guidelines established by the Class Council of the Medicine and Surgery Course, by the teachers responsible for the educational activities.

The attendance certificate is sent to the Student Office of the School of Medicine and is necessary to take the respective exam. A student who has not obtained the attendance certificate will be enrolled, even as a supernumerary, as a repeater of the same academic year, with the obligation to attend the courses for which the certificate was not obtained.

Passage to the fourth year of the course is only permitted for students who, by the deadline of April 30th, have passed the threshold as indicated.

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<i>To sign up for the ...</i>	<i>must have passed ...</i>
IV year	9 exams

If despite having obtained the regular attendance for the courses provided by the study plan for a specific academic year, the student has failed to pass the required number of exams indicated in the above table, they will be enrolled in the same year with the status of "**repeater**," without the obligation to attend classes, subject to different deliberations made by the competent Class Council. Students are enrolled as "**out of course (Fuori corso)**" if they have exceeded the normal duration of the master's degree course without having obtained the degree and have obtained all the related attendance certificates

4.5. Propaedeutic

Students are required to respect the following examination pre-requisites :

Year	To take the exam:	Must have passed the exam of:
1	Biochemistry	Chemistry and Propaedeutic Biochemistry
2	Human Anatomy 1 e 2	Human Histology and Embryology
2	Medical semeiotics	Human Anatomy 1
2	Microbiology, Clin Microbiology and Parasitology	General and molecular biology
3	Fisiology	Medical Physics, Medical Statistics Biochemistry Human Anatomy 1 e 2
3	Pathology and General Pathophysiology	General Biology e General Genetics Biochemistry Human Anatomy 1 e 2
3	Cardiovascular and Thoracic Diseases	Human Anatomy 1 e 2 Biochemistry
3	Surgical and Medical Systemic Pathologies 1	Microbiology and Clinical Microbiology Parasitology Fisiology
4	Laboratory Medicine and Genetics	Biochemistry Pathology and General Pathophysiology
4	Anatomy pathology	Fisiology Pathology and General Pathophysiology
4	Surgical and Medical Systemic Pathologies 2, 3 Muscular-skeletal Diseases	Fisiology Pathology and General Pathophysiology
4	Diagnostic Imaging	Human Anatomy 1 e 2
4	Farmacology	Pathology and General Pathophysiology
4	Neurological Science and Rehabilitation	Fisiology
5	Public Health	Medical Physics, Medical Statistics Epidemiology Microbiology and Clinical Microbiology Parasitology Anatomo Pathology
5	Gynecology and Obstetrics	Anatomo Pathology
5	Pediatrics Science	Anatomo Pathology
6	Clinical Medicine and Geriatrics	Anatomo Pathology Semeiotica Medico-Chirurgica Surgical and Medical Systemic Pathologies 1,2,3, Farmacology

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6	Clinical Surgery	Anatomo Pathology Medical semeiotics Surgical Surgical and Medical Systemic Pathologies ^{1,2,3} Farmacology
6	Medical – Surgical Emergencies	Anatomo Pathology Surgical and Medical Systemic Pathologies ^{1,2,3} Farmacology Neurological Science and Rehabilitation

The internship exams of the III IV V VI year can be taken only after having acquired the frequency of the corresponding theoretical exam.

4.6. Assessment of exams

All assessments of student preparation, always individual and aimed at acquiring educational credits, must take place under conditions that guarantee depth, objectivity, and fairness of evaluation in relation to the teaching or activity followed and to what is explicitly required for the test.

These assessments consist of written and/or oral tests and result in grading (proficiency exams), except for those related to the English course and student-choice activities, for which a judgment of pass/fail is formulated.

The verification of attendance for practical and/or laboratory activities is the responsibility of the responsible teacher/tutor.

Proficiency exams and any other type of assessment subject to registration can only be taken after the conclusion of the respective teachings.

A student who is in compliance with enrollment and related payments can take all exams and verification tests for which they have the attendance certificate, where required, in any case this refers to concluded teaching courses and in compliance with any prerequisites.

Examining boards are constituted, in the case of single-discipline courses, by at least two members, one of whom is always the course instructor who serves as the President of the board; the others are teachers from the same scientific-disciplinary sector or related sector or subject matter experts. In the case of integrated courses, the examining board is composed of all the instructors of the courses that make up the integrated course, and the President's functions are performed by the coordinator of the integrated course. Other teachers from the same scientific-disciplinary sector or related sector or subject matter experts may be part of the board.

