



UNIVERSITÀ
degli STUDI
di CATANIA

EDUCATIONAL REGULATION
Single-cycle master's DEGREE COURSE
in "MEDICINE AND SURGERY" (CdLM-MS)

CLASS LM-41 Medicine and surgery
COHORT AY 2023/24

approved by the Academic Senate in
the session of 20 February 2023 and the session of 24 July 2023

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1. GENERAL DATA	
1.1. Department of affiliation:	General Surgery and Medical-Surgical Specialties Associated departments: Clinical and Experimental Medicine; Biomedical and Biotechnological Sciences; Medical, Surgical Sciences and Advanced Technologies "GF Ingrassia"
1.2. Class:	LM-41 – Medicine and Surgery
1.3. Teaching site:	Policlinico Universitario "G. Rodolico" - Via Santa Sofia, 78 - Catania
1.4. Specific organizational rules:	Regarding the definition of curricula aimed at the execution of the activities envisaged by the 75/363/EEC directive, this teaching regulation of Class LM/41 "Medicine and Surgery" complies with the provisions of art. 102, paragraph 1, of the Legislative Decree no. 18/2020 and of the art. 6, paragraph 3, of the D.M. no. 270/04.
1.5. Reference professional profiles	<p>Function in a work context - The single-cycle master's degree course in "Medicine and Surgery" (CdLM-MS), which qualifies one to practice the profession of doctor and surgeon, trains the professional figure of a doctor at an initial professional level (general practitioner) with knowledge and additional skills in the fields of high technology and medicine of the future.</p> <p>General practitioners:</p> <ul style="list-style-type: none"> • diagnose, treat and cure the most common and most widespread dysfunctions, diseases and injuries in the population; • implement measures for the early diagnosis of serious pathologies in patients at risk; • prescribe medicines and non-pharmacological therapies, clinical tests for diagnoses, hospital admissions and visits to specialist doctors ; • follow the course of the pathologies and related treatments; • solicit and implement preventive interventions with patients or with their organizations. <p>Duties of the doctor are "<i>the protection of life, physical and mental health of the individual and the relief from suffering in respect of the freedom and dignity of the human person, without discrimination of age, sex, race, religion, nationality , of social condition, of ideology, in time of peace as in time of war, whatever the institutional or social conditions in which it operates</i>", as stated by the Art. 3 of the code of ethics.</p> <p>Skills associated with the function - The doctor must have:</p> <ul style="list-style-type: none"> • the scientific bases and the theoretical-practical preparation necessary for the exercise of the medical profession pursuant to directive 75/363/EEC, and the methodology and culture necessary for the practice of lifelong learning, as well as a level of professional, decision-making and operational autonomy deriving from a training course characterized by a holistic approach to health problems, of healthy or sick people also in relation to sex/gender differences and the chemical-physical, biological and social environment that surrounds them; • essential theoretical knowledge deriving from the basic sciences, with a view to their subsequent professional application; • the ability to detect and critically evaluate from a clinical point of view, and in a unified vision also extended to the socio-cultural and gender dimension, the data relating to the state of health and illness of the individual, interpreting them in the light of basic scientific knowledge, pathophysiology and organ and system pathologies; • skills and experience, combined with the capacity for self-assessment, to responsibly address and resolve priority health problems from a preventive, diagnostic, prognostic, therapeutic and rehabilitative point of view, ensuring continuity of assistance; • knowledge of the historical, epistemological and ethical dimensions of medicine; • the ability to communicate clearly and humanely with the patient and with family members, showing empathy and giving comfort to alleviate suffering; • the ability to collaborate with the various professional figures in the various group health activities with the ultimate aim of providing the best possible assistance to the patient; • the ability to apply the principles of health economics in medical decisions; • the ability to recognize the health challenges of the community and the territory in order to intervene in a competent manner also with the aid of technology. <p>These skills are acquired in the training course of the CdLM-MS, which is structured in such a way as to allow the acquisition of specific theoretical knowledge and their application.</p>

Employment opportunities - The graduate in Medicine and Surgery with the qualification to practice the profession can carry out his activity in the various clinical, health and biomedical roles and professional fields.

To complete the training, the doctor can access, through selective tests, the Specialization Schools of the Medical, Surgical and Services Area (lasting 4-5 years), the specific Training Courses in General Medicine (lasting 3 years), PhD programs and II level Masters.

Employment opportunities include:

- the activity in structures of the National Health Service, in public bodies and state or private companies. In particular, the doctor can work in structures of the National Health Service, i.e. in the public structures of the Local Health Authorities, in public and public function structures not belonging to the Local Health Authorities (e.g. University, Classified hospitals, Ministry of Health, Army, Social Security Institutions, Prison administration, the State Railways Authority, the State Police, the Red Cross), and at health facilities, companies and other private organizations, including IRCCS, industries, etc.;
- the freelance profession, both individually and in partnership, on the basis of the specialization held by the professional or the completion of the specific training course in general medicine to practice as a general practitioner; the freelance profession can be carried out in doctors' offices, outpatient clinics and polyclinics, private analysis laboratories, physical therapy and rehabilitation, radiodiagnostic and radiotherapy clinics, both individually and in group form;
- research activity in the clinical or preclinical sectors of medicine, both in the context of a university career and in research institutions. In this case it is recommended to obtain the PhD after graduation.

The exercise of the profession is regulated by the laws of the State.

The Course prepares for the profession of General Practitioners - ISTAT (2.4.1.1.0).

1.6. Access to the course: National programmed number.

1.7. Course language: English.

1.8. Course duration: The duration of the course for the achievement of the master's degree in medicine and surgery is 6 years.

2. ADMISSION REQUIREMENTS
2.1. Knowledge required for entry
<p>Candidates who are in possession of a high school diploma or other qualification obtained abroad, recognized as suitable in accordance with current legislation, can be admitted to the CdLM-MS. EU and non-EU citizens residing in Italy referred to in Art. 26 of Law 189 of 30/7/2002 can compete under the same conditions as the Italians.</p> <p>Being a degree course with a limited number of national students (pursuant to Law 2 August 1999, no. 264), candidates must pass an admission test. The right to enrolment is accrued by candidates, depending on the places available, based on their positioning in the ranking drawn up in decreasing order of scores, if they have obtained a minimum score in the test defined by the call for admission. Candidates with a score lower than that indicated in the announcement will not be able to enrol, regardless of their position in the ranking.</p> <p>The test, in addition to being selective, is also aimed at verifying the possession of an adequate initial preparation, achieved in the studies previously carried out. If the verification of the initial preparation is not positive, additional educational obligations (OFA) are foreseen to be fulfilled in the first year of the course. As far as the characteristics of OFAs and the methods for fulfilling them are concerned, please refer to point 2.3 of these regulations.</p> <p>Candidates must also possess linguistic knowledge equal to the minimum level of English B2 of the Common European Framework of Languages. The scientific and technical terms used in the access test to the course are considered higher than the B2 level of competence, but necessary for students intending to access the CdLM-MS. For students who are not Italian native speakers, no level of basic knowledge is required upon entry to the Degree Course but, to guarantee productive learning during professional activities at the bedside, the compulsory acquisition of the level B2 in Italian within the third year of the course. Italian language courses are organized, starting from the first year of the course, at the University Linguistic Center, which will certify the achievement of the minimum level of knowledge required. The relative credits will be recognized among the additional linguistic knowledge.</p>
2.2. Methods of verifying the knowledge required for access
<p>The admission test to CdLM-MS takes place according to modalities defined by the Ministerial Decree that the MUR publishes annually and by subsequent Rectoral Calls. Candidates must possess the knowledge described in the MUR decree indicating the knowledge required for access and the specific contents of the admission tests which, to date, consist in the solution of multiple-choice questions on subjects of Biology, Chemistry, Physics and Mathematics, general culture and logical reasoning.</p> <p>The procedures for carrying out the test, the attribution of scores and anything else deriving from this attribution are regulated by a specific announcement published annually by the University. Enrolment in study courses is reserved for students usefully placed in the relative rankings. Pursuant to current legislation, based on the score reported in the admission test, any OFAs are determined for each of the students admitted.</p>
2.3. Additional training obligations in the event of a non-positive verification
<p>The course of study requires that students admitted to the first year of the course possess adequate initial preparation, achieved in the studies previously carried out.</p> <p>In the event that the student, despite being in a useful position to be admitted to the CdLM-MS, has achieved a score lower than 25% of the maximum obtainable in the Biology questions or less than 25% of the maximum obtainable in the Chemistry questions, the verification is considered "not positive". In this case, the student will be assigned OFAs to be completed within the first year of the course, following specific activities specifically organized in the first semester of the first year and passing the related exams. Therefore, he/she is enrolled with reserve and, as such, cannot take exams or final assessments or request, for any reason, the recognition of university credits (CFU) obtained in other study courses until he/she passes the OFA.</p>
2.4. Minimum score to be achieved for admission
<p>Please refer to the Ministerial Decree "Methods and contents of admission tests to degree courses with restricted access at the national level".</p>
2.5. Criteria for the recognition of credits obtained in other courses

The preliminary assessment of the credit recognition applications is carried out by the Current Affairs Technical Commission (CTAC), after having consulted the teachers of the interested scientific-disciplinary sector (SSD), and then submitted to the approval of the Council of the Degree Course.

