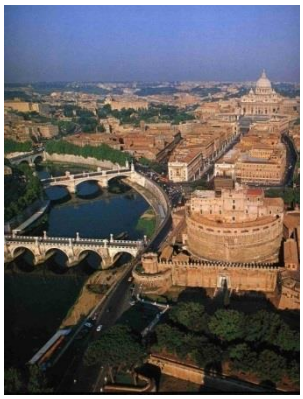
FACOLTÀ DI FARMACIA
E MEDICINA

SAPIENZA
UNIVERSITÀ DI ROMA

Responsible of the degree course: Prof. Paolo Villari



Student Guide
Degree Course
in Medicine and Surgery *"F"*
International Medical School

Academic Year 2017-2018

FACOLTÀ DI FARMACIA
E MEDICINA

SAPIENZA
UNIVERSITÀ DI ROMA

Responsible of the degree course: Prof. Paolo Villari

Student Guide

Degree Course
in Medicine and Surgery *"F"*
International Medical School

Academic Year 2017-2018

A cura della Presidenza
del Consiglio di Corso di Laurea Magistrale
in Medicina e Chirurgia “F”

Editing

Anja Berger

INDEX

Greetings to students and teachers

Dear Students, Dear Colleagues,

The Student Guide of the Degree Course "F" in Medicine and Surgery, academic year 2017-2018, serves as an orientation to both, students and teachers, in the complex educational organization of the single cycle degree course in Medicine and Surgery. The implementation of the Reform of the Educational System, that started already with the academic year 2009-2010, has perfected the educational process by realizing a better integration of educational contents especially inside of the integrated courses and a better coordination between ex-cathedra teaching and practical activities.

The opinions and potential suggestions by our students, regarding the course organization and the teaching quality, are essential instruments of information and as those highly appreciated. They are of high importance for the correct functioning and the future development of the degree programme. The collection of evaluation questionnaires, declared mandatory for all Italian public universities by the law 370/99, has been introduced last year in its digital form and students can proceed with the compilation in the moment of their online registration for exams. Of course, privacy is guaranteed within the whole process.

Our goal is the continuous improvement of the teaching activity in the degree programme, the offered services and its organization.

The main part of the information given by this student guide is also available on the website http://elearning2.uniroma1.it/course/index.php?categoryid=211, where all necessary updates and additional information will be published during the course of the academic year.

One goal of the degree programme in Medicine and Surgery "F" is inalienable: to train medical doctors that are not only well educated, but also capable by their scientific preparation and professional formation of medicating and taking care of human beings both, in the state of well-being and illness.

It is task of a modern European degree programme to maintain the unity of knowledge, linking scientific competences to humanistic skills and to the capability to handle the complex, modern and expensive system of public health. The main interest remains the protection of the human being, its dignity and psycho-physical integrity.

Our wish, that we would like to renew with sincerity to all of you, is that we may proceed successfully in this difficult, but inspiring process of knowledge and life.

Rector Prof. Eugenio Gaudio

1. Offices Degree Course "F"

Responsible **Prof. Paolo Villari**
Location: Istituto d'Igiene, Piazzale Aldo Moro 5
E.mail : paolo.villari@uniroma1.it
Office hours: by appointment

Course Secretary
Medicine and Surgery F **Dott.ssa Anja Berger**
Location: Palazzina ex SCRE -Presidenza della Facoltà di Farmacia e Medicina-, ground floor, room 2, Azienda Policlinico *Umberto I*.
☎: 06.49970855
Office hours: Monday 9:30-11:00 a.m., Wednesday 12:00 a.m.-1:30 p.m.
E.mail: anja.berger@uniroma1.it

Educational Manager **Dott. Vincenzo Mancino**
Location: Palazzina ex SCRE -Presidenza della Facoltà di Farmacia e Medicina-, ground floor, room 3, Azienda Policlinico *Umberto I*.
Office hours: Monday and Wednesday 09:30 a.m.-11:00 a.m.
☎: 06.49970836
E.mail: vincenzo.mancino@uniroma1.it

General Secretary of Medicine
Responsible **Sig.ra Natalina Marcotulli**
Location: Città Universitaria, Palazzo delle Segreterie – Servizi Generali, V.le Regina Elena, stairway A, groundfloor
Office hours: Monday, Wednesday and Friday 08:30 a.m.-12:00 p.m.
Tuesday and Thursday 02.30 p.m.-04.30 p.m.
☎: 06.49912951
E.mail: segrstudenti.medicina@uniroma1.it

Coordinator 1st year – 1st semester
Prof. Beatrice Vallone
☎: 06.49910548
E.mail: beatrice.vallone@uniroma1.it

Coordinator 2nd year – 1st semester
Prof. Maurizio Muscaritoli
☎: 06.49972020
E.mail: maurizio.muscaritoli@uniroma1.it

Coordinator 3rd year – 1st semester
Prof.a Gabriella Palmieri
☎: 06.4468448
E.mail: gabriella.palmieri@uniroma1.it

Coordinator 4th year – 1st semester
Prof. Giulia d'Amati
☎: 06.49973332
E.mail: giulia.damati@uniroma1.it

Coordinator 5th year – 1st semester
Prof.a Isabella Quinti
☎: 06.4454941
E.mail: isabella.quinti@uniroma1.it

Coordinator 6th year – 1st semester
Prof.a Stefania Basili
☎: 06.49974678
E.mail: stefania.basili@uniroma1.it

Coordinator 1st year – 2nd semester
Prof. Francesco Malatesta
☎: 06.4454952
E.mail: francesco.malatesta@uniroma1.it

Coordinator 2nd year – 2nd semester
Prof.a Francesca Grassi
☎: 06.49910060
E.mail: francesca.grassi@uniroma1.it

Coordinator 3rd year – 2nd semester
Prof. Enrico De Smaele
☎: 06.49255659
E.mail: enrico.desmaele@uniroma1.it

Coordinator 4th year – 2nd semester
Prof. Oliviero Riggio
☎: 06.49972001
E.mail: oliviero.riggio@uniroma1.it

Coordinator 5th year – 2nd semester
Prof. Paolo Martelletti
☎: 06.33775111
E.mail: paolo.martelletti@uniroma1.it

Coordinator 6th year – 2nd semester
Prof. Fabrizio Consorti
☎: 06.49970634
E.mail: fabrizio.consorti@uniroma1.it

