

HUMANITAS UNIVERSITY MANIFESTO DEGLI STUDI A.A. 2015-2016
CORSO DI LAUREA IN MEDICINA E CHIRURGIA

Degree classification	LM-41 MEDICINE AND SURGERY
Qualification issued	Master degree
Length of the course	6 years
Total credits to acquire	360
Years of course enabled	1st
Access mode	Programmed

For Information

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Features of the Course

Introduction

These regulations applies to the teaching activities and management of the single cycle degree course in Medicine and Surgery known as Humanitas International Medical School (class LM-41), activated by the Department of Medical and Surgical Sciences of the Humanitas University, hosted by the Humanitas Research Hospital.

The course lasts six years.

General and specific training objectives

The course degree consists of 360 credits, spread over a six-year programme, of which 60 must be acquired in training activities aimed at the acquisition of specific professional skills.

Graduates in the courses degree in Medicine and Surgery must have acquired:

- The scientific bases and the necessary theoretical-practical preparation pursuant to the Directive 75/363/CEE on the practice of the medical profession, and the necessary methodological and cultural background for the process of professional continuing education;
- A level of professional, decisional and operative autonomy arising from a formative pathway featuring a global approach to health issues of healthy and sick persons, also in relation to the biological, psychological and social environments;
- The essential theoretical knowledge arising from basic sciences in the perspective of their subsequent professional application;
- The ability to find and critically assess data relating to the condition of an individual with respect to health and disease also in relation to cultural, social and gender differences;
- The ability to interpret the data as above in the light of basic science knowledge and of the knowledge of the pathology and physiopathology of organs and organ systems;
- The capability and the experience, joined with a self-assessment ability, to face and solve responsibly the priority health problems from the preventive, diagnostic, prognostic, therapeutic and rehabilitative points of view;
- The knowledge of historical, epistemological and ethical dimensions of medicine;
- The ability to communicate with the patient and his/her relatives clearly and with humanity;
- The ability to co-operate with the different professional figures involved in health activities;
- The ability to apply the principles of health economics in medical decisions, to recognise health problems in the community, and to intervene in a competent manner

The educational choice to propose lectures, small group activities and laboratories in English, is related to the requirements of an International Medical degree course. The English language represents the technical tool that allows an opening and a comparison with the teaching, formative and professional experiences of foreign countries. However, from the beginning of the third year, when the planned activities involve working in the hospital wards and the interaction with patients and health professional figures that do necessarily know English, knowledge of the Italian language is considered a fundamental requirement.

Professional profile and employment possibilities

Graduates in the Medicine and Surgery degree course will be able to work in different clinical, health and bio-medical professional domains.

The professional profile of graduates is characterized by a sound scientific knowledge of diseases and diagnostic procedures, by a strong ethical structure, accountability, consciousness of personal limitations, understanding of cultural diversity, capability to solve urgent health problems, and respect for each individual, regardless of his/her religion, values, race, sex, or any other peculiarities.

The degree course is planned to provide graduates with a global vision of medicine answering thus to the issues raised by the worldwide process of globalization. Together with a more up-to-date professional qualification in Italy, this approach also aims at favoring the possibility to exert the medical profession in other developed and developing countries.

The specific international feature of the formative track will also favor an easier access to postgraduate courses of other countries and an increased possibility of integration in a foreign professional environment.

To this effect, the degree course is establishing a collaboration with the American National Board of Medical Examination (NBME) with the purpose to help students to pass successfully the IFOM1 and IFOM2 tests (International foundations of Medicine 1 and 2) and thus to prepare them for the admission tests requires in United States for the access to postgraduate courses and the practice of medical profession.

The degree in Medicine and Surgery gives access to the Italian State Examination for the authorisation to practise as an M.D and registration to the professional order. In addition, the degree is a requirement for entry to the Postgraduate Medical Schools or the postgraduate courses for general practitioner.