Incoming students transferred from another University (a) - Students who have already obtained credits, even in foreign universities, which in whole or in part are recognizable for the achievement of the degree, can be granted, upon request, enrollment in the year of the course for which they have applied (year of course following the last one attended) if there are places available. Enrollment in subsequent years of the course is subject to availability, as announced annually in the study manifesto for each year of the course, based on the number of positions freed up following transfer or withdrawal from studies.

The transfer application must be sent to the Student Career Office - Medical Sector, together with the request for recognition of the previous career.

The application for recognition of students previously enrolled in another university (incoming transfers) must be accompanied by the programs of the exams taken in the previous career. Without such programs, the activities will not be recognized. For details, see the Guide attached to the University Call for Transfers from other Campuses.

Students enrolled in the CdLM-MS in the AY 2023-24 from other degree courses (b) - Students who have already obtained credits from other Degree Courses, which in whole or in part are recognizable for the achievement of the degree, can submit an application for recognition (total or partial) of the credits acquired by passing exams and/or frequencies.

The application for credit recognition must be submitted electronically following the procedures indicated by a specific notice from the Student Career Office - Medical Sector, together with the enrollment application, and must be accompanied by the programs of the courses for which recognition is requested.

Enrollment is, in any case, subject to placement in a useful position in the ranking for admission to the first year at the University of Catania. If the credits for which the student requests recognition have been obtained for over twelve years, given the need for continuous updating in the medical field, the recognition cannot be made due to the obsolescence of the cognitive contents.

The recognition of exams in Human Anatomy, Biology, Genetics, Physiology, Pathology, Immunology, Systemic Pathologies and medical-surgical specialties, Diagnostic Imaging, Radiotherapy, and Professionalizing and Enabling Internships is conditional on the fact that they have been passed in scope of a master's degree Course – LM-41 taught in English. The credits relating to the preparation of the final exam are not recognisable.

In evaluating applications for recognition, the Board complies with the following criteria:

1. Credits obtained in single-cycle master's degree courses in Medicine and Surgery (LM-41) held at Italian universities:
 - course delivered and exam taken in English;
 - full recognition of the credits earned in a specific SSD to the maximum extent envisaged for that sector in the study plan of the Catania University Degree Course, provided that the educational objectives have been achieved;
 - total recognition of any excess credits or in sectors that are not present in the study plan to the maximum extent of the credits envisaged as an elective teaching activity;
 - partial recognition of credits to the extent that the disciplinary contents are attributable to one or more of the teachings envisaged in the study plan, through integration and examination of the missing contents;
2. Credits obtained in study courses belonging to classes other than LM/41 held at Italian universities or in study courses at foreign universities:
 - course delivered and exam taken in English;
 - the recognition is limited to credits earned in disciplines whose contents are present in one or more of the teachings of the degree course;
 - recognition is limited to the number of credits envisaged for the corresponding course in the study plan;
 - recognition is total in cases where, in addition to a general correspondence of the contents, there are also common training objectives;

- the recognition is partial in cases where the correspondence of the credits and/or contents is partial and is subject to an integration and examination of the missing contents.

To both the students referred to in point 1. that in point 2. the following criteria apply:

- the same score obtained in the degree course of origin will be maintained for the recognized exams;
- the recognition of credits will take into account the educational objectives through the comparison of the programs and, in the event that these can be approved, any discrepancy in the number of credits will be tolerated to a maximum extent of 20%;
- admitted students will have to acquire the attendance (at least 70%) of the courses not passed.

For anything not foreseen, please refer to the current University teaching regulations.

2.6. Criteria for the recognition of professional knowledge and skills

Professional knowledge and skills certified in accordance with current legislation on the subject can be recognized as credits relating to elective teaching activities (maximum 3 credits of individual elective teaching activities) only if they are closely related to the skills and professionalism that the degree course follows.

2.7. Criteria for recognition of knowledge and skills gained in post-secondary level training activities carried out with the aid of the University

The knowledge gained in post-secondary level training activities carried out with the aid of the University and certified in accordance with current legislation on the subject can be recognized as credits relating to elective teaching activities (maximum 3 credits of individual elective teaching activities) only if they have a close relevance to the skills and professionalism that the degree program achieves.

2.8. Maximum number of recognizable credits

For the knowledge referred to in points 2.6 and 2.7, the maximum number of credits that can be recognized is equal to 3.

3. TEACHING ORGANIZATION

3.1. Frequency

The student is required to attend the frontal teaching activities for at least 70% of the hours scheduled for each Integrated Course/Teaching and, in any case, for at least 50% in each individual module.

The student who carries out an authorized period of study/traineeship abroad of a minimum duration of one month during the lessons of the first or second semester, is required to attend the frontal teaching activities for at least 50% of the hours foreseen in the of each Integrated Course/Teaching.

In any case, attendance is mandatory for 100% of the scheduled hours for professionalizing and qualifying internship activities.

The art. 30 of the University Academic Regulations (RDA) provides for specific measures aimed at facilitating the training path for students who are workers, athletes, in situations of vulnerability, with disabilities and in a state of detention: a) a further reduction of mandatory attendance (to a maximum of 20%) envisaged for each course (integrated course) which in any case cannot be less than 50% of the hours of frontal teaching envisaged and which does not apply to professionalizing and qualifying internships; b) access to the extraordinary exam sessions reserved for out-of-course students; c) specific didactic support activities.

The application for the recognition of the benefits provided for by the aforementioned art. 30 must be submitted to the Student Career Office - Medical Sector which will proceed to verify that the requirements are met.

If the student does not have the requisites for access to the benefits mentioned above, but is in a state of illness or is unable to attend due to serious and documented family problems, he/she may submit an application to the CdLM-MS Presidency of exemption from attendance of frontal teaching up to a maximum of 50%. The exemption does not apply to professionalizing and qualifying traineeships. In the event of illness, the relative documentation must be issued by a suitable structure of the National Health System.

Students who have not attended the courses envisaged by their educational path in the envisaged course year are regularly enrolled in the following year, without prejudice to the obligation to attend the courses for which they have not obtained the certificate of attendance to be able to take the proficiency exam.

At the end of the 6 years of regular enrolment, the student is enrolled as "out-of-course" with the obligation to obtain the certificate of attendance of the courses according to the principle of propaedeutic nature of the same. Students who are members of collegial bodies are exempt from attending the training activities that take place in conjunction with the meetings of the bodies to which they belong.

For the professionalizing and qualifying internship activities, considering that the required attendance is mandatory for 100% of the scheduled hours, the student who benefits from any form of exemption described above must submit a recovery request to the Internship Coordinator who will organize the activities ad hoc, also taking into account the indications provided by the competent doctor.

3.2. How to verify attendance

The method for verifying attendance is the responsibility of the teacher (roll call or signature sheets for frontal lessons; special register of the trainee for the professionalizing and qualifying traineeship). The teacher is required to communicate to the Degree Course Dean only the names of students who have not reached the minimum number of hours of frontal teaching. For professionalizing and qualifying internships, what is reported in the intern's booklet authenticated and signed by the tutor is valid.