2. Syllabus

For students enrolled starting from the academic year 2017-2018

Exam	Course	Year	Semester	Credits
1	**Chemistry and introduction to biochemistry**	**I**	**1°**	**9**
2	**Medical physics**	**I**	**1°**	**6**
3	**Biology and genetics** (I-II)	**I**	1°-**2°**	**13**
4	**Histology and embryology**	**I**	**2°**	**8**
5	**Basic medical scientific methods** (I-II)	**I**	1°-2°	**12**
6	**Biochemistry** (I-II)	I **II**	2° **1°**	**14**
7	**Human anatomy** (I-II-III)	I **II**	1° 1°-**2°**	**19**
8	**Microbiology**	**II**	**2°**	**7**
9	**Pre-Clinical scientific methods** (I-II)	**II**	1°-**2°**	**14**
10	**Human physiology** (I-II-III)	II **III**	1°-2° **1°**	**18**
11	**Immunology and immunopathology**	**III**	**1°**	**8**
12	**Pathology and pathophysiology** (I-II)	**III**	1°-**2°**	**17**
13	**Laboratory medicine** (I-II)	**III**	1°-**2°**	**11**
14	**Clinical Scientific Methods** (I-II)	**III**	1°-**2°**	**20**
15	**Applied pathology I - Diseases of the respiratory system and cardiovascular system**	**IV**	**1°**	**12**
16	**Applied pathology II - Diseases of kidney and urinary system**	**IV**	**1°**	**5**
17	**Applied medical scientific methods** (I-II)	**IV**	1°-**2°**	**8**
18	**Pathological anatomy and associations with clinical anatomy** (I-II)	**IV**	1°-**2°**	**11**
19	**Applied pathology III - Diseases of the digestive system, endocrine system and metabolism**	**IV**	**2°**	**12**
20	**Diagnostic imaging**	**IV**	**2°**	**6**
21	**Applied pathology IV - Diseases of the blood, hematopoietic organs, immune system and rheumatology**	**V**	**1°**	**6**
22	**Applied pathology V - Infectious diseases and human reproduction**	**V**	**1°**	**7**
23	**Diseases of the nervous system**	**V**	**1°**	**5**
24	**Pharmacology** (I-II) **and toxicology**	IV **V**	2° **1°**	**7**
25	**Internal medicine and general surgery I - medical and surgical Oncology**	**V**	**2°**	**8**
26	**Psychiatry and cinical psychology**	**V**	**2°**	**4**
27	**Movement disorders, rheumatology**	**V**	**2°**	**3**
28	**Dermatology and plastic surgery**	**V**	**2°**	**3**
29	**Diseases of the sensory organs**	**V**	**2°**	**8**
30	**Medical-scientific methods: public health** (IX-X)	V **VI**	1° **1°**	**8**
31	**Internal medicine and general surgery II**	**VI**	**1°**	**8**
32	**Paediatrics**	**VI**	**1°**	**6**
33	**Obstetrics and Gynaecology**	**VI**	**1°**	**6**
34	**Medical-scientific methods: forensic medicine, medicine and the law** (XI)	**VI**	**2°**	**5**
35	**Internal medicine and general surgery III - medical and surgical therapy and geriatrics**	**VI**	**2°**	**10**
36	**Emergency medicine and surgery**	**VI**	**2°**	**10**
	TOTAL CREDITS FOR EXAMS			***334***
	Electives (Attività Didattiche Elettive- ADE)			***8***
	CREDITS for preparation of final thesis			***18***
	TOTAL			***360***

For students enrolled until the academic year 2016-2017

Exam	Course	Year	Semester	Credits
1	**Chemistry and introduction to biochemistry**	**I**	**1°**	**9**
2	**Medical physics**	**I**	**1°**	**6**
3	**Biology and genetics** (I-II)	**I**	1°-**2°**	**13**
4	**Histology and embryology**	**I**	**2°**	**8**
5	**Basic medical scientific methods** (I-II-III)	I **II**	1°-2° **1°**	**15**
6	**Biochemistry** (I-II)	I **II**	2° **1°**	**14**
7	**Human anatomy** (I-II-III)	I **II**	1° 1°-**2°**	**19**
8	**Microbiology**	**II**	**2°**	**7**
9	**Human physiology** (I-II-III)	II **III**	1°-2° **1°**	**18**
10	**Immunology and immunopathology**	**III**	**1°**	**8**
11	**Clinical scientific methods** (IV-V-VI)	II **III**	2° 1°-**2°**	**21**
12	**Pathology and pathophysiology** (I-II)	**III**	1°-**2°**	**17**
13	**Laboratory medicine** (I-II)	**III**	1°-**2°**	**11**
14	**Applied pathology I - Diseases of the respiratory system and cardiovascular system**	**IV**	**1°**	**12**
15	**Applied pathology II - Diseases of kidney and urinary system**	**IV**	**1°**	**5**
16	**Applied medical scientific methods** (VII-VIII)	**IV**	1°-**2°**	**6**
17	**Pathological anatomy and associations with clinical anatomy** (I-II)	**IV**	1°-**2°**	**11**
18	**Applied pathology III - Diseases of the digestive system, endocrine system and metabolism**	**IV**	**2°**	**12**
19	**Diagnostic imaging**	**IV**	**2°**	**6**
20	**Applied pathology IV - Diseases of the blood, hematopoietic organs, immune system and rheumatology**	**V**	**1°**	**6**
21	**Applied pathology V - Infectious diseases and human reproduction**	**V**	**1°**	**7**
22	**Diseases of the nervous system**	**V**	**1°**	**5**
23	**Pharmacology** (I-II) **and toxicology**	IV **V**	2° **1°**	**7**
24	**Internal medicine and general surgery I - medical and surgical Oncology**	**V**	**2°**	**8**
25	**Psychiatry and cinical psychology**	**V**	**2°**	**4**
26	**Movement disorders, rheumatology**	**V**	**2°**	**3**
27	**Dermatology and plastic surgery**	**V**	**2°**	**3**
28	**Diseases of the sensory organs**	**V**	**2°**	**8**
29	**Scientific English** (I-II-III-IV-V) **- Journal Club**	I II III IV **V**	2° 2° 2° 1° **2°**	**12**
30	**Medical-scientific methods: public health** (IX-X)	V **VI**	1° **1°**	**8**
31	**Internal medicine and general surgery II**	**VI**	**1°**	**8**
32	**Paediatrics**	**VI**	**1°**	**6**
33	**Obstetrics and Gynaecology**	**VI**	**1°**	**6**
34	**Medical-scientific methods: forensic medicine, medicine and the law** (XI)	**VI**	**2°**	**5**
35	**Internal medicine and general surgery III - medical and surgical therapy and geriatrics**	**VI**	**2°**	**10**
36	**Emergency medicine and surgery**	**VI**	**2°**	**10**
	TOTAL CREDITS FOR EXAMS			***334***
	Electives (Attività Didattiche Elettive- ADE)			***8***
	CREDITS for preparation of final thesis			***18***
	TOTAL			***360***