Structure of the course

The planned length of the single cycle course degree in Medicine and Surgery is six years, divided into 12 semesters, during which a total of :

- 274 credits (CFU, University Formative Credits) will be organized as traditional lessons, practicals, work in small groups, laboratories, seminars;

- 60 credits will be devoted to vocational activities (clerkships)
- 8 credits will be obtained from activities chosen by the student (elective courses).
- 18 CFU will be allotted for the preparation of the final thesis.

Access to the following years

The access to successive years is regulated by the table below. Students must pass the exams by the end of the session of September.

To enroll to the:	The following exams must have been passed:
3 rd year	Building Bodies: from gamets to organs Body architecture The cell: molecules and processes Principles of the living matter Body at work 1 e 2
4 th year	Mechanisms of diseases

Conscientious objection to animal experimentation

The department of Medical and Surgical Sciences recognizes the undisputed right to conscientious objection to animal sperimentation by students. Students may be exonerated from the attendance of laboratory exercises in which testing is scheduled on live or dead animals. The achievement of the scientific and practical knowledge for passing the exams will be granted, in accordance with the educational objectives of the specific degree programs, through substitutive methods suggested by the teachers.

Teaching activities

The degree course has its foundation in the student-centered approach and relays on educational methods that promote self-learning and team-work.

The teaching methods used during the six years of the degree course consist in:

a) Formal teaching

- Lectures: presentation by the professor of the core topics that are considered fundamental for the basic knowledge and understanding of a discipline

- Seminars: during a seminar a specific subject is examined in depth either by the professor of the course or by an expert. The seminar can be also interdisciplinary and held with the contribution of more than one professor/expert with different skills

b) **Interactive teaching**

Interactive teaching consists mostly of group activities and team-work coordinated by a tutor. Their main goal is to facilitate the acquisition of knowledge, skills and behavioral models. Learning takes place prevalently by means of inputs originating from the analysis of problems and by the activation of a reasoning method appropriate to their solution. The learning process takes also place during laboratories through the direct execution of skills (gestural and relational).

Interactive teaching includes:

- **PBL e PS** (Problem Based Learning e Problem Solving). Learning method based on the analysis of a case-problem built on a concrete experience that is discussed and analyzed in small group under the guidance of a tutor/facilitator. PS is the advanced version of the method and its goal is the application of information to reach the solution of the problem

- **Discussion of clinical cases.** Discussion in small group of the clinical case of a patient examined by the students during the clerkship or proposed by the tutor.

This method aims at developing the ability to analyze and reflect on situations with a degree of complexity similar to the ones that will be met in the professional life.

- **Case method.** Learning method based on a case-problem built ad hoc by the teacher and used to allow the student to analyze, understand and explain the situation by using all the information provided with the case.

- **Concept maps.** Learning strategy based on a graphic representation that visualizes the thinking process through which one's own knowledge of a subject is built. By means of cMaps, a student can organize and represent knowledge, analyze, summarize and link ideas and concepts leading to a deeper understanding of the subject under study and its correlation with other subjects.

- **Skill lab.** A skill lab is a safe and organized environment where the student can learn under tutorship specific maneuvers (e.g. clinical maneuvers for objective examination of patients) by means of dummies or practicing with peers.

- **History taking lab.** The student learns and practices the method and techniques of history taking by means of simulated patients.

- **Briefing and Debriefing.** Briefing takes place before the clinical experience and aims at orienting the student to its purposes and to delimit its subjective and objective risks. Debriefing is a structured reflection on the clinical experience that allows its re-elaboration and analysis from a cognitive and emotional point of view.

- **Formative feedback.** Feedback is a structured formative moment where the student receives a formative evaluation from his/her tutor. The aim is to pinpoint which aspects of the student's clinical performance need some consolidation and how to proceed to this effect.

- **Learning contracts.** It's a "contract" between student and tutor where the competencies that the student aims to achieve during a clinical experience are defined.

- **Reflective writing.** It's a formative tool that uses writing as a strategy by means of which the student can reflect on the cognitive, emotional and learning aspect of the clinical field experience.