The boards are validly constituted if at least two teachers are present, one of whom must be the President. In case of absence or impediment, the President will notify the Course Coordinator.

The exam takes place simultaneously, including through subcommittees, at the location and time specified on the Esse3 portal.

It is permitted to sit exams for the integrated (multiple-discipline courses) and single-discipline courses defined in the study plan with all the Examining Boards identified by the Course:

- for repeating students,
- for out-of-course students,

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- for students enrolled in the VI year of the Degree Course in Medicine and Surgery, Didactic Ordinance NOD bis, starting from the recovery sessions of each semester.

The exam grade is determined by the weighted average based on the credits of the individual course activities. In case one or more parts of the exam are not passed, the Board may retain the partial grades for the next three exam sessions available to the student.

4.7. Internship

Practical Traineeship: This is allocated 15 CFU and is aimed at assessing the student's abilities related to "know-how and being a doctor," which involves applying biomedical and clinical knowledge to medical practice, addressing issues of professional ethics and medical ethics, demonstrating the ability to solve clinical problems in the areas of medicine and surgery and their specialties, laboratory and instrumental diagnostics, and public health.

Certification of attendance and evaluation of the periods are carried out under the direct responsibility of the university professor or the medical director responsible for the facility where the trainee is located, and the General Practitioner, who each provide formal certification of attendance for their respective areas of responsibility, along with an evaluation of the demonstrated competencies, and, in case of a positive outcome, a judgment of suitability. (Article 3 of the decree of the Minister of Education, University and Research of May 9, 2018, n. 58 and subsequent amendments.)

This internship will take place for a number of hours corresponding to at least 5 CFU for each month and will be structured in the following periods, even if not consecutive: one month in the Surgical Area; one month in the Medical Area; one month, to be carried out not earlier than the sixth year of the course, in the specific field of General Medicine.

Internship - Professionalizing Training Activities: The student, assisted by a tutor, carries out specific professional activities in the field of medical, surgical, and service areas. In order to do so, the student will undertake professionalizing training activities by attending healthcare facilities identified by the Study Course and during the periods defined by it, for a total of 54 CFU. The clinical competence acquired through these professionalizing training activities is evaluated within the teaching framework in which these activities are carried out.

The Study Course may identify university healthcare facilities, facilities at other universities in Italy and abroad, and non-university facilities where the internship can be conducted, either partially or entirely.

4.8. Procedures for verifying periods of study abroad

Outgoing and Visiting/Free Movers students participating in the Erasmus program abroad cannot take exams for subsequent years at the Bari university as it would conflict with the acquisition of attendance for the current academic year.

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Outgoing and Visiting/Free Movers students participating in the Erasmus program follow the propaedeutic rules established by the educational system of their home institution.

For Outgoing and Visiting/Free Movers students, attendance is automatically recognized for courses taken during the mobility period that are not included in their Erasmus Study Program.

During the mobility period, Outgoing and Visiting/Free Movers students can take exams at the Bari university only during the following periods: July 1-31, September 1-30, December 9-23, and the week including the 15 days before and after Easter, provided that there are no academic activities scheduled at the foreign institution. Exams that can be taken during these periods are limited to courses for which the student has fulfilled the attendance requirement and didn't take before departure, or for courses during the mobility period for which students are exempted from the attendance requirement.

The validation of study periods abroad for the purpose of validating educational activities is determined by the Study Course Board, following a request from the student submitted to the Didactic Office of the Interdisciplinary Department of Medicine.

Students from other foreign universities participating in the Erasmus program (Incoming students):

- Follow the same rules established for Uniba students.
- In case they need to take individual exam modules or internships as per the study plan, the Coordinator will contact the Dean of the relevant SSD to request a personalized pathway, which will be subsequently validated by the Erasmus Commission and the Study Course Board.

4.9. Simultaneous enrollment in several courses of study

Starting from the academic year 2022-2023, students are allowed to enroll simultaneously in two study programs according to the provisions of Law No. 33 of April 12, 2022, and the related implementing decrees.