3. Courses and course coordinators for each semester

For students enrolled starting from the academic year 2017-2018		
I YEAR	**Course Coordinator**	**Coordinator of Semester**
I SEMESTER		**B. Vallone**
Human Anatomy (I)	L. Pannarale	
Biology and Genetics (I)	F. Citarella	
Chemistry and Introducation to Biochemistry	B. Vallone	
Medical Physics	R. Pani	
Basic Medical Scientific Methods (I)	M. Muscaritoli	
II SEMESTER		**F. Malatesta**
Biochemistry (I)	F. Malatesta	
Biology and Genetics (II)	F. Citarella	
Histology and Embryology	S. Adamo	
Basic Medical Scientific Methods (II)	M.S. Cattaruzza	
For students enrolled until the academic year 2017-2018		
II YEAR	**Course Coordinator**	**Coordinator of Semester**
I SEMESTER		**M. Muscaritoli**
Human Anatomy (II)	S. Nottola	
Biochemistry (II)	D. De Biase	
Human Physiology (I)	C. Limatola	
Basic Medical Scientific Methods (III)	M. Muscaritoli	
II SEMESTER		**F. Grassi**
Human Anatomy (III)	E. Gaudio	
Human Physiology (II)	F. Grassi	
Scientific English-Journal Club (II)	L. Stefanini	
Clinical Scientific Methods (IV)	M. Arca	
Microbiology	G. Antonelli	

III YEAR	Course Coordinator	Coordinator of Semester
I SEMESTER		**G. Palmieri**
Human Physiology (III)	S. Ferraina	
Immunology and Immunopathology	A. Santoni	
Laboratory Medicine (I)	A. Angeloni	
Clinical Scientific Methods (V)	M. Arca	
Pathology and Pathophysiology (I)	M. P. Felli	
II SEMESTER		**E. De Smaele**
Scientific English-Journal Club (III)	F. Grassi	
Laboratory Medicine (II)	A. Angeloni	
Clinical Scientific Methods (VI)	M. Arca	
Pathology and Pathophysiology (II)	G. Giannini	
IV YEAR	**Course Coordinator**	**Coordinator of Semester**
I SEMESTER		**G. d'Amati**
Pathological Anatomy and Associations with Clinical Anatomy (I)	G. d'Amati	
Scientific English-Journal Club (IV)	L. Stefanini	
Applied Medical Scientific Methods (VII)	R. Gattuso	
Applied Pathology I – Diseases of Respiratory System and Cardiovascular System	F. Fedele	
Applied Pathology II – Diseases of Kidney and Urinary System	S. Mazzaferro	
II SEMESTER		**O. Riggio**
Pathological Anatomy and Associations with Clinical Anatomy (II)	C. Giordano	
Diagnostic Imaging	C. Catalano	
Pharmacology I and Toxicology	S. Maccari	
Applied Medical Scientific Methods (VIII)	F. Angelico	
Applied Pathology III – Diseases of the Digestive System, Endocrine System and Metabolism	S. Ginanni Corradini	

V YEAR	Course Coordinator	Coordinator of Semester
I SEMESTER		**I. Quinti**
Pharmacology II and Toxicology	F. Nicoletti	
Diseases of the Nervous System	A. Berardelli	
Medical-Scientific Methods: Public Health (IX)	G.B. Orsi	
Applied Pathology IV	R. Foà	
Applied Pathology V	M. Ciardi	
II SEMESTER		**P. Martelletti**
Internal Medicine and General Surgery I	P. Martelletti	
Dermatology and Plastic Surgery	A. Tammaro	
Scientific English (V)	L. Stefanini	
Movement Disorders and Rheumatology	G. Costanzo	
Diseases of the Sensory Organs	M. Barbara	
Psychiatry and Clinical Psychology	M. Biondi	

VI YEAR	Course Coordinator	Coordinator of Semester
I SEMESTER		**S. Basili**
Medical-scientific methods: public health (X)	G. Citoni	
Internal medicine and general surgery II	S. Basili	
Paediatrics	S. Cucchiara	
Obstetrics and Gynaecology	D. Caserta	
II SEMESTER		**F. Consorti**
Medical-scientific methods: forensic medicine, medicine and the law (XI)	N.M. Di Luca	
Internal medicine and general surgery III - medical and surgical therapy and geriatrics	S. Filetti	
Emergency medicine and surgery	G. Bertazzoni	

4. Timetable lectures

I YEAR – I SEMESTER

CLASSROOM: C1 Istituto d'Igiene – Città Universitaria "Sapienza" Università di Roma

START: Monday 23 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	**HUMAN ANATOMY**	**BIOLOGY AND GENETICS**	**BASIC MEDICAL-SCIENTIFIC METHODS**	**HUMAN ANATOMY**	
10 - 11	**HUMAN ANATOMY**	**BIOLOGY AND GENETICS**	**MEDICAL PHYSICS**	**HUMAN ANATOMY**	**MEDICAL PHYSICS**
11 - 12	**BASIC MEDICAL-SCIENTIFIC METHODS**	**BASIC MEDICAL-SCIENTIFIC METHODS**	**MEDICAL PHYSICS**	**MEDICAL PHYSICS**	**MEDICAL PHYSICS**
12 - 13	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**BASIC MEDICAL-SCIENTIFIC METHODS**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**
13 - 14	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**BASIC MEDICAL-SCIENTIFIC METHODS**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**	**CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY**
14 - 15					
15 - 16				**BIOLOGY AND GENETICS**	
16 - 17	*HUMAN ANATOMY - LAB**			**BIOLOGY AND GENETICS**	
17- 18	*HUMAN ANATOMY - LAB**			**BIOLOGY AND GENETICS****	

** Classroom L, Department of Human Anatomy (Via Borelli, 50)*
***This hour will be used only for previously defined Genetics lessons.*

I YEAR – II SEMESTER

CLASSROOM: C1 Istituto d'Igiene – Città Universitaria "Sapienza" Università di Roma