3.3. Typology of the didactic forms adopted

The didactic forms adopted are divided into:

- a) lectures in the classroom (L): 1 CFU = 7 hours;
- b) theoretical-practical activities, laboratories or classroom exercises (ATP): 1 credit = 15 hours;
- c) other activities supervised by the University (AA): 1 CFU = 25 hours (laboratories, seminars, theoretical-practical activities, specific courses also provided online, group discussions, study and guided review of scientific literature, etc.). These activities can be supervised by the teacher, by junior and/or senior tutors, by the tutors of the affiliated institutions, and do not include the activities provided by the teacher in the form of frontal teaching, as well as those of internship or laboratory codified as specific teachings;

- d) Professional internships and biomedical laboratories (TP): 1 CFU = 25 hours, of which at least 20 carried out in health facilities in small groups with the supervision of a tutor (DM 58/2018 is valid for the qualifying internship)
- e) Qualifying internships (TA): 1 credit = 25 hours
- f) Final exam: 1 credit = 25 hours

The frontal teaching activities and the theoretical-practical activities can be held both in the morning and in the afternoon, in relation to the teaching calendar and the programming organized by the CdLM-MS Presidency which considers the various logistical needs.

The professionalizing and qualifying internship activities are organized by the tutors of the healthcare facilities, in relation to the planning of the Degree Course, considering the logistical needs of the individual department. They can be organized throughout the entire calendar year with even night shifts.

3.4. How learning is verified

The verification of learning takes place through certification assessments, but intermediate assessments are also possible exclusively aimed at detecting the effectiveness of learning and teaching processes in relation to specific contents.

The verification takes place:

- through profit exams (AP) if the credits to be acquired refer to teachings or exams of integrated courses;
- through certificate of eligibility (I) for credits relating to elective teaching activities and professional and qualifying internships;
- through certificate of attendance (AF) for the internship aimed at the degree thesis.

The tests can take place in oral, written, practical or any combination thereof.

The certification assessment of the exam is expressed out of thirty and may consider any tests taken during the course and the results achieved in any written or practical tests. If the exam is divided into several tests, the commission takes the minutes at the end of the exam; in cases where only a written test is required, the verbalisation will be carried out only after having acknowledged the student's wish to complete the procedure.

The test is considered passed if the student obtains a vote of at least eighteen thirty. Honours ("laude") may also be awarded to the candidate who obtains the highest marks.

The exam is considered concluded at the end of the verbalization process. The commission records the positive outcome of the test reporting, in addition to the topics covered by the same, the grade assigned, if applicable.

The professional training and qualifying internships do not provide for a profit mark, but the achievement of the relative credits is subject to the assessment of suitability issued by the tutor. Internship reporting is the responsibility of the Internship Coordinator who receives the evaluation forms filled in by the tutors.

Passing the exam credits the student with the number of CFU corresponding to the course to which it refers according to the Educational Plan, shown below and advertised with the Study Manifesto valid at the time of first enrolment in the Course.

3.5. Rules for submitting individual study plans

The CdLM-MS does not include study plans presented individually by the student.

3.6. Knowledge of foreign language

The CdLM-MS requires a knowledge of the English language with a medical-scientific orientation which includes the linguistic skills necessary to read and understand the content of scientific works on biomedical topics and to communicate with patients and healthcare personnel at an international level. The level of knowledge of the English language required corresponds to a level B2 of the classification of the CEF (Common European Framework).

3.7. Criteria for periodic verification of the non-obsolescence of cognitive contents

There are no periodic checks.

3.8. Verification criteria for credits earned more than twelve years ago

In the event that the student does not obtain the Master's Degree in Medicine and Surgery within a number of years equal to double the legal duration of the course of study plus one, access to the final exam is subject to a

verification of the credits achieved by more than 12 years, in order to evaluate the non-obsolescence of the cognitive contents. In the event of a negative assessment, the student may be required to pass the related exams.

3.9. Criteria for recognition of studies completed abroad

Students regularly enrolled in the CdLM-MC of the University of Catania can carry out part of their studies at foreign universities or equivalent institutions with which the University has stipulated student mobility programs recognized by the Universities of the European Union and/or bilateral agreements which provide for the achievement of qualifications recognized by both parties.

Students wishing to make use of this possibility must present a specific application in which they indicate the University they intend to go to and the courses they intend to follow. The CdLM-MS deliberates on the matter, specifying which courses are recognized and adequately motivating if some courses cannot be recognized.

The resolution indicates the correspondence between the recognized training activities and the curricular ones of the Degree Course, the number of credits and the mark out of thirty attributed to each of them, based on previously established conversion tables. The Council decides based on previously defined general criteria and, in particular, not on the basis of the more or less perfect correspondence of the contents between the courses of the CdLM-MS and those that the student intends to follow abroad, but verifying that the latter are consistent with the course objectives.

The educational activities carried out abroad (courses followed, credits acquired, and marks obtained) are recorded in the student's career, in accordance with the prior resolution of the CdLM-MS, on the basis of the documentation sent by the host University.

Recognition of the Degree in Medicine and Surgery obtained at foreign universities - The degree in Medicine and Surgery obtained at foreign universities is recognized where there are bilateral agreements or international conventions which provide for the equivalence of the title. In relation to the discipline concerning the equivalence of qualifications within the European Union, the Degrees issued by European Union Universities are recognized subject to the verification of the documents certifying their curricular adequacy. Where there are no agreements between states, on the basis of the combined provisions of articles 170 and 332 of the TU on university education, the academic authorities can declare equivalence on a case-by-case basis.

For the purposes of this recognition, the CTAC:

- a. ascertains the authenticity of the documentation produced and the reliability of the original Study Programme, based on the attestations of specifically qualified central bodies;
- b. examines the curriculum and evaluates the congruity, with respect to the teaching regulations in force, of the educational-training objectives, of the teaching programs and of the credits attributed to them at the University of origin;
- c. establishes the following criteria useful for accepting the applications:
 - have passed a selective admission procedure, in the institution that issued the title, to a nationally limited number of Degree Courses in Medicine and Surgery
 - availability of places in the fifth year
- d. subordinates the recognition of the Degree in Medicine and Surgery obtained at foreign Universities:
 - upon passing, after acquiring attendance (according to the criteria set out in point 3.1), at the University of Catania, the following exams:
 - a. Basics of diagnostics and pharmacology
 - b. Global health, public health, and community medicine
 - c. Forensic and occupational medicine
 - d. Obstetrics, gynaecology and paediatric diseases
 - e. Emergencies
 - f. Patient management 1 and 2
 - to carry out the 5th and 6th year internship
 - the elaboration and discussion of the degree thesis.

The preliminary assessment of the applications carried out by the CTAC, according to the above criteria, is submitted to the approval of the CdLM-MS.

Professional apprenticeships can be recognized in relation to the educational objectives achieved. The qualifying internship carried out before or after graduation can be recognized for the purpose of issuing the

qualifying title after assessment of compliance with current legislation (DL18/2020) except for the internship in the General Medicine area which must be carried out in Italy.

4. OTHER EDUCATIONAL ACTIVITIES

4.1. Student's choice of activities

Elective teaching activities (ADE) – 8 credits

The CdLM-MS, on the proposal of the Technical-Pedagogical Commission (CTP) and the teachers, organizes the offer of optional educational activities, which can be implemented with ex-cathedra lessons, seminars, interactive courses in small groups, uncoordinated activities or connected in "homogeneous educational paths". The student exercises his/her personal option, up to the achievement of a total number of 8 credits. The elective activities also include elective internships aimed at specific topics carried out in research laboratories or clinical departments or other learning activities related to the objectives of the CdLM-MS.

The CdLM-MS, on the proposal of the teachers, defines the educational objectives that the individual ADEs set for themselves as well as the methods for carrying out the courses.

For the planning of elective activities, the CdLM-MS Council entrusts the teacher with the task of organizing the ADE in defined ways and of evaluating the commitment made by individual students in achieving the defined educational objectives.

The ADE calendar is published before the beginning of the academic year or semester, together with the calendar of compulsory teaching activities.