- **Portfolio.** The portfolio is a dossier where the student provides records of the experiences that show his/her learning process.

- **Medical humanities.** They consist in the introduction of human sciences in the medical curriculum. These sciences help the student to develop the capacity to listen and to understand the meaning behind the patient's experience of illness and to reflect on the medical professional behavior.

c) Distance Learning (FAD)

The Faculty may make use of audio-visual technologies, installed in specially equipped rooms, for some courses. The special rooms enable students to follow the lecturer 'live' even though he may be in another centre. The audio-visual equipment allows the lecturer and students to interact during the lesson.

d) Vocational activities.

They are practical tutored activities that take place in the hospital wards with a progressive degree of autonomy of the student. They also include: laboratories for the acquisition of practical and communication (relational) abilities, briefing and debriefing, formative feed-back, portfolio, learning contracts (for explanation see above).

Elective Courses chosen by the student

The degree course offers each year a panel of different types of activities (seminars, laboratory experiences, internships, etc.) distributed throughout the entire course of study that can be chosen by the student.

These activities are mandatory (for a total of 8 formative credits) and give the student the opportunity to analyse specific or innovative subjects, to experience a research activity, or to take part in near-to peer tutoring.

Attendance to teaching activities

The student is required to attend all the teaching activities, with a tolerance of no more than 25% of the hours. Students are required to sign their attendance at each learning activities. Should the number of nonattendances be higher than 25%, the Faculty will take the necessary measures.

Evaluation system-Exams

The knowledge related to the different courses will be evaluated through oral and written exams and where pertinent through the student's portfolio. The grade is expressed in 30th. Each course has a single exam. Clinical and communication skills will be examined by the OSCE (Objective

Structuree Clinical Examination) and the mini-CEX (Mini-Clinical Evaluation Exercise); the evaluation of the student clinical skills will also be based on the evaluations expressed by the hospital tutors and professors and also by special commissions that will evaluate the student's portfolio and individual learning plans.

Studies and training abroad

Students who take advantage of the European Union mobility programmes are permitted to attend a foreign university for a maximum of two semesters, from the second year of the course onwards. In accordance with the procedures in force, students who intend to take advantage of this opportunity are required to present an application to the course commission which describes the work they wish to do at the foreign university (learning agreement). The procedures and criteria set out by the Faculty and University will apply for the assessment and approval of applications.

The activities performed as part of these programs and their credits are fully or partially recognized for the award of the degree, as set out in the European Credit Transfer System (ECTS).

Students can apply for the recognition of the period of study abroad as an elective activity. Students are exonerated from the requirement to attend the teaching activities of the degree course during the periods abroad, only if approved by the Faculty.

Features of the final examination

Through the final examinations, the student acquires 18 credits. The examination consists in the oral presentation and discussion of an original theses written under guidance of a supervisor.

Admission criteria for the final examination

The final examination focuses on the discussion of an original thesis written in English by the student under the guidance of a supervisor; an assistant supervisor may also be involved.

To have access to the final examination, all the exams of the study plan must have been passed to obtain a total of 342 teaching credits. The final mark, expressed in 110^{ths}, is calculated on the basis of:

- a. the mark resulting from the averaging of the marks of the student carrier (average out of 110),
- b. the mark allocated by the degree commission.

The mark proposed for each candidate by the members of the commission, to be added to the presentation mark, is secret and consists in a maximum of 10 points .

The honours can be added to the maximum mark of 110 only for those candidates whose presentation mark is at least 102. In any case, the final decision depends on the relevance of the results and must have the unanimous approval of the commission.

Access: 1ST Year Programmed

Operational instructions

Pursuant to Law 264 dated 2.8.1999, the degree courses in Medicine and Surgery of the Humanitas University has a programmed access and requires an admission test.

The number of students who can be admitted is defined annually by a Decree of the Ministry of Education and Research (MIUR). This number takes into account the training potential declared by the university on the basis of the teaching and clinical resources and structures available, and also the requirements shown by the Lombardy Region and the competent Ministry referring to the requirement for medical staff with the reference professional profile. Candidates who have a High School Diploma or alternative qualifications achieved abroad and recognised as suitable can be admitted to the single cycle degree course in Medicine and Surgery.