START: Thursday 1 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	**BASIC MEDICAL-SCIENTIFIC METHODS II**	**BIOCHEMISTRY I**	**BIOCHEMISTRY I**	**BASIC MEDICAL-SCIENTIFIC METHODS II**	**BIOCHEMISTRY I**
10 - 11	**BASIC MEDICAL-SCIENTIFIC METHODS II**	**BIOCHEMISTRY I**	**BIOCHEMISTRY I**	**BASIC MEDICAL-SCIENTIFIC METHODS II**	**BIOCHEMISTRY I**
11 - 12	**BIOLOGY AND GENETICS II**	**HISTOLOGY AND EMBRIOLOGY**	**BIOLOGY AND GENETICS II**	**HISTOLOGY AND EMBRIOLOGY**	**HISTOLOGY AND EMBRIOLOGY**
12 - 13	**BIOLOGY AND GENETICS II**	**HISTOLOGY AND EMBRIOLOGY**	**BIOLOGY AND GENETICS II**	**HISTOLOGY AND EMBRIOLOGY**	**HISTOLOGY AND EMBRIOLOGY**
13 - 14	**BIOLOGY AND GENETICS II****		**BIOLOGY AND GENETICS II****		
14 – 15					
15 – 16				*HISTOLOGY AND EMBRIOLOGY – LAB**	
16- 17				*HISTOLOGY AND EMBRIOLOGY – LAB**	

**Auletta Esercitazioni Dipartimento SAIMAL – Sezione Istologia (Via A. Scarpa, 14)*
*** This hour will be used only for previously defined Genetics lessons.*

II YEAR – I SEMESTER

CLASSROOM: E, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Monday 2 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	**BASIC MEDICAL-SCIENTIFIC METHODS III**	**BASIC MEDICAL-SCIENTIFIC METHODS III**		**BASIC MEDICAL-SCIENTIFIC METHODS III**	**HUMAN ANATOMY II**
10 - 11	**BASIC MEDICAL-SCIENTIFIC METHODS III**	**BASIC MEDICAL-SCIENTIFIC METHODS III**	**BIOCHEMISTRY II**	**BASIC MEDICAL-SCIENTIFIC METHODS III**	**HUMAN ANATOMY II**
11 - 12	**BIOCHEMISTRY II**	**HUMAN ANATOMY II**	**BIOCHEMISTRY II**	**BIOCHEMISTRY II**	**HUMAN PHYSIOLOGY I**
12 - 13	**BIOCHEMISTRY II**	**HUMAN ANATOMY II**	**HUMAN PHYSIOLOGY I**	**BIOCHEMISTRY II**	**HUMAN PHYSIOLOGY I**
13 - 14			**HUMAN PHYSIOLOGY I**		**HUMAN PHYSIOLOGY I**
14 – 15				*GENETICS SEMINAR***	
15 – 16				*GENETICS SEMINAR***	
16- 17	*HUMAN ANATOMY-LAB**			*GENETICS SEMINAR***	
17 - 18	*HUMAN ANATOMY-LAB**			*GENETICS SEMINAR***	

* *Classroom L, Department of Human Anatomy (Via Borelli, 50)*
** *Genetics seminar in date of 7th of December (2.00-6.00 p.m.)*

II YEAR – II SEMESTER

CLASSROOM: E, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Thursday 1 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10		**HUMAN PHYSIOLOGY II**	**CLINICAL-SCIENTIFIC METHODS IV**	**HUMAN PHYSIOLOGY II**	**HUMAN PHYSIOLOGY II**
10 - 11		**HUMAN ANATOMY III**	**CLINICAL-SCIENTIFIC METHODS IV**	**HUMAN ANATOMY III**	**HUMAN PHYSIOLOGY II**
11 - 12	**MICROBIOLOGY**	**HUMAN ANATOMY III**	**CLINICAL-SCIENTIFIC METHODS IV**	**HUMAN ANATOMY III**	**MICROBIOLOGY**
12 - 13	**MICROBIOLOGY**	**SCIENTIFIC ENGLISH II**	**CLINICAL-SCIENTIFIC METHODS IV**	**HUMAN PHYSIOLOGY II**	**MICROBIOLOGY**
13 - 14	**MICROBIOLOGY**	**SCIENTIFIC ENGLISH II**		**HUMAN PHYSIOLOGY II**	**MICROBIOLOGY**
14 - 15					
15 - 16		*HUMAN ANATOMY- LAB*	**CLINICAL-SCIENTIFIC METHODS IV***		
16 - 17		*HUMAN ANATOMY- LAB*	**CLINICAL-SCIENTIFIC METHODS IV***		
17 - 18			**CLINICAL-SCIENTIFIC METHODS IV***		
18 - 19			**CLINICAL-SCIENTIFIC METHODS IV***		

**Practical activity according to timetable distributed during lessons*

III YEAR – I SEMESTER

CLASSROOM: D, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Monday 2 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10		**PATHOLOGY AND PATHOPHYSIOLOGY I**		**IMMUNOLOGY AND IMMUNOPATHOLOGY**	
10 - 11		**PATHOLOGY AND PATHOPHYSIOLOGY I**	**CLINICAL-SCIENTIFIC METHODS V**	**IMMUNOLOGY AND IMMUNOPATHOLOGY**	**
11 - 12		**IMMUNOLOGY AND IMMUNOPATHOLOGY**	**CLINICAL-SCIENTIFIC METHODS V**	**IMMUNOLOGY AND IMMUNOPATHOLOGY**	**
12 - 13		**IMMUNOLOGY AND IMMUNOPATHOLOGY**	**CLINICAL-SCIENTIFIC METHODS V**	**PATHOLOGY AND PATHOPHYSIOLOGY I**	**
13 - 14	**LABORATORY MEDICINE I**			**PATHOLOGY AND PATHOPHYSIOLOGY I**	**LABORATORY MEDICINE I**
14 – 15	**LABORATORY MEDICINE I**	**HUMAN PHYSIOLOGY III**			**LABORATORY MEDICINE I**
15 – 16		**HUMAN PHYSIOLOGY III**	***CLINICAL-SCIENTIFIC METHODS V**		
16-17			***CLINICAL-SCIENTIFIC METHODS V**		
17-18			***CLINICAL-SCIENTIFIC METHODS V**		

** Practical activities, small groups*

*** This time will be used for previously defined additional "Immunology and Immunopathology" lectures*

III YEAR – II SEMESTER

CLASSROOM: D, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Thursday 1 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10		**PATHOLOGY AND PATHOPHYSIOLOGY II**	**SCIENTIFIC ENGLISH III****	**PATHOLOGY AND PATHOPHYSIOLOGY II***	
10 - 11		**PATHOLOGY AND PATHOPHYSIOLOGY II**	**SCIENTIFIC ENGLISH III****	**PATHOLOGY AND PATHOPHYSIOLOGY II***	
11 - 12		**LABORATORY MEDICINE II**		**PATHOLOGY AND PATHOPHYSIOLOGY II***	
12 - 13		**LABORATORY MEDICINE II**		**PATHOLOGY AND PATHOPHYSIOLOGY II***	
13 - 14				**LABORATORY MEDICINE II***	
14 – 15				**LABORATORY MEDICINE II***	
15 – 16		**CLINICAL SCIENTIFIC METHODS VI**	**CLINICAL SCIENTIFIC METHODS VI**	**LABORATORY MEDICINE II***	
16 - 17		**CLINICAL SCIENTIFIC METHODS VI**	**CLINICAL SCIENTIFIC METHODS VI**		