Individual elective teaching activities at the request of the student

The student can acquire a maximum of 3 credits (of the 8 expected as ADE) through the following activities:

- certified participation in conferences and congresses
- elective internships in research structures or clinics of the University or in accredited external structures
- volunteering in the health sector at accredited institutions

4.2. Additional training activities (art. 10, paragraph 5, letters c, d of Ministerial Decree 270/2004)

Training and Orientation Internships

Within the training course, the student is required to acquire specific skills in the field of Internal Medicine, General Surgery, Pediatrics, Gynecology and Obstetrics, as well as medical-surgical specialties. To this end, the student must carry out professional training activities by attending the assistance structures identified by the CdLM-MS Council and in the periods defined by the same, for a total number of at least 60 credits.

The Council of CdLM-MS designates a Coordinator responsible for organizing all the practical training activities.

The compulsory internship is a form of tutorial teaching activity which involves the student carrying out practical activities simulating the activity carried out at a professional level. In each phase of the compulsory internship, the student is required to operate under the direct supervision of a tutor. The didactic functions of the tutor to whom students who carry out compulsory internships are entrusted are the same as those envisaged for the tutorial didactics carried out within the teaching courses. At the end of each compulsory internship period, the student will be assessed and declared suitable/unsuitable.

The Council of CdLM-MS can identify non-university care structures where the internship can be conducted, in part or in full.

The School of Medicine, considering the indications of the CdLM-MS, will start the procedures for the relative agreements with hospitals and healthcare companies for the purpose of carrying out the professionalizing and qualifying internship as well as the preparation of the degree thesis.

Pre-graduate practical-evaluative internship

Within the 60 credits to be obtained in the entire training course, and intended for the aforementioned professional training activity, 15 credits are intended for carrying out the quarterly practical-evaluative internship within the Degree Course referred to in article 3 of the decree of the Minister of education, university and research 9 May 2018, n. 58 and subsequent amendments, aimed at obtaining professional qualification. The aforementioned internship takes place for a number of hours corresponding to at least 5 credits for each month and is divided into 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 no earlier than the sixth year of the course, in the specific area of General Medicine.

<p>At least 20 hours of professionalizing teaching activity and no more than 5 hours of individual study must correspond to each single credit reserved for the practical-evaluative internship.</p> <p>The pre-degree practical-evaluative internship is organized in collaboration with the State Examination Office and the Orders of Doctors and Surgeons. The internship in the medical and surgical area can be carried out abroad as part of the University's international mobility programs, in accordance with the provisions of the Regulations for carrying out the practical evaluation internship, and subject to approval by the Degree Course.</p> <p>Computer and telematic skills: a course of "Health Informatics" (3 credits) is foreseen.</p> <p>Other useful knowledge for entering the world of work: not foreseen.</p>
<p>4.3. Study periods abroad</p> <p>The CdLM-MS encourages International Exchange Programs by providing a reward for the purpose of calculating the degree mark (maximum 2 points), namely:</p> <ul style="list-style-type: none"> • INTERNATIONAL EXCHANGES authorized by the Degree Course: 0.5 points for each continuous period from 1 to 4 months • ERASMUS: Learning Agreement for Traineeship (≥ 2 months): 1 point for each period from 2 to 4 months • ERASMUS: Learning Agreement for Studies (≥ 3 months): 1.5 points (acquisition of at least 6 credits of frontal teaching) • ERASMUS: Learning Agreement for Studies (≥ 3 months): 2 points (acquisition of at least 12 credits of frontal teaching)
<p>4.4. Final test</p> <p>The student has the availability of 15 credits, aimed at preparing the master's degree thesis. The acquisition of the aforementioned credits takes place through an internship period of a minimum duration of 12 months in the clinical department or biomedical laboratory to which the supervisor belongs. It will be the responsibility of the supervisor to certify the type of thesis (experimental, case-report or compilation) which can be written and discussed in Italian or English.</p> <p>In order to be admitted to the degree exam, the student must have attended all the courses and passed the relative exams. The graduation exam focuses on the discussion of the thesis, elaborated in an original way by the student under the guidance of a supervisor; the figure of a co-supervisor is foreseen.</p> <p>The criteria for determining the degree mark are established by the "Regulations for the assignment of final degree exam scores" approved by the CdLM-MS Council. The degree mark is expressed in one hundred and tenths. At least three Graduation Sessions are foreseen for each Academic Year.</p>

5. SUA-CDS PROGRAMMED TEACHING - COHORT 2023/2024

LIST OF TEACHINGS

No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
1	FIS/07 BIO/10	Applied physics Chemistry and biochemistry propedeutics	10	70	50	-	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the principles and laws of physics and their application in the medical field; • of general and inorganic chemistry as a basis for understanding natural processes and phenomena (e.g. structure of the atom, properties of the elements, chemical bonds, states of matter; solutions and their properties, chemical reactions, thermodynamics and kinetics of reactions, concepts of electrochemistry); • organic chemistry aimed at studying biochemistry (eg. carbon, structure of organic molecules, functional groups and their main characteristics and reactions).
2	BIO/11 BIO/13 MED/03 BIO/11 BIO/13 MED/03	<p>THE CELL: MOLECULES AND PROCESSES (annual)</p> <p>Molecular biology I Applied Biology I Medical genetics I Molecular biologyII Applied biology II Medical genetics II</p>	14	98	75	-	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the basic mechanisms involved in cellular processes (eg expression, duplication and transmission of genetic information, development, differentiation, cell proliferation, biogenesis of organelles and structures cells, interaction between cells, biological basis of behavior and evolution); • biotechnological applications and general and molecular genetics; • advanced biological technologies (eg recombinant technologies and use of transgenic animals).

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
3	BIO/17 BIO/16	BODY GENESIS AND ARCHITECTURE (annual) Histology, cytology, embryology and organogenesis Regional anatomy and gross neuroanatomy	14	98	50	2	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the morphological characteristics of the cell and its organelles; • of the relationship between the morphology and function of cytological structures; • of the embryological origin, typology, of the structure, function and criteria for the recognition of a histological specimen; • general notions on the embryonic development of mammals as a scientific basis for the study of the ontogeny of individual organs and systems; • organogenesis and the various stages of development by identifying individual diversity, the congenital variants of the different organs or systems and researching the primary causes of morphogenetic events;