Candidates in an appropriate position in the ranking of the admission test must register on the University website where they will find all the necessary information for the enrolment procedure.

Test method

The admission test consists of a written test based on multiple-choice questions prepared by the Cambridge Assessment.

For non European students the test will take place in April and for European students in September

Study Plan

1st YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
PRINCIPLES OF THE LIVING MATTER (1 ST SEMESTER)	9	Medical Physics	FIS/07	3
		Chemistry	BIO/10	6
BUILDING BODIES (1 ST SEMESTER)	11	Histology and Embryology	BIO/17	6
		Human Anatomy	BIO/16	5
BEING A MEDICAL DOCTOR (1 ST SEMESTER)	4	History of Medicine	MED/02	1
		Bioethics	M-FIL/03	1
		General pedagogy	M-PED/01	2
THE CELL: MOLECULES AND PROCESSES (ANNUAL)	19	Biochemistry	BIO/10	5
		Applied biology	BIO/13	6
		Cytology	BIO/17	1
		Molecular biology	BIO/11	5
		Genetics	MED/03	2
BODY ARCHITECTURE (2 ND SEMESTER)	9	Human anatomy	BIO/16	9
TOTAL	52			

2nd YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
BODY AT WORK 1 (1 ST SEMESTER)	15	Human physiology	BIO/09	7
		Biochemistry	BIO/10	2
		Neuroanatomy	BIO/16	3
		Medical physics	FIS/07	3
MECHANISM OF DISEASES (ANNUAL)	22	General pathology and Immunology	MED/04	14
		Microbiology	MED/07	6
		Genetics	MED/03	2
BODY AT WORK 2 (2 ND SEMESTER)	14	Human physiology	BIO/09	9
		Biochemistry	BIO/10	4
		Human anatomy	BIO/16	1
TOTAL	51			

3rd YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
FOUNDATIONS FOR SYSTEM DISEASES (1 ST SEMESTER)	7	Clinical biochemistry	BIO/12	2
		Pharmacology	BIO/14	3
		Pathology	MED/08	1
		Radiology	MED/36	1
SYSTEM DISEASES 1 (1 ST SEMESTER)	17	Cardiovascular diseases	MED/11	5
		Nephrology	MED/14	4
		Pharmacology	BIO/14	2
		Pathology	MED/08	2
		Internal medicine	MED/09	1
		General surgery	MED/18	1
		Radiology	MED/36	1
		Urology	MED/24	1
COMMUNICATION SKILLS (ANNUAL)	4	General psychology	M-PSI/01	2
		Clinical psychology	M-PSI/08	1
		Internal medicine	MED/09	1
SYSTEM DISEASES 1 (2 ND SEMESTER)	13	Pharmacology	BIO/14	1
		Radiology	MED/36	1
		Blood diseases	MED/15	4
		Pathology	MED/08	1
		Internal medicine	MED/09	1
		General surgery	MED/18	1
		Respiratory diseases	MED/10	4
HEAD AND NECK (2 ND SEMESTER)	8	Otorhinolaryngological diseases	MED/31	2
		Odontostomatological diseases	MED/28	2
		Ophthalmological diseases	MED/30	2
		Human anatomy	BIO/16	1
		Human physiology	BIO/09	1
BIOSTATISTICS (2 ND SEMESTER)	4	Biostatistics	MED/01	4
TOTAL	53			