**The schedule for the Thursday lessons at 9:30, and all the lessons start on the half hour (i.e. Pathology and Pathophysiology is from 9:30 to 12:30, and Laboratory Medicine is from 13:30 to 15:30)*

*** Lectures will take place from 9.00 a.m. to 10.45 a.m. during the month of March. In April and May lessons will be scheduled differently, as detailed in the first lesson.*

IV YEAR – I SEMESTER

CLASSROOM: B, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Monday 2 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	**PRACTICAL SKILLS**	**APPLIED PATHOLOGY I**	**PATHOLOGICAL ANATOMY I**	**APPLIED PATHOLOGY I**	**APPLIED PATHOLOGY I**
10 - 11	**PRACTICAL SKILLS**	**APPLIED PATHOLOGY I**	**PATHOLOGICAL ANATOMY I**	**APPLIED PATHOLOGY I**	**APPLIED PATHOLOGY I**
11 - 12	**PRACTICAL SKILLS**	**APPLIED MEDICAL SCIENTIFIC METHODS VII**	**APPLIED PATHOLOGY I**	**SCIENTIFIC ENGLISH IV**	**PATHOLOGICAL ANATOMY I**
12 - 13	**PRACTICAL SKILLS**	**APPLIED PATHOLOGY II**	**APPLIED PATHOLOGY I**	**APPLIED PATHOLOGY II**	**PATHOLOGICAL ANATOMY I**
13 - 14		**APPLIED PATHOLOGY II**		**APPLIED PATHOLOGY II**	**PRACTICAL SKILLS PATHOLOGICAL ANATOMY**
14 – 15				**APPLIED MEDICAL SCIENTIFIC METHODS VII**	

IV YEAR – II SEMESTER

CLASSROOM: B, Ex Officine Ortopediche – Città Universitaria "Sapienza" Università di Roma

START: Tuesday 6 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 10	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**
10 - 11	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**	**PRACTICAL SKILLS**
11 - 12	**DIAGNOSTIC IMAGING**	**PATHOLOGICAL ANATOMY II**	**DIAGNOSTIC IMAGING**	**PATHOLOGICAL ANATOMY II**	**DIAGNOSTIC IMAGING**
12 - 13	**DIAGNOSTIC IMAGING**	**PATHOLOGICAL ANATOMY II**	**PHARMACOLOGY AND TOXICOLOGY**	**PATHOLOGICAL ANATOMY II**	**DIAGNOSTIC IMAGING**
13 - 14					
14 – 15	**APPLIED PATHOLOGY III**	**APPLIED PATHOLOGY III**	**PHARMACOLOGY AND TOXICOLOGY**	**APPLIED PATHOLOGY III**	**APPLIED PATHOLOGY III**
15 – 16	**APPLIED PATHOLOGY III / APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**APPLIED PATHOLOGY III/ APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**PHARMACOLOGY AND TOXICOLOGY**	**APPLIED PATHOLOGY III / APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**APPLIED PATHOLOGY III / APPLIED MEDICAL SCIENTIFIC METHODS VIII**
16 - 17	**APPLIED PATHOLOGY III/ APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**PHARMACOLOGY AND TOXICOLOGY**	**APPLIED MEDICAL SCIENTIFIC METHODS VIII**	**APPLIED MEDICAL SCIENTIFIC METHODS VIII**

V YEAR – I SEMESTER

CLASSROOM: B, II Clinica Medica – Policlinico Umberto I

START: Monday 2 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
13 - 14	**ADE**	**MOVEMENT DISORDERS AND RHEUMATOLOGY**	**ADE**	**PSYCHIATRY AND CLINICAL PSYCHOLOGY**	**DERMATOLOGY AND PLASTIC SURGERY***
14 - 15	**DISEASES OF THE SENSORY ORGANS**	**MOVEMENT DISORDERS AND RHEUMATOLOGY**	**DISEASES OF THE SENSORY ORGANS**	**PSYCHIATRY AND CLINICAL PSYCHOLOGY**	**DERMATOLOGY AND PLASTIC SURGERY ***
15 - 16	**DISEASES OF THE SENSORY ORGANS**	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**DISEASES OF THE SENSORY ORGANS**	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**DISEASES OF THE SENSORY ORGANS**
16 - 17	**SCIENTIFIC ENGLISH V**	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**DISEASES OF THE SENSORY ORGANS**
17- 18	**ADE**	**ADE**	**ADE**	**ADE**	**ADE**

*March 2, 9 and 16: Psychiatry and Clinical Psychology
** April 4, 11, 18 and May 2: Psychiatry and Clinical Psychology

Please refer to the detailed semester schedule for further details.

V YEAR – II SEMESTER

CLASSROOM: B, II Clinica Medica – Policlinico Umberto I

START: Thursday 1 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
13 - 14	**INTERNAL MEDICINE AND GENERAL SURGERY I***	**INTERNAL MEDICINE AND GENERAL SURGERY I***	**INTERNAL MEDICINE AND GENERAL SURGERY I***	**INTERNAL MEDICINE AND GENERAL SURGERY I***	**INTERNAL MEDICINE AND GENERAL SURGERY I***
14 - 15	**DISEASES OF THE SENSORY ORGANS**	**DISEASES OF THE SENSORY ORGANS****	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**INTERNAL MEDICINE AND GENERAL SURGERY I*****	**DISEASES OF THE SENSORY ORGANS**
15 - 16	**DISEASES OF THE SENSORY ORGANS**	**DISEASES OF THE SENSORY ORGANS****	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**DISEASES OF THE SENSORY ORGANS*****	**DISEASES OF THE SENSORY ORGANS**
16 - 17	**INTERNAL MEDICINE AND GENERAL SURGERY I**	**DISEASES OF THE SENSORY ORGANS*****	**INTERNAL MEDICINE AND GENERAL SURGERY I*****	**DISEASES OF THE SENSORY ORGANS*****	*******
17- 18	**ADE**	**ADE**	**ADE**	**ADE**	**ADE**

Please refer to separate semester schedule for further details.

VI YEAR – I SEMESTER

CLASSROOM: Aula Castrini, II Clinica Chirurgica – Policlinico Umberto I

START: Monday 2 October 2017

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9-10	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
10-11	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
11-12	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
12-13					
13-14	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***
14-15	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***
15-16	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***
16 - 17	**LECTURE***	**LECTURE***	**LECTURE***	**LECTURE***	

*See online semester schedule for the lectures (Medical Scientific Methods: Public Health, Internal Medicine and General Surgery II, Paediatrics, Obstetrics and Gynaecology) and Trainings.