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
4	INF/01	HEALTH INFORMATICS	3	21	75	-	<p>Provide a solid knowledge base and development of the ability to use knowledge:</p> <ul style="list-style-type: none"> • of information technology, including programming, operating systems, networks and databases; • of medical information technology, including clinical data management, telemedicine, security information and regulatory compliance; • advanced medical technologies, including medical imaging, diagnostic and treatment support systems, and rehabilitation technologies; • how to use information systems in clinical practice, including patient management, medication management and test results management; • how to use information systems for medical research, including clinical data analysis, imaging data processing, and genomic data analysis; • how to use information systems for the management and evaluation of the quality of data and clinical processes.
5	BIO/09 BIO/10	THE CELL: FUNCTIONS AND REGULATIONS Cellular physiology Biochemistry	9	63	50	2	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the main characteristics and reactions of the most important biomolecules (e.g. glycidies, lipids, aminoacids and proteins, nucleotides); • of the relationship between protein structure and function, of biological membranes and of the main transport systems; • of the principles of enzymology, bioenergetics, and of the catabolic and anabolic pathways of glycidies, lipids and amino acids.
6	MED/42	HEALTH AND THE CLIMATE CHANGES	2	14	25	-	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the risks to health and the environment associated with climate change; • of interventions for the prevention and management of health risks related to climate change.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
							<ul style="list-style-type: none"> • knowledge of communication and advocacy tools to raise awareness and involve society and the authorities in tackling the challenge of climate change and its implications for health.
7	BIO/09 BIO/10 BIO/16	BODY FUNCTIONS 1 Human physiology Biochemistry Organ structure	10	70	75	3, 5	<p>Providing a solid knowledge base and developing the ability to use knowledge:</p> <ul style="list-style-type: none"> • of achieving and maintaining internal homeostasis of the human body at the molecular, cellular and tissue level, in the context of changes in the surrounding environment; • of electrophysiological mechanisms and functions of the transport and communication systems in biological membranes, of cell motility, of the specialized functions of single cells; • of the applications of the main laws of biophysics in models of maximum complexity by studying mechanisms and interrelationships of all organ functions; • of the integrated functioning of the various organs and systems during motor activities and in extreme environmental conditions.
8	MED/04 MED/07 MED/08	DISEASE ONSET 1 General pathology and immunology microbiology Principles of anatomopathology	12	84	100	7	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the scientific and clinical application aspects of general pathology and general physiopathology; • of the cellular and molecular bases of microbial pathogenicity, microorganism-host interactions, biotechnologies microbial; • anatomopathological pictures, cellular, tissue and organ lesions and their evolution in relation to the most relevant diseases of the various systems.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
9		<p align="center">BIO-ENGINEERING</p> <p>Tissue engineering, bioprinting Scaffolding and organoids</p>	6	42	25	4	<p>Provide a solid knowledge base and development of the ability to use knowledge of:</p> <ul style="list-style-type: none"> • medical bioengineering, including the basic principles of biology, physiology and engineering; • engineering methods and techniques for solving medical problems; • medical devices and prosthetics, as well as diagnostic and therapeutic systems; • the ability to work as an interdisciplinary team and communicate effectively with physicians, engineers and other medical professionals; • research and development opportunities in medical bioengineering, including advances and current trends in the area; • the global and critical perspective on the use of medical bioengineering in clinical practice and research.
10	<p>BIO/09</p> <p>BIO/10</p> <p>BIO/16</p>	<p align="center">BODY FUNCTIONS 2</p> <p>Human physiology Biochemistry Organ structure</p>	14	98	75	3, 5, 7	<p>Provide a solid foundation of knowledge and a development of the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the electrophysiological and functional mechanisms of the central, peripheral and vegetative nervous system; • of the mechanisms and interrelationships of all organ functions and of the general foundations of endocrinology; • the neurobiological and psychophysiological foundations relating to behaviour and to the cognitive and emotional interactions between the subject and the environment.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
11	MED/04 MED/07 MED/08	DISEASE ONSET 2 General pathology and immunology microbiology Principles of anatomopathology	12	84	100	7, 8	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of molecular medicine and cellular pathology with specific reference to the field of oncology, immunology and immunopathology, and of genetic, ultrastructural and molecular pathology; • of the principles of bacteriology, virology, mycology and parasitology and the diagnostic-clinical aspects of microbiological and virological analysis; • the contribution of the pathologist to the clinical decision-making process with reference to the use of histopathological and cyto-pathological diagnostics also with biomolecular techniques for diagnosis, prevention, prognosis and treatment of the individual patient's diseases; • anatomopathological reports.
12		WATER, FOOD AND SUSTAINABLE DIETS	3	21	25	-	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the nutritional characteristics of foods, of the state of nutrition, of energy expenditure and need, of the physiological use of nutrients in the diet; • of the principles of applied nutrition and integrated clinic with psychological management and functional rehabilitation of the patient; • of the pathophysiological, psychological, functional and clinical problems of the various forms of malnutrition (obesity and pathological thinness) and of the principles of therapy.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
13	BIO/14 MED/36	BASICS OF DIAGNOSTICS AND PHARMACOLOGY General pharmacology Introduction to diagnostic imaging	5	35	75	1, 2, 3, 5	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the different classes of drugs, of the molecular and cellular mechanisms, of their action, and of the fundamental principles of pharmacodynamics and pharmacokinetics; • of the therapeutic uses of drugs, of the variability of response in relation to gender, genetic and pathophysiological factors, of drug interactions and of the criteria for defining therapeutic schemes; • of the principles and methods of clinical pharmacology, pharmacosurveillance and pharmacoepidemiology, side effects and toxicity of drugs and substances of abuse; • of the various diagnostic imaging procedures, evaluating their risks, costs and benefits; • of the diagnostic imaging reports; • radiotherapy and knowledge of radioprotection principles.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
14		DISEASES OF THE CARDIOVASCULAR AND ENDOCRINE SYSTEMS	14	98	50	2, 7, 8, 10, 11, 13	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the anatomical-physiological, biochemical and genetic aspects of the cardiac system in order to establish the basis for learning laboratory analyses, clinics and therapy cardiology. • of the etiopathogenetic and physiopathological mechanisms that determine the development of congenital and acquired heart diseases. • of clinical semiotics, instrumental and laboratory diagnostics applicable to cardiovascular diseases; • of the theoretical and technical foundations of non-invasive cardiology (eg standard electrocardiography and dynamics, electrophysiology, one-dimensional, two-dimensional echocardiography, Doppler and Color Doppler, radioisotopic methods, CT, MRI); • pathophysiological problems, psychological and clinical aspects concerning diseases of the endocrine system (e.g. diabetology, andrology, growth, metabolic disorders, obesity, glucose, lipid and electrolyte metabolism); • pathophysiological, psychological and clinical problems concerning male fertility, male sexuality and its dysfunctions from a medical sexological point of view, natural and assisted procreation from an endocrine-andrological point of view, the ability to recognize the most frequent forms of pathology andrology, indicating the basic preventive and therapeutic measures and identifying the conditions that require the professional contribution of the specialist.
	BIO/14	Applied pharmacology					
	MED/08	Anatomopathology					
	MED/11	Cardiovascular diseases					
	MED/13	Endocrinology					
	MED/22	Vascular surgery					
	MED/23	Cardiac surgery					

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
	MED/36	Applied diagnostics					
15		ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND BIG DATA	3	21	25	4	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of how to use artificial intelligence, machine learning and big data to improve the diagnosis and treatment of diseases; • of artificial intelligence and machine learning techniques for clinical data analysis, including vital sign processing, medical image analysis, and genomic data modeling; • artificial intelligence and machine learning techniques for medical research, including identifying new therapeutic molecules, the discovery of new biomarkers and the optimization of therapeutic protocols.
16	BIO/14 MED/10 MED/14 MED/21 MED/24 MED/36	Applied pharmacology Respiratory diseases Kidney diseases and transplantation Thoracic surgery Urology Applied diagnostics	10	70	50	2, 7, 8, 10, 11, 13	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the etiopathogenesis, pathophysiology and systematic nosography of the main thoraco-respiratory diseases; • thoraco-respiratory symptoms and signs; • diagnostic laboratory procedures and instrumental, as well as the therapeutic principles in the main respiratory pathologies; • of the most frequent urological and nephrological diseases, indicating the main directions of prevention, diagnosis and therapy and identifying the conditions that require the professional contribution of the specialist; • the basics of dialysis therapy.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
17	MED/28 MED/29 MED/30 MED/31	DISEASES OF THE SKULL AND SENSE ORGANS Odontostomatological Diseases Maxillofacial surgery Ophthalmological Diseases Otorhinolaryngological Diseases	6	42	50	2, 7, 8, 10, 11, 13	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the most frequent otorhinolaryngological, odontostomatological, oral cavity and visual system diseases, indicating the main prevention, diagnosis and treatment guidelines and identifying the conditions that require professional contribution of the specialist. • of the main pathologies that require the intervention of the specialist in plastic surgery and maxillofacial surgery.
18		BEING A MEDICAL DOCTOR	5	35	25	-	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the fundamental concepts of the human sciences as regards the historical evolution of the values of medicine, including epistemological and ethical ones. • of deontological norms and those connected to high professional responsibility, critically evaluating the ethical principles that underlie the various possible professional choices and the ability to develop an interdisciplinary and transcultural mental approach, also and above all in collaboration with other figures in the healthcare team, deepening the knowledge of the rules and dynamics that characterize group work as well as adequate experience in the general organization of work, connected to a sensitivity to its characteristics, to bioethics and the history and epistemology of medicine, to the relationship with the patient, and to the themes of community medicine; • of the characterizing aspects of the multi-ethnic society, with specific reference to the variety and diversification of the values and cultural aspects;