Art. 5 – Incoming transfers, course transfers, recognition of previous activities

5.1. incoming transfer

For transfers from other Italian and foreign university campuses, the Medicine and Surgery degree program adheres to the provisions of the School of Medicine, which establishes, by July 31 of each year, the number of available places for each year of study.

Studies completed at Medicine and Surgery degree programs at other Italian university campuses, in countries belonging to the European Union, and in non-EU countries, as well as the credits earned in these programs, are recognized by the Council of the Degree Course or by the Board of the Medicine and Surgery Degree Course, following an examination by the Transfer and Equivalence Commission of the curriculum transmitted from the original university campus and the programs of the individual teaching modules accredited at that university.

5.2. Recognition of previous activities

All educational activities, including any elective educational activities provided for in the study plan, are recognized by the Board, following an assessment of the documentation provided by the student. After deliberating the recognition of a certain number of credits, the Board arranges for the student's regular enrollment in the relevant year of study, following the criterion of respecting the prerequisites of exams. Enrollment in a specific year of study is, however, subject to the availability of places within the programmed number, as indicated by the current Transfer Regulations.

Within the Integrated Course "Computer, Language, and Professional Skills":

1. Eligibility for the English exam is granted to students who have obtained an English language certification at a level not lower than B2.
2. Eligibility for the computer science exam is granted to students who have obtained a computer certification, which will be evaluated by the Board of the Degree Course.

There is no provision for attending free courses or for the recognition of credits from individual courses.

5.3. Recognition of Foreign Academic Degrees

For the recognition of studies completed in the Medicine and Surgery Degree Course in countries within and outside the European Union, the Board of the Medicine and Surgery Degree Course examines the curriculum and the programs of the exams passed in the country of origin and proposes to the relevant Department Council the total or partial recognition of the academic degree.

In the case of partial recognition, the Board determines the grades assigned to the validated activities based on the equivalence scale associated with the curriculum followed abroad and arranges the academic year in which the candidate can be enrolled. Enrollment is subject to the availability of places and placement in the ranking for the issuance of clearance for enrollment in the subsequent year after the first, published on the School of Medicine's website.

Italian, EU, and non-EU citizens legally residing in Italy and holding a valid residence permit to initiate this procedure can submit a request for preliminary evaluation for the recognition of the foreign academic degree from March 1st to April 30th of each year to the Directorate of the Interdisciplinary Department of Medicine by completing the appropriate form available at the following link: [Domanda Valutazione preventiva equipollenza — Italiano \(uniba.it\)](#).

Applicants must demonstrate that they have not already obtained total recognition (equivalence) of the foreign degree from the University of Bari or another Italian university and must prove knowledge of the Italian language by providing a certification at a level not lower than B2 of the Council of Europe, issued within the CLIQ quality system (Certificazione Lingua Italiana di Qualità, i.e., the level of linguistic autonomy) or alternatively a certificate of knowledge of the Italian language (to take the Italian language proficiency test, applicants can contact the International Students Office of this University: <https://www.uniba.it/it/studenti/segreterie-studenti/studenti-stranieri/prova-di-conoscenza-della-lingua-italiana>).

Non-EU citizens not legally residing in Italy can submit the application through the competent Italian diplomatic-consular representation for the territory, which will transmit it to the Department of the degree course for which recognition is requested according to the procedures

indicated at the following link: <https://www.uniba.it/it/studenti/segreterie-studenti/studenti-stranieri/riconoscimento-dei-titoli-accademici-esteri-e-abbreviazione-di-corso>.

For candidates who submit a request for recognition for a course of study with limited access, if the request receives partial recognition with a proposal for enrollment with a shortened curriculum, enrollment in the Medicine and Surgery Degree Course will only be possible if they participate in the call for enrollment (bando for enrollment) in years subsequent to the first of the School of Medicine.

5.3 Verification of Credit

a. Credits obtained by passing exams are subject to nullification after ten years from their acquisition in the presence of career interruption acts.