VI YEAR – II SEMESTER

CLASSROOM: Aula Castrini, II Clinica Chirurgica – Policlinico Umberto I

START: Thursday 1 March 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9-10	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
10-11	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
11-12	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
12-13	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**	**TRAINING**
13-14					
14-15	**INTERNAL MEDICINE AND GENERAL SURGERY III**	**MEDICAL-SCIENTIFIC METHODS: FORENSIC MEDICINE**	**EMERGENCY MEDICINE AND SURGERY**	**EMERGENCY MEDICINE AND SURGERY**	
15-16	**INTERNAL MEDICINE AND GENERAL SURGERY III**	**MEDICAL-SCIENTIFIC METHODS: FORENSIC MEDICINE**	**EMERGENCY MEDICINE AND SURGERY**	**EMERGENCY MEDICINE AND SURGERY**	
16 - 17	**INTERNAL MEDICINE AND GENERAL SURGERY III**	**MEDICAL-SCIENTIFIC METHODS: FORENSIC MEDICINE**	**EMERGENCY MEDICINE AND SURGERY**	**EMERGENCY MEDICINE AND SURGERY**	

5. Exams and ongoing examinations

For students enrolled starting from the academic year 2016-2017

1st YEAR

Courses	Credits (CFU)
1st Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**31**	
Human anatomy (I)	**5**	***Ongoing examination***
Biology and genetics (I)	**5**	***Ongoing examination***
Chemistry and introduction to biochemistry	**9**	**Exam**
Medical physics	**6**	**Exam**
Basic medical scientific methods (I)	**6**	***Ongoing examination***

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**29**	
Biochemistry (I)	**6**	***Ongoing examination***
Biology and genetics (II)	**8**	**Exam**
Histology and embriology	**8**	**Exam**
Basic medical scientific methods (II)	**6**	**Exam**
Electives	**1**	

2nd YEAR

Courses	Credits (CFU)
2nd Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**29**	
Human anatomy (II)	**7**	***Ongoing examination***
Biochemistry (II)	**8**	**Exam**
Human physiology (I)	**8**	***Ongoing examination***
Pre-Clinical scientific methods (I)	**5**	***Ongoing examination***
Electives	**1**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**31**	
Human anatomy (III)	**7**	**Exam**
Human physiology (II)	**7**	***Ongoing examination***
Microbiology	**7**	**Exam**
Pre-Clinical scientific methods (II)	**9**	**Exam**
Electives	**1**	

3rd YEAR

Courses	Credits (CFU)
3rd Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**31**	
Human Physiology (III)	**3**	**Exam**
Immunology and Immunopathology	**8**	**Exam**
Laboratory Medicine (I)	**5**	***Ongoing examination***
Pathology and Pathophysiology (I)	**7**	***Ongoing examination***
Clinical scientific Methods (I)	**8**	***Ongoing examination***

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**29**	
Laboratory Medicine (II)	**6**	**Exam**
Pathology and Pathophysiology (II)	**10**	**Exam**
Clinical scientific Methods (II)	**12**	**Exam**
Electives	**1**	

4th YEAR

Courses	Credits (CFU)
4th Year	**61**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**28**	
Pathological Anatomy and Ass. with Clin. Anat. (I)	**6**	***Ongoing examination***
Applied Pathology I *Diseases of Respiratory System and Cardiovascular System*	**12**	**Exam**
Applied Pathology II *Diseasesof Kidney and Urinary System*	**5**	**Exam**
Applied Medical Scientific Methods (I)	**4**	***Ongoing examination***
Electives	**1**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**33**	
Pathological Anatomy and Ass. with Clin. Anat. (II)	**5**	**Exam**
Diagnostic Imaging	**6**	**Exam**
Pharmacology (I) **and Toxicology**	**4**	***Ongoing examination***
Applied Pathology III *Diseases of Digestive System, Endocrine System and Metabolism*	**12**	**Exam**
Applied Medical Scientific Methods (II)	**4**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**1**	

5th YEAR

Courses	Credits (CFU)
5th Year	**59**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**28**	
Pharmacology (II) and Toxicology	**3**	**Exam**
Diseases of the Nervous System	**5**	**Exam**
Medical Scientific Methods: Public Health (IX) *Hygiene, Pubblic health, Occupational Medicine, Community Medicine.*	**5**	***Ongoing examination***
Applied Pathology IV *Diseases of the blood, hematopoietic organs, immune system and rheumatology*	**6**	**Exam**
Applied Pathology V *Infectious diseases and human reproduction*	**7**	**Exam**
Credits for the preparation of the final thesis	**2**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**31**	
Dermatology and Plastic Surgery	**3**	**Exam**
Internal medicine and general surgery I *General surgery , medical and surgical Oncology (Clinical Cases)*	**8**	**Exam**
Diseases of the Sensory Organs *Odontostomatologic diseases. Maxillofacial surgery. Diseases of the visual apparatus. Ear Nose Throat. Audiology.*	**8**	**Exam**
Psychiatry and Clinical Psycology	**4**	**Exam**
Movement Disorders, Rheumatology	**3**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**4**	

6th YEAR

Courses	Credits (CFU)
6th YEAR	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**29**	
Obstetrics and Gynaecology	**6**	**Exam**
Internal medicine and general surgery II *Clinical Medicine and Surgery (Clinical Cases)*	**8**	**Exam**
Paediatrics	**6**	**Exam**
Medical Scientific Methods: Public Health (X) *Health Management*	**3**	**Exam**
Credits for the preparation of the final thesis	**6**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**31**	
Emergency Medicine and Surgery	**10**	**Exam**
Internal medicine and general surgery III *Medical and Surgical Therapy, Geriatrics (Clinical Cases)*	**10**	**Exam**
Medical Scientific Methods: Forensic Medicine, Medicine and the Law (XI)	**5**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**5**	

For students enrolled until the academic year 2016-2017

2nd YEAR

Courses	Credits (CFU)
2nd Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**29**	
Human anatomy (II)	**7**	***Ongoing examination***
Biochemistry (II)	**8**	**Exam**
Human physiology (I)	**8**	***Ongoing examination***
Basic medical scientific methods (III)	**5**	**Exam**
Electives	**1**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**31**	
Human anatomy (III)	**7**	**Exam**
Human physiology (II)	**7**	***Ongoing examination***
Scientific English (II)	**4**	***Ongoing examination***
Microbiology	**7**	**Exam**
Clinical scientific methods (IV)	**5**	***Ongoing examination***
Electives	**1**	