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				Lessons	Other activities		
	M-PSI/08 MED/02	Clinical psychology History of medicine and bioethics Sociology and communication skills					<ul style="list-style-type: none"> • of the origins and determinants human behaviour, cognitive, emotional and psychosocial factors influencing health, and the general principles of effective person-centred communication.
19		TELEMONITORING AND PROXIMITY MEDICINE	2	14	0	4	<p>Provide a solid knowledge base and development of the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the technologies and methodologies used for patient telemonitoring, including wearable devices, remote monitoring devices and telemedicine systems; • of the clinical aspects of telemonitoring and of proximity medicine, including chronic patient management, telemedicine and chronic disease management; • the organizational and managerial aspects of proximity medicine and telemonitoring, including service planning and management, regulatory compliance and data security.
20	BIO/14 MED/08 MED/12 MED/18 MED/36	Applied pharmacology Anatomopathology Gastroenterology general surgery Applied diagnostics	9	63	50	2, 7, 8, 10, 11, 13	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the most frequent diseases affecting the digestive system, indicating the main directions for prevention, diagnosis and therapy and the ability to identify conditions that require professional assistance specialist; • digestive and nutritional pathophysiology, functional and instrumental semeiotics, clinical methodology and pharmacological and instrumental therapy in gastroentero-hepatology and pancreatology.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
21	MED/33 MED/36	DISEASES OF THE BONES AND JOINTS Orthopedics Radiology	4	28	50	2, 7, 8, 10, 11, 13	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the most frequent diseases affecting the musculoskeletal system, indicating the main directions for prevention, diagnosis and therapy and the ability to identify conditions that require professional assistance by the specialist; • the conditions which require the intervention of the specialist in Physical and Rehabilitation Medicine.
22	BIO/12 MED/05 MED/07 MED/46	LAB WORKS Clinical biochemistry and clinical molecular biology Clinical pathology Microbiology and clinical microbiology Technical and laboratory medical sciences	5	35	75	11	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of the main and most up-to-date laboratory diagnostic methodologies in clinical, cellular and molecular pathology; • of the various laboratory diagnostic procedures, evaluating their costs and benefits and ability to rationally interpret laboratory data; • the correct criteria for collecting a biological sample in order not to alter its characteristics and allow for a truthful analysis useful for the purposes of the person's diagnostic and therapeutic process. • related to knowing how to operate in safe way for himself and the person in the collection of biological samples.

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23		MEDICAL AND SURGICAL ROBOTICS	2	14	50	4	<p>Provide a solid knowledge base and development of the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the technologies and methodologies used in medical and surgical robotics, including assisted robots, autonomous robots and navigation systems; • of clinical applications of medical and surgical robotics, including minimally invasive surgery, robotic therapies, and robotic rehabilitation; • the principles of engineering and design of medical and surgical robotic systems, including mechanics, electronics, controllability, and safety.
24	BIO/14 MED/16 MED/17 MED/35	Applied pharmacology Rheumatology Infectious diseases Dermatology	8	56	50	2, 7, 8, 10, 11, 13	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the pathophysiological, anatomopathological, preventive and clinical problems concerning rheumatic diseases, indicating the diagnostic and therapeutic guidelines and identifying the conditions that require the professional contribution of the specialist; • of the most frequent skin and venereal diseases, indicating the main prevention, diagnosis and treatment guidelines and the ability to identify the conditions that require the professional contribution of the specialist; • of the most frequent infectious and tropical diseases, indicating the main prevention, diagnosis and therapy and the ability to identify the conditions that require the professional contribution of the specialist; • clinical methodology in the field of infectious diseases, parasitology, mycology and clinical virology and sexually transmitted diseases.

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				Lessons	Other activities		
25	MED/42 M-EDF/01 MED/01	GLOBAL HEALTH, PUBLIC HEALTH AND COMMUNITY MEDICINE General and applied hygiene Wellness and exercise medicine Biostatistics	9	63	25	-	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of epidemiological data and their use for the purposes of health promotion and disease prevention in individuals and communities; • of the essential principles of health economics with specific regarding the cost/benefit ratio of the diagnostic and therapeutic procedures, of the hospital-territory therapeutic continuity and of the organizational appropriateness; • of the fundamental rules for maintaining and promoting the health of the individual and of the communities; • of the rules and practices aimed at maintaining and promote health in the workplace, identifying the situations of specialist competence as well as the knowledge of the main legislative norms that regulate the healthcare organisation; • of the principles and applications of preventive medicine in the various and articulated communities.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
26		<p>VACCINE PREVENTABLE INFECTIOUS DISEASES AND EPIDEMICS</p> <p>Epidemic intelligence and outbreak response</p> <p>Advanced medical therapy products (AMTPs)</p>	4	28	25	11, 24	<p>Provide a solid knowledge base and knowledge-use capacity building:</p> <ul style="list-style-type: none"> • vaccine-preventable infectious diseases, including diphtheria, measles, whooping cough, polio and influenza; • the physiology and pathology of infectious diseases, as well as the mode of transmission and associated symptoms; • the epidemiological aspects of vaccine-preventable infectious diseases, including the spread of viral strains, infection surveillance and the management of epidemics and pandemics; • strategies for prevention and control of infectious diseases, including vaccination, epidemic management and health promotion; • effective communication techniques to inform and raise awareness of the population importance of vaccination and good practices to avoid infectious diseases; • laws and regulations concerning vaccination and the management of epidemics and pandemics in the health sector and in society.

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				Lessons	Other activities		
27	BIO/14 MED/08 MED/25 MED/26 MED/27 MED/37	BRAIN AND NERVOUS SYSTEM DISEASES Neuropsychopharmacology Anatomopathology Psychiatry neurology Neurosurgery Neuroradiology	14	98	50	2, 7, 8, 10, 11, 13	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the main alterations of the nervous system by providing their etiopathogenetic interpretation and indicating their diagnostic and therapeutic guidelines; • of the potential and limits of new diagnostic technologies for neuroimaging and of therapy, and of the many facets of therapies that modify the neurotransmitter activities of neurons; • of the main psychiatric and social context pathologies, providing their etiopathogenetic interpretation and indicating their diagnostic and therapeutic guidelines; • of the principles on which the analysis of the person's behaviour, the doctor-patient relationship and communication; • skills relating to study methods and intervention techniques which, in the different operating models (eg individual, relational, family and group), characterize the clinical applications of psychology in different fields (eg people, groups, systems) for the solution of their problems; • of functional and instrumental semiotics, of clinical methodology and therapy in neurology, neuropsychology, psychiatry, psychopathology and neuro-psychomotor and cognitive psychiatric rehabilitation of developmental age.

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28	MED/09 MED/18	PATIENT MANAGEMENT 1 Internal medicines general surgery	8	56	100	2, 7, 8, 10, 11, 13	<p>Providing a solid knowledge base and developing the ability to use knowledge:</p> <ul style="list-style-type: none"> • conducting a correct clinical examination of an internal medicine or surgical patient arriving at the diagnostic hypothesis, evaluating the hypotheses of differential diagnoses, integrated with para-clinical tests (eg laboratory, imaging, etc.); • of the main medical and surgical pathologies, knowing how to analyse the symptoms, objectivity and diagnostic pathways by making use of the presentation of clinical cases.
29		DIGITAL HEALTH AND TECHNOLOGICAL INNOVATION	3	21	25	4, 15	<p>Provide a solid knowledge base and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the technologies and methodologies used in the field of digital health, including telemedicine, remote patient monitoring systems, data processing and artificial intelligence; • the clinical aspects of digital health, including the use of technology to improve the diagnosis, treatment and management of patients; • the organizational and managerial aspects of digital health, including the planning and management of services, regulatory compliance and data security; • the principles of engineering and design of digital health systems; • the ethical, legal and social issues associated with the use of digital health.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
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30	<p>MED/08 Anathomopathology</p> <p>MED/20 Pediatric and child surgery</p> <p>MED/38 Pediatrics</p> <p>MED/39 Infant neuropsychiatry</p> <p>MED/36 Applied diagnostics</p> <p>MED/40 Obstetrics and gynecology</p>	<p>OBSTETRICS, GYNECOLOGY AND PEDIATRIC DISEASES</p>	11	77	50	<p>2, 7, 8, 10, 11, 13</p>	<p>Providing a solid knowledge base and developing the ability to use knowledge:</p> <ul style="list-style-type: none"> • of pathophysiological, psychological and clinical problems concerning fertility and female sexuality and its dysfunctions from a medical sexological point of view, natural and assisted procreation from the point of view from an endocrine-gynecological point of view, pregnancy, prenatal morbidity and childbirth; • the most frequent forms of gynecological pathology, indicating the fundamental preventive and therapeutic measures and identifying the conditions that require the professional contribution of the specialist • problems relating to the state of health and illness in the neonatal age, in childhood and adolescence, as far as the competence of the non-specialist doctor is concerned; • the conditions that require the professional contribution of the specialist and the planning of essential medical interventions in relation to the main health problems, by frequency and risk, inherent in specialist pediatric pathology. • the indications for genetic testing and related technical problems, the biological implications (genotype/phenotype correlation) related to test interpretation, as well as related ethical and social issues.