5.4 Suspension

Temporary suspension of studies for one or more academic years may be requested by:

- a. Students intending to enroll in Degree Courses established at other Universities under agreements with Armed Forces or security forces, for the training purposes proposed by the latter.
- b. Students, already graduated and enrolled in another Degree Course, intending to enroll in a Specialization School, a PhD program, a University Master's degree, or an Advanced Training Course that recognizes credits exceeding 30 CFUs.
- c. Students intending to participate in temporary Active Internship Training programs.
- d. Birth of a child for the corresponding academic year or subsequent to the birth date (the suspension can be requested by both parents).
- e. Serious illness, attested by medical certifications, lasting no less than six months, for a period not exceeding the normal duration of the study course.
- f. Serious illness of family members, belonging to the student's family unit, attested by medical certifications lasting no less than six months, which result in a caregiving obligation by the student, for a period not exceeding the normal duration of the study course.

During the suspension years, students cannot carry out any career-related actions.

During the suspension period, students are not required to pay fees and contributions; the amount to be paid upon resumption of studies is determined by the current Student Contribution Regulations.

5.5 Interruption of Studies

- a. Students who do not renew their enrollment for at least one academic year, except in the cases mentioned in the previous article, interrupt their studies. If they intend to resume their studies, students must submit a specific request for career reassessment and must pay, for each year of interruption, a reassessment fee as determined by the Student Contribution Regulations.
- b. During the years of interruption, students cannot carry out any career-related actions.

Art. 6 – Opportunities offered during the degree course

The students enrolled in the medicine and surgery course have access to international mobility programs, in adherence with the requirements of the Ateneo Barese, like Erasmus+, Erasmus+ Traineeship or Global Thesis Program.

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In alignment with the provisions of Law 17/99, which supplements earlier Law 104/92, and Law 170/2010, the university commits to provide students with disabilities or Specific Learning Disorders (SLD), specific services and individual support to uphold the right to education and ensuring full inclusion in university life.

The Office for Students with Disabilities and SLDs is available to students to provide specific and/or individualized services, as well as any necessary study aids.

For issues concerning students with Special Educational Needs, the Interdisciplinary Department of Medicine has identified a designated professor. All information on accessing specific services can be found at the following link: <https://www.uniba.it/it/studenti/servizi-per-disabili/servizi-per-disabili>

Art.7 – Final Thesis and acquiree of the degree

The final thesis should be a significant individual learning opportunity to complete the program. To be eligible for the final exam, the student must have successfully passed all the exams and other forms of assessment required by the study plan within 10 days before the scheduled date of the Degree Session. To obtain the degree, a thesis developed by the student in an original manner under the guidance of a supervisor is required.

Students have 18 CFU (450 hours) available to prepare their thesis at university facilities. This student activity is defined as an "undergraduate internship" and must be completed outside of other official teaching activities. It should not overlap with the student's elective activities (ADE).

A student who intends to complete their undergraduate internship at a specific institution must submit a formal request to the Director of the relevant Department. This request must be accompanied by the student's curriculum vitae (CV), which should include a list of all exams taken, the grades received for each exam, a list of any optional activities completed, any internships completed in laboratories or clinics, and any other activities undertaken for the purpose of training. After confirming the availability of a spot in the degree session, the Director of the Department accepts the student's request and assigns a tutor, potentially one indicated by the student, to be responsible for monitoring and certifying the activities carried out by the student within the institution.

The final exam for the undergraduate degree consists of the presentation and defence of a thesis prepared by the candidate.

The examination committee for the final exam is composed of a number of members between first and second level professors and researchers who have obtained a teaching assignment in the degree course, ranging from seven to eleven members. At least one member of the examination committee must be a first-level professor. A mandatory member of the committee must be a representative of the Medical Order.

The final degree grade, expressed in hundredths, is determined by the following parameters:

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- a) The weighted average of the grades obtained in the curricular exams, expressed in hundredths. Before the conversion to hundredths, the sum of the grades obtained in the exams is subject to the subtraction of 2 exams, indicated by the student.
- b) The points awarded by the Examination Committee during the thesis defence, obtained by summing the scores individually assigned by the examiners up to a maximum of 9 points, based on four criteria:
 - Type of research (experimental study, case study presentation, case report, compilation study). The maximum score for this criterion is 6 points.
 - Quality of presentation. The maximum score for this criterion is 1 point.
 - Command of the subject. The maximum score for this criterion is 1 point.
 - Discussion skills. The maximum score for this criterion is 1 point.
- c) Points awarded for the duration of the course (on-time/late): Maximum score of 2 points.
- d) Points for honors obtained in coursework exams (at least 2/5 honors): maximum score of 2 points.
- e) Points for participation in the Erasmus Program (Erasmus+, Erasmus+ Traineeship) and Global Thesis Program with a minimum duration of 2 months. Maximum score of 1 point, not cumulative across different participations/experiences.
- f) Points for involvement in the Visiting/Free Movers-Experience. Maximum score of 0.5 points. Not cumulative with other international exchange programs.