3rd YEAR

Courses	Credits (CFU)
3rd Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**31**	
Human Physiology (III)	**3**	**Exam**
Immunology and Immunopathology	**8**	**Exam**
Laboratory Medicine (I)	**5**	***Ongoing examination***
Pathology and Pathophysiology (I)	**7**	***Ongoing examination***
Clinical scientific Methods (V)	**8**	***Ongoing examination***

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**29**	
Scientific English (III)	**4**	***Ongoing examination***
Laboratory Medicine (II)	**6**	**Exam**
Pathology and Pathophysiology (II)	**10**	**Exam**
Clinical scientific Methods (VI)	**8**	**Exam**
Electives	**1**	

4th YEAR

Courses	Credits (CFU)
4th Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**28**	
Pathological Anatomy and Ass. with Clin. Anat. (I)	**6**	***Ongoing examination***
Scientific English (IV)	**1**	***Ongoing examination***
Applied Pathology I *Diseases of Respiratory System and Cardiovascular System*	**12**	**Exam**
Applied Pathology II *Diseasesof Kidney and Urinary System*	**5**	**Exam**
Applied Medical Scientific Methods (VII)	**3**	***Ongoing examination***
Electives	**1**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**32**	
Pathological Anatomy and Ass. with Clin. Anat. (II)	**5**	**Exam**
Diagnostic Imaging	**6**	**Exam**
Pharmacology (I) **and Toxicology**	**4**	***Ongoing examination***
Applied Pathology III *Diseases of Digestive System, Endocrine System and Metabolism*	**12**	**Exam**
Applied Medical Scientific Methods (VIII)	**3**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**1**	

5th YEAR

Courses	Credits (CFU)
5th Year	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**28**	
Pharmacology (II) and Toxicology	**3**	**Exam**
Diseases of the Nervous System	**5**	**Exam**
Medical Scientific Methods: Public Health (IX) *Hygiene, Pubblic health, Occupational Medicine, Community Medicine.*	**5**	***Ongoing examination***
Applied Pathology IV *Diseases of the blood, hematopoietic organs, immune system and rheumatology*	**6**	**Exam**
Applied Pathology V *Infectious diseases and human reproduction*	**7**	**Exam**
Credits for the preparation of the final thesis	**2**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**32**	
Dermatology and Plastic Surgery	**3**	**Exam**
Scientific English (V)	**1**	**Exam**
Internal medicine and general surgery I *General surgery , medical and surgical Oncology (Clinical Cases)*	**8**	**Exam**
Diseases of the Sensory Organs *Odontostomatologic diseases. Maxillofacial surgery. Diseases of the visual apparatus. Ear Nose Throat. Audiology.*	**8**	**Exam**
Psychiatry and Clinical Psycology	**4**	**Exam**
Movement Disorders, Rheumatology	**3**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**4**	

6th YEAR

Courses	Credits (CFU)
6th YEAR	**60**

Courses	CFU	Exam/*ongoing examination*
1st SEMESTER	**29**	
Obstetrics and Gynaecology	**6**	**Exam**
Internal medicine and general surgery II *Clinical Medicine and Surgery (Clinical Cases)*	**8**	**Exam**
Paediatrics	**6**	**Exam**
Medical Scientific Methods: Public Health (X) *Health Management*	**3**	**Exam**
Credits for the preparation of the final thesis	**6**	

Courses	CFU	Exam/*ongoing examination*
2nd SEMESTER	**31**	
Emergency Medicine and Surgery	**10**	**Exam**
Internal medicine and general surgery III *Medical and Surgical Therapy, Geriatrics (Clinical Cases)*	**10**	**Exam**
Medical Scientific Methods: Forensic Medicine, Medicine and the Law (XI)	**5**	**Exam**
Electives	**1**	
Credits for the preparation of the final thesis	**5**	

6. Course organisation: Teaching staff

In bold = Course coordinators
Students should contact the course coordinators in the start of the new semester

1st YEAR

1st SEMESTER (coordinator of semester: B. Vallone)

Teachers		Time	Classroom
Basic medical scientific methods (I)	**(ongoing examination)**		
M. Capocci – A. Farcomeni – **M. Muscaritoli**	Mon	11-12	C1 – Istituto d'Igiene
Additional activities:A. Molfino	Tue	11-14	C1 – Istituto d'Igiene
	Wed	09-10	C1 – Istituto d'Igiene
Chemistry and introduction to biochemistry	**(exam n. 1)**		
F. Malatesta – **B. Vallone**	Mon	12-14	C1 – Istituto d'Igiene
	Wed	12-14	C1 – Istituto d'Igiene
	Thu	12-14	C1 – Istituto d'Igiene
	Fri	12-14	C1 – Istituto d'Igiene
Medical physics	**(exam n. 2)**		
R. Pani	Wed	10-12	C1 – Istituto d'Igiene
Additional activities: L. De Sio	Thu	11-12	C1 – Istituto d'Igiene
	Fri	10-12	C1 – Istituto d'Igiene
Biology and genetics (I)	**(ongoing examination)**		
F. Citarella – M. Devoto – P. Fortina – L. Stefanini	Tue	09-11	C1 – Istituto d'Igiene
	Thu	15-17	C1 – Istituto d'Igiene
Human anatomy (I)	**(ongoing examination)**		
R. Mancinelli **- L. Pannarale**	Mon	09-11	C1 – Istituto d'Igiene
	Thu	09-11	C1 – Istituto d'Igiene

2nd SEMESTER (coordinator of semester: F. Malatesta)

Basic medical scientific methods (II)	**(exam n. 3)**		
M.S. Cattaruzza **–** G. La Torre – C.M. Rossi Arnaud – P. Montello	Mon	09-11	C1 – Istituto d'Igiene
	Thu	09-11	C1 – Istituto d'Igiene
Biology and genetics (II)	**(exam n. 4)**		
F. Citarella – M. Devoto – P. Fortina – L. Stefanini	Mon	11-14	C1 – Istituto d'Igiene
	Wed	11-14	C1 – Istituto d'Igiene
Histology and embryology	**(exam n. 5)**		
S. Adamo – D. Coletti	Tue	11-13	C1 – Istituto d'Igiene
Additional activities: V. Moresi	Thu	11-13	C1 – Istituto d'Igiene
	Fri	11-13	C1 – Istituto d'Igiene
Biochemistry (I)	**(ongoing examination)**		
D. De Biase **- F. Malatesta** - M. Perluigi	Tue	09-11	C1 – Istituto d'Igiene
	Wed	09-11	C1 – Istituto d'Igiene
	Fri	09-11	C1 – Istituto d'Igiene

2nd Year

1st SEMESTER (coordinator of semester: M. Muscaritoli)