4th YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
COMMUNICATION SKILLS (1 ST SEMESTER)	2	Clinical psychology	M-PSI/08	1
		General psychology	M-PSI/01	1
SYSTEM DISEASES 3 (1 ST SEMESTER)	17	Pharmacology	BIO/14	1
		Radiology	MED/36	1
		Gastroenterology	MED/12	5
		Endocrinology	MED/13	4
		Pathology	MED/08	2
		Internal medicine	MED/09	2
		General surgery	MED/18	2
BONE AND JOINT DISEASES (1 ST SEMESTER)	6	Orthopedics	MED/33	4
		Rehabilitation medicine	MED/34	1
		Radiology	MED/36	1
ICT FOR MEDICINE (1 ST SEMESTER)	3	Informatics	INF/01	2
INFECTIOUS DISEASES (2 ND SEMESTER)	6	Hospital management	SECS-P/10	1
		Infectious diseases	MED/17	5
PATHOLOGY (2 ND SEMESTER)	4	Clinical microbiology	MED/07	1
		Pathology	MED/08	4
CLINICAL IMMUNOLOGY AND DERMATOLOGY (2 ND SEMESTER)	4	Dermatology	MED/35	2
		Rheumatology	MED/16	2
PUBLIC HEALTH AND ENVIRONMENTAL	12	Occupational medicine	MED/44	5
		Public health	MED/42	6

MEDICINE (2 ND SEMESTER)		Applied economics	SECS-P/06	1
TOTAL	54			

5th YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
PATIENT MANAGEMENT (ANNUAL)	16	Rehabilitation medicine	MED/34	1
		Clinical pathology	MED/05	1
		Biostatistics	MED/01	1
		Nursing	MED/45	1
		Internal medicine	MED/09	7
		General surgery	MED/18	5
COMMUNICATION SKILLS (1 ST SEMESTER)	1	Clinical psychology	M-PSI/08	1
MENTAL HEALTH (1 ST SEMESTER)	5	Psychiatry	MED/25	4
		Clinical psychology	M-PSI/08	1
CLINICAL NEUROSCIENCE (1 ST SEMESTER)	9	Neurology	MED/26	5
		Neuroanatomy	BIO/16	1
		Neurophysiology	BIO/09	1
		Neurosurgery	MED/27	1
		Neuroradiology	MED/37	1
NEUROPHARMACOLOGY (1 ST SEMESTER)	3	Pharmacology	BIO/14	3
OBSTETRICS AND GYNECOLOGY (2 ND SEMESTER)	5	Obstetrics and gynecology	MED/40	5
PEDIATRICS (2 ND SEMESTER)	6	Pediatrics	MED/38	5
		Infant neuropsychiatry	MED/39	1
ONCOLOGY (2 ND SEMESTER)	4	Medical oncology	MED/06	3
		Radiology and radiotherapy	MED/36	1
TOTAL	49			

6th YEAR				
COURSE TEACHING	CFU	MODULES	SSD	CFU
EMERGENCIES (1 ST SEMESTER)	4	General surgery	MED/18	1
		Internal medicine	MED/09	1
		Anesthesiology	MED/41	2
FORENSIC MEDICINE (1 ST SEMESTER)	3	Forensic medicine	MED/43	3
PATIENT MANAGEMENT (1 ST SEMESTER)	8	Plastic surgery	MED/19	1
		Internal medicine	MED/09	4
		General surgery	MED/18	3
TOTAL	15			