Summary table for the determination of the final degree grade

Type of research	Experimental study: 6 points Case Study Presentation: 4 points Case report: 2 points Compilation Study: 1 Point
Session of Graduations	1 st session within the spring session: 2 point 2 nd session within the autumnal session: 2 points 3 rd session within the winter session: 1 point
Numbers of Honors	>=5 : 2 Points >=2 : 1 Point
Erasmus/Global Thesis Program participation	1 Point (non cumulative with other international exchange programs)
Visiting/Free Movers-Experience participation	1 Point (non cumulative with other international exchange programs)

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The final grade is determined by the sum of the scores from the items “a” – “e” and is rounded up or down to the nearest whole number. Honors to the final grade can be awarded with the unanimous consent of the Commission to candidates who achieve a final score of ≥ 113 .

7.1 Anticipation of the graduation session

To be eligible to take the final exam before completing the second semester of the sixth year during the March and/or April graduation session, the student has to:

1. To have passed all exams, including the practical-training internships, within 10 days of the corresponding graduation session, considering that the exams of the sixth year are registered in the first semester and that students must pay the full amount of the university fees for the sixth year of study, as it is required by the Central Administration.
2. Achieved an entrance grade for the graduation session, certified by the responsible Medicine and Surgery Unit, the Students Secretary, of at least 104, a necessary requirement for the final grade of 110/110

In the specific case of early graduation in the sessions of the months March and/or April, the student will be allowed to attend the practical-assessment internship at least 3 months before the graduation ceremony.

Art. 8 Ensuring the Quality

In compliance with current regulations, the Degree Course fulfils the obligations related to the evaluation of teaching and the relative communication of the results to the Quality Assurance Unit and the Evaluation Unit, in accordance with ministerial provisions and with the methods established by ANVUR. The AQ process is transparent and shared with the entire university community and external stakeholders through the publication of the useful documentation produced by the PQA, visible at the link: <https://www.uniba.it/ateneo/presidio-qualita>.

The Class Council annually subjects its teaching and organizational activities to a self-evaluation process aimed at identifying corrective and improvement actions through the conscious involvement of the responsible bodies. In particular it examines:

- The organizational efficiency of the Degree Courses under its jurisdiction and the teaching facilities used.
- The quality and quantity of services available to students.
- The ease of access to information relating to all training activities.
- Compliance by teachers and students with the rules and regulations and the decisions of the Class Council.
- The quality of teaching monitored through evaluation questionnaires completed by teachers and students.
- The use of IT and multimedia tools, the ease of access to paper and electronic bibliographic sources, the availability of multimedia laboratories.

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- The organization of professional internships.
- Teaching productivity determined on the basis of the number of exams passed and the duration of the school career.

The self-evaluation is carried out by the Review Group / Quality Assurance Group composed of:

- The Degree Course Coordinator
- The President of the School of Medicine
- A member of the Degree Course Board
- A reference teacher of the Degree Course
- A student representative
- Other members such as the President of the OMCEO Bari, a Representative of the Specialization and Research Doctors, and a technical-administrative support unit.

The Review Group annually examines the data relating to the monitoring of teaching activities reported in the Annual Monitoring Form.

The Coordinator of the Degree Course in Medicine and Surgery, in addition to the purpose of facilitating the meeting between the demand for skills required by the labor market and the demand for training requested by students, organizes consultations with the main representative organizations of the Medical profession.

Any reports of disruptions from students or professors can be communicated to the Course Coordinator, who will examine them together with the Teaching Unit of the Interdisciplinary Department of Medicine. If necessary, they will be brought to the attention of the Course Board.

Art. 9 Final Provisions

This Regulation is applied from Academic Year 2024/25 and remains in force for the entire cohort of studies.

For anything not expressly provided for in this Regulation, reference is made to the Statute, the University's Teaching Regulations, and current legislation, as well as the University's provisions.