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31	BIO/14 MED/05 MED/06 MED/15	Applied pharmacology Molecular diagnosis Medical oncology Blood diseases	12	84	50	2, 7, 8, 10, 11, 13	<p>Provide a solid foundation of knowledge and develop the ability to use knowledge:</p> <ul style="list-style-type: none"> • of clinical problems of an oncological nature by addressing the therapeutic diagnostic procedure in the light of the principles of evidence-based medicine; • of the characteristics that lead to the suspicion of neoplastic pathology, knowing how to define the necessary diagnostic procedure, the prognostic framework and the hypotheses for the management of tumors of the various systems in the various phases of the disease; • of pain therapy and palliative care; • of the epidemiology, pathogenesis and clinical aspects of main myelo- and lympho-proliferative diseases; • clinical-laboratory methodological investigations which allow to propose a therapeutic plan for the haemo-coagulating pathology detected.
32		<p>HEALTH IN COUNTRIES WITH PROTRACTED CONFLICTS, REFUGEES AND MIGRANTS</p> <p>Health in countries with protracted conflicts Refugees and migrants health</p>	4	28	25	11, 24	<p>Provide a strong knowledge base and capacity building to use knowledge:</p> <ul style="list-style-type: none"> • of the health effects of protracted conflict and situations of forced displacement on individuals, families and communities; • of managing the unique health challenges that arise in health care to refugees and migrants, including issues accessing care, language and cultural barriers and mental health issues; • the social, economic and political factors that influence the health of refugees and migrants, and how these can be addressed to improve their living and health conditions.

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33	MED/09 MED/18 MED/19 MED/41	EMERGENCIES Emergency medicines Emergency surgery Plastic surgery Anesthesiology and life support	11	77	50	2, 7, 8, 10, 11, 13	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of emergency and urgent clinical situations, in the medical, surgical and traumatological fields in the pre-hospital and intra-hospital phases, implementing the necessary first aid measures, in order to guarantee survival and the best possible assistance; • methods of intervention in catastrophe situations; • the basics of anesthesiology and pain therapy.
34	MED/43 MED/44	FORENSIC AND OCCUPATIONAL MEDICINE Forensic medicines Occupational medicines	4	28	50	2, 7, 8, 10, 11, 13	Provide a solid knowledge base and develop the ability to use knowledge: <ul style="list-style-type: none"> • of social medicine, criminology, forensic psychopathology, forensic toxicology, deontology, medical ethics and clinical bioethics; • of the procedures and techniques used to carry out forensic medical investigations including autopsy and biotrace analysis. • the laws and regulations governing forensic medicine, including the requirements to testify as an expert witness in a court of law; • common occupational diseases and injuries, as well as techniques for prevent and manage them.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
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35	MED/09 MED/18	PATIENT MANAGEMENT 2 Internal Medicines general surgery	6	42	75	2, 7, 8, 10, 11, 13	<p>Providing a solid knowledge base and developing the ability to use knowledge:</p> <ul style="list-style-type: none"> • conducting a correct clinical examination of an internal medicine or surgical patient arriving at the diagnostic hypothesis, evaluating the hypotheses of differential diagnoses, integrated with para-clinical tests (eg laboratory, imaging, etc.); • of the main medical and surgical pathologies, knowing how to analyze the symptoms, objectivity and diagnostic paths using the presentation of clinical cases; • of the main problems of territorial medicine from the doctor's point of view family's; • preventive and therapeutic methodologies based on motor activity and other forms of intervention linked to the so-called wellness medicine.
36		FROM IDEAS TO PATENTS Health technology assessment Health technology assessment on drug development Clinical research and development Technology transfer and patents	6	42	50	-	<p>Provide a solid knowledge base and development of the ability to use knowledge:</p> <ul style="list-style-type: none"> • of the research methodology necessary to develop drugs and medical devices; • of the patenting process, including legal requirements and eligibility criteria for medical inventions; • of patentability opportunities within medical research and the commercial potential of inventions; • related to drafting patent applications and in representing one's interests during the patenting process, including patent negotiations and defense.

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No.	SSDs	Name	ECTS	no. hours		Propaedeutic	Educational goals
				Lessons	Other activities		
37		ADDITIONAL LANGUAGE KNOWLEDGE	3	21	25	-	Provide a solid foundation of knowledge and a development of the ability to use the Italian language for the purpose of productive learning during professional activities at the patient's bed.

6. OFFICIAL STUDY PLAN - COHORT 2023/2024						
CURRICULUM						
no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
1st year - 1st period						
1		PRINCIPLES OF THE HUMAN MATTER	10	L, ATP, AA	AP	Yes
	FIS/07	Applied physics	4			
	BIO/10	Chemistry and biochemistry propedeutics	6			
2		THE CELL: MOLECULES AND PROCESSES (annual)	14	L, ATP, AA	AP	Yes
	BIO/11	Molecular biology I	2			
	BIO/13	Applied Biology I	3			
	MED/03	Medical genetics I	2			
3		BODY ARCHITECTURE (annual)	14	L, ATP, AA	AP	Yes
	BIO/17	Histology, cytology, embryology and organogenesis	6			
4	INF/01	HEALTH INFORMATICS	3	L, ATP, AA	AP	Yes
1st year - 2nd period						
1		THE CELL: FUNCTIONS AND REGULATIONS	9	L, ATP, AA	AP	Yes
	BIO/09	Cellular physiology	4			
	BIO/10	Biochemistry	5			
2		THE CELL: MOLECULES AND PROCESSES (annual)	14	L, ATP, AA	AP	Yes
	BIO/11	Molecular biology II	1			
	BIO/13	Applied biology II	4			
	MED/03	Medical genetics II	2			
3		BODY ARCHITECTURE (annual)	14	L, ATP, AA	AP	Yes
	BIO/16	Regional anatomy and gross neuroanatomy	8			
4	MED/42	HEALTH AND THE CLIMATE CHANGES	2	L, ATP, AA	AP	Yes
5		ADDITIONAL LANGUAGE KNOWLEDGE	3	L, ATP, AA	I	Yes
6		PROFESSIONALIZING ACTIVITIES	2	TP	I	Yes
2nd year - 1st period						
1		BODY FUNCTIONS 1	10	L, ATP, AA	AP	Yes
	BIO/09	Human physiology	5			
	BIO/10	Biochemistry	2			
	BIO/16	Organ structure	3			
2		DISEASE ONSET 1	12	L, ATP, AA	AP	Yes
	MED/04	General pathology and immunology	6			
	MED/07	microbiology	3			