CLERKSHIP					
COURSE TEACHING	YEAR	CFU	MODULES	SSD	CFU
BODY ARCHITECTURE (1 ST SEMESTER)	1 ST YEAR	3	Internal medicine	MED/09	1
			Radiology	MED/36	1
			Orthopedics	MED/33	1
BODY AT WORK 1 (1 ST SEMESTER)	2 ND YEAR	1	Neurology	MED/26	1
BODY AT WORK 2 (2 ND SEMESTER)	2 ND YEAR	1	Internal medicine	MED/09	1
FOUNDATIONS FOR SYSTEM DISEASES (1 ST SEMESTER)	3 RD YEAR	2	Clinical biochemistry	BIO/12	1
			Radiology	MED/36	1
SYSTEM DISEASES 1 (1 ST SEMESTER)	3 RD YEAR	6	Cardiovascular diseases	MED/11	2
			Nephrology	MED/14	2
			Cardiac surgery	MED/23	1
			Urology	MED/24	1
SYSTEM DISEASES 2 (2 ND SEMESTER)	3 RD YEAR	5	Respiratory diseases	MED/10	2
			Blood diseases	MED/15	2
			Thoracic surgery	MED/21	1
HEAD AND NECK (2 ND SEMESTER)	3 RD YEAR	2	Otorhinolaryngological diseases	MED/31	1
			Ophthalmological diseases	MED/30	1
SYSTEM DISEASES 3 (1 ST SEMESTER)	4 TH YEAR	5	Gastroenterology	MED/12	3
			Endocrinology	MED/13	2
BONE AND JOINT DISEASES (1 ST SEMESTER)	4 TH YEAR	2	Orthopedics	MED/33	2
CLINICAL IMMUNOLOGY AND DERMATOLOGY (2 ND SEMESTER)	4 TH YEAR	2	Dermatology	MED/35	1
			Rheumatology	MED/16	1
PATHOLOGY (2 ND SEMESTER)	4 TH YEAR	1	Pathology	MED/08	1
PUBLIC HEALTH AND ENVIRONMENTAL MEDICINE (2 ND SEMESTER)	4 TH YEAR	1	Occupational medicine	MED/44	1
CLINICAL NEUROSCIENCE (1 ST SEMESTER)	5 TH YEAR	2	Neurology	MED/26	2
MENTAL HEALTH (1 ST SEMESTER)	5 TH YEAR	1	Psychiatry	MED/25	1
OBSTETRICS AND GYNECOLOGY (2 ND SEMESTER)	5 TH YEAR	2	Obstetrics and gynecology	MED/40	2
PEDIATRICS (2 ND SEMESTER)	5 TH YEAR	2	Pediatrics	MED/38	2
ONCOLOGY (2 ND SEMESTER)	5 TH YEAR	4	Radiology and radiotherapy	MED/36	1
			Oncology	MED/06	3
PATIENT MANAGEMENT (ANNUAL)	5 TH YEAR	8	General surgery	MED/18	3
			Internal medicine	MED/09	5
PATIENT MANAGEMENT (1 ST SEMESTER)	6 TH YEAR	4	General surgery	MED/18	2
			Internal medicine	MED/09	2
EMERGENCIES (1 ST SEMESTER)	6 TH YEAR	6	Anesthesiology	MED/41	2
			Neurology	MED/26	1
			Neurosurgery	MED/27	1
			Cardiovascular diseases	MED/11	1
TOTAL		60	Orthopedics	MED/33	1

Requirements

Exam profession constraints:

To take the following examination(s):	The following exams must have been passed:
The cell: molecules and processes	Principles of the living matter
Body Architecture	Building bodies: from gamets to organs
Body at Work 1 e 2	Building Bodies: from gamets to organs Body architecture The cell: molecules and processes Principles of the living matter
Mechanisms of diseases	Body at Work 1 e 2
System diseases 1, 2 e 3	Mechanisms of diseases Foundations for system diseases
Clinical Neuroscience	Head and neck
Pediatrics	Infectious Diseases System Diseases 1,2 e 3
Communication skills	Being a medical doctor
Patient management Emergency medicine	Biostatistics System diseases 1,2 and 3 Clinical Immunology and Dermatology Infectious Diseases Bone and Joint Diseases Clinical neuroscience Pathology Neuropharmacology

	Oncology
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Recognition of studies completed in other centres or other courses of study

Studies carried out at other degree courses in the University and other Universities, and the credits awarded as their result, will be recognized by the Faculty of the degree course, which may set up an ad hoc Commission. If the criteria for progression from one year to another have been satisfied, the Commission will indicate the examinations confirmed and the course year to which the student may be admitted.

Enrolment in a specific year of the course is, in any case, subject to the availability of places, on the basis of the maximum number of students programmed for admission by the Faculty.

Validity of CFU (University Formative Credits)

Following each exam successfully passed, the Student shall be credited of the pertinent CFU. The validity of the CFU is submitted to a confirmation and validation 10 years after its acquisition.