6. OFFICIAL STUDY PLAN - COHORT 2023/2024						
CURRICULUM						
no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
	MED/08	Principles of anatomopathology	3			
3		BIO-ENGINEERING	6	L, ATP, AA	AP	Yes
		Tissue engineering, bioprinting	2			
		Scaffolding and organoids	4			
2nd year - 2nd period						
1		BODY FUNCTIONS 2	14	L, ATP, AA	AP	Yes
	BIO/09	Human physiology	7			
	BIO/10	Biochemistry	3			
	BIO/16	Organ structure	4			
2		DISEASE ONSET 2	12	L, ATP, AA	AP	Yes
	MED/04	General pathology and immunology	6			
	MED/07	microbiology	3			
	MED/08	Principles of anatomopathology	3			
3		WATER, FOOD AND SUSTAINABLE DIETS	3	L, ATP, AA	AP	Yes
4		PROFESSIONALIZING ACTIVITIES	3	TP	I	Yes
3rd year - 1st term						
1		BASICS OF DIAGNOSTICS AND PHARMACOLOGY	5	L, ATP, AA	AP	Yes
	BIO/14	General pharmacology	3			
	MED/36	Introduction to diagnostic imaging	2			
2		DISEASES OF THE CARDIOVASCULAR AND ENDOCRINE SYSTEMS	14	L, ATP, AA	AP	Yes
	BIO/14	Applied pharmacology	2			
	MED/08	Anatomopathology	1			
	MED/11	Cardiovascular diseases	4			
	MED/13	Endocrinology	3			
	MED/22	Vascular surgery	2			
	MED/23	Cardiac surgery	1			
	MED/36	Applied diagnostics	1			
3		ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND BIG DATA	3	L, ATP, AA	AP	Yes
4		PROFESSIONALIZING ACTIVITIES	6	TP	I	Yes
3rd year - 2nd period						

6. OFFICIAL STUDY PLAN - COHORT 2023/2024

CURRICULUM

no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
1		DISEASES OF THE RESPIRATORY AND URO-NEPHROLOGICAL SYSTEMS	10	L, ATP, AA	AP	Yes
	BIO/14	Applied pharmacology	1			
	MED/10	Respiratory diseases	3			
	MED/14	Kidney diseases and transplantation	2			
	MED/21	Thoracic surgery	1			
	MED/24	Urology	2			
	MED/36	Applied diagnostics	1			
2		DISEASES OF THE SKULL AND SENSE ORGANS	6	L, ATP, AA	AP	Yes
	MED/28	Odontostomatological Diseases	1			
	MED/29	Maxillofacial surgery	1			
	MED/30	Ophthalmological Diseases	2			
	MED/31	Otorhinolaryngological Diseases	2			
3		BEING A MEDICAL DOCTOR	5	L, ATP, AA	AP	Yes
	M-PSI/08	Clinical psychology	2			
	MED/02	History of medicine and bioethics	2			
		Sociology and communication skills	1			
4		TELEMONITORING AND PROXIMITY MEDICINE	2	L, ATP, AA	AP	Yes
5		PROFESSIONALIZING ACTIVITIES	6	TP	I	Yes
4th year - 1st period						
1		DISEASES OF THE GASTROENTERIC SYSTEM	9	L, ATP, AA	AP	Yes
	BIO/14	Applied pharmacology	2			
	MED/08	Anatomopathology	1			
	MED/12	Gastroenterology	3			
	MED/18	general surgery	2			
	MED/36	Applied diagnostics	1			
2		DISEASES OF THE BONES AND JOINTS	4	L, ATP, AA	AP	Yes
	MED/33	Orthopedics	3			
	MED/36	Radiology	1			
3		LAB WORKS	5	L, ATP, AA	AP	Yes
	BIO/12	Clinical biochemistry and clinical molecular biology	1			
	MED/05	Clinical pathology	1			

6. OFFICIAL STUDY PLAN - COHORT 2023/2024						
CURRICULUM						
no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
	MED/07	Microbiology and clinical microbiology	2			
	MED/46	Technical and laboratory medical sciences	1			
4		MEDICAL AND SURGICAL ROBOTICS	2	L, ATP, AA	AP	Yes
5		PROFESSIONALIZING ACTIVITIES	6	TP	I	Yes
4th year - 2nd period						
1		RHEUMATOLOGICAL, INFECTIOUS AND SKIN DISEASES	8	L, ATP, AA	AP	Yes
	BIO/14	Applied pharmacology	1			
	MED/16	Rheumatology	1			
	MED/17	Infectious diseases	4			
	MED/35	Dermatology	2			
2		GLOBAL HEALTH, PUBLIC HEALTH AND COMMUNITY MEDICINE	9	L, ATP, AA	AP	Yes
	MED/42	General and applied hygiene	4			
	M-EDF/01	Wellness and exercise medicine	1			
	MED/01	Biostatistics	4			
3		VACCINE PREVENTABLE INFECTIOUS DISEASES AND EPIDEMICS	4	L, ATP, AA	AP	Yes
		Epidemic intelligence and outbreak response	1			
		Advanced medical therapy products (AMTPs)	3			
4		PROFESSIONALIZING ACTIVITIES	7	TP	I	Yes
5th year - 1st period						
1		BRAIN AND NERVOUS SYSTEM DISEASES	14	L, ATP, AA	AP	Yes
	BIO/14	Neuropsychopharmacology	2			
	MED/08	Anatomopathology	1			
	MED/25	Psychiatry	4			
	MED/26	neurology	4			
	MED/27	Neurosurgery	2			
	MED/37	Neuroradiology	1			
2		PATIENT MANAGEMENT 1	8	L, ATP, AA	AP	Yes
	MED/09	Internal medicines	4			
	MED/18	general surgery	4			

6. OFFICIAL STUDY PLAN - COHORT 2023/2024						
CURRICULUM						
no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
3		DIGITAL HEALTH AND TECHNOLOGICAL INNOVATION	3	L, ATP, AA	AP	Yes
4		PROFESSIONALIZING ACTIVITIES	5	TP	I	Yes
5th year - 2nd period						
1		OBSTETRICS, GYNECOLOGY AND PEDIATRIC DISEASES	11	L, ATP, AA	AP	Yes
	MED/08	Anatomopathology	1			
	MED/20	Pediatric and child surgery	1			
	MED/38	Pediatrics	4			
	MED/39	Infant neuropsychiatry	1			
	MED/36	Applied diagnostics	1			
	MED/40	Obstetrics and gynecology	3			
2		CLINICAL AND MOLECULAR PRINCIPLES OF CANCER MEDICINE	12	L, ATP, AA	AP	Yes
	BIO/14	Applied pharmacology	2			
	MED/05	Molecular diagnosis	2			
	MED/06	Medical oncology	4			
	MED/15	Blood diseases	4			
3		HEALTH IN COUNTRIES WITH PROTRACTED CONFLICTS, REFUGEES AND MIGRANTS	4	L, ATP, AA	AP	Yes
		Health in countries with protracted conflicts	2			
		Refugees and migrants health	2			
4		PROFESSIONALIZING ACTIVITIES	5	TP	I	Yes
6th year - 1st period						
1		EMERGENCIES	11	L, ATP, AA	AP	Yes
	MED/09	Emergency medicines	3			
	MED/18	Emergency surgery	3			
	MED/19	Plastic surgery	1			
	MED/41	Anesthesiology and life support	4			
2		FORENSIC AND OCCUPATIONAL MEDICINE	4	L, ATP, AA	AP	Yes
	MED/43	Forensic medicines	2			

6. OFFICIAL STUDY PLAN - COHORT 2023/2024						
CURRICULUM						
no.	SSDs	Name	ECTS	Didactic form	Verification	Frequency
	MED/44	Occupational medicines	2			
3		PATIENT MANAGEMENT 2	6	L, ATP, AA	AP	Yes
	MED/09	Internal Medicines	3			
	MED/18	general surgery	3			
4		FROM IDEAS TO PATENTS	6	L, ATP, AA	AP	Yes
		Health technology assessment	1			
		Health technology assessment on drug development	1			
		Clinical research and development	2			
		Technology transfer and patents	2			
5		PROFESSIONALIZING ACTIVITIES	5	TP	I	Yes
6th year - 2nd period						
1		ELECTIVE ACTIVITIES	8	L, ATP, AA	I	Yes
2		PROFESSIONALIZING ACTIVITIES - CLINICAL FIELD	5	TP	I	Yes
3		PROFESSIONALIZING ACTIVITIES - SURGICAL FIELD	5	TP	I	Yes
4		PROFESSIONALIZING ACTIVITIES - GENERAL MEDICINE	5	TP	I	Yes
5		FINAL EXAM	15	TP	I	Yes

7. FINAL PROVISIONS	
7.1. For anything not expressly described in these Regulations, the current statutory and regulatory provisions of the University apply.	