Basic medical scientific methods (III) **(exam n. 5)**

M. Capocci - A. Farcomeni - P. Grammatico - **M. Muscaritoli**

Mon	09-11	Ex Officine Ortopediche
Tue	09-11	Ex Officine Ortopediche
Thu	09-11	Ex Officine Ortopediche

Biochemistry (II) **(exam n. 6)**

D. De Biase - F. Malatesta - M. Perluigi

Mon	11-13	Ex Officine Ortopediche
Wed	10-12	Ex Officine Ortopediche
Thu	11-13	Ex Officine Ortopediche

Human anatomy (II) **(ongoing examination)**

G. Familiari - E. Gaudio – **S. Nottola** – M. Relucenti

Additional activities: G. Vivacqua

Tue	11-13	Ex Officine Ortopediche
Fri	09-11	Ex Officine Ortopediche

Human physiology (I) **(ongoing examination)**

F. Grassi - **C. Limatola** – C. Savoia

Wed	12-14	Ex Officine Ortopediche
Fri	11-14	Ex Officine Ortopediche

2nd SEMESTER (coordinator of semester: F. Grassi)

Clinical scientific methods (IV) **(ongoing examination)**

M. Arca – L. Giacomelli

Additional activities: R. Cangemi, A. Metere

Wed	10-13	Ex Officine Ortopediche
Wed	15-17/ 14.30-19.30	Ex Officine Ortopediche

Human anatomy (III) **(exam n. 7)**

E. Gaudio – R. Mancinelli - S. Nottola – M. Relucenti

Additional activities: G. Vivacqua

Tue	10-12	Ex Officine Ortopediche
Thu	10-12	Ex Officine Ortopediche

Human physiology (II) **(ongoing examination)**

F. Grassi – C. Limatola - M. Merli – A.P. Mitterhofer – P. Palange

Tue	09-10	Ex Officine Ortopediche
Thu	09-10	Ex Officine Ortopediche
	12-14	Ex Officine Ortopediche
Fri	09-11	Ex Officine Ortopediche

Microbiology **(exam n. 8)**

G. Antonelli – D. Modiano - A.T. Palamara

Mon	11-14	Ex Officine Ortopediche
Fri	11-14	Ex Officine Ortopediche

Scientific English – Journal Club (II) **(ongoing examination)**

Lucia Stefanini

Tue	12-14	Ex Officine Ortopediche

3rd YEAR

1st SEMESTER (coordinator of semester: G. Palmieri)

Clinical scientific methods (V) — **(ongoing examination)**

M. Arca – R. Cangemi - L. Giacomelli – C. Violani
Additional activities:A. Metere

Wed	10-13	Ex Officine Ortopediche
Wed	15-18	Ex Officine Ortopediche

Human physiology (III) — **(exam n. 9)**

S. Ferraina
Additional activities: E. Brunamonti

Tue	14-16	Ex Officine Ortopediche

Immunology and immunopathology — **(exam n. 10)**

S. Mardente – G. Palmieri - **A. Santoni**

Tue	11-13	Ex Officine Ortopediche
Thu	09-12	Ex Officine Ortopediche

Laboratory medicine (I) — **(ongoing examination)**

P. Valenti – D. Modiano – A. Bellelli – **A. Angeloni**
Additional activities: R. Pascone, M. Santulli

Mon	13-15	Ex Officine Ortopediche
Fri	13-15	Ex Officine Ortopediche

Pathology and pathophysiology (I) — **(ongoing examination)**

G. Canettieri – E. De Smaele - **M. Felli**

Tue	09-11	Ex Officine Ortopediche
Thu	12-14	Ex Officine Ortopediche

2nd SEMESTER (coordinator of semester: E. De Smaele)

Clinical scientific methods (VI) — **(exam n. 11)**

M. Arca – F. Consorti – L. Giacomelli
Additional activities: R. Cangemi, A. Metere

Tue	14-17	Ex Officine Ortopediche
Wed	14-17	Ex Officine Ortopediche

Pathology and pathophysiology (II) — **(exam n. 12)**

G. Canettieri - E. De Smaele – M. Felli – E. Ferretti - **G. Giannini**

Tue	09-11	Ex Officine Ortopediche
Thu	9:30-12:30	Ex Officine Ortopediche

Laboratory medicine (II) — **(exam n. 13)**

A. Angeloni – A. Bellelli - F. Mainiero
Additional activities: R.Pascone, M. Santulli

Tue	11-13	Ex Officine Ortopediche
Thu	13:30-15:30	Ex Officine Ortopediche

Scientific English – Journal Club (III) — **(ongoing examination)**

F. Grassi

Wed	10-13	Ex Officine Ortopediche

4th YEAR

1st SEMESTER (coordinator of semester: G. d'Amati)

Applied medical scientific methods (VII) **(ongoing examination)**
F. Angelico – A. Frustaci – **R. Gattuso**

Tue	11-12	Ex Officine Ortopediche
Thu	14-15	Ex Officine Ortopediche

Applied pathology I **(exam n. 14)**
F. Fedele – P. Palange – L. Di Marzo - C. Savoia - F. Venuta
Additional activities: E. Greco, P. Severino

Tue	09-11	Ex Officine Ortopediche
Wed	11-13	Ex Officine Ortopediche
Thu	09-11	Ex Officine Ortopediche
Fri	09-11	Ex Officine Ortopediche

Applied patholgy II **(exam n. 15)**
G. Franco - **S. Mazzaferro -** A. Tubaro
Additional activities: M.Pasquali

Tue	12-14	Ex Officine Ortopediche
Thu	12-14	Ex Officine Ortopediche

Pathological anatomy and associations with clinical anatomy (I) **(ongoing examination)**
G. d'Amati – C. Giordano

Wed	09-11	Ex Officine Ortopediche
Fri	11-13	Ex Officine Ortopediche

Scientific English – Journal Club (IV) **(ongoing examination)**
Lucia Stefanini

Thu	11-12	Ex Officine Ortopediche

2nd SEMESTER (coordinator of semester: O. Riggio)

Applied medical scientific methods (VIII) **(exam n. 16)**
F. Angelico – M. Muscaritoli – O. Riggio

To be defined		Ex Officine Ortopediche
		Ex Officine Ortopediche

Pathological anatomy and associations with clinical anatomy (II) **(exam n. 17)**
G. d'Amati – **C. Giordano**

Tue	11-13	Ex Officine Ortopediche

Applied pathology III **(exam n. 18)**
D. Alvaro – **S. Ginanni Corradini** – L. Gnessi - F. Lombardo – G. Mennini
Additional activities: F. Ferri

Mon	15-17	Ex Officine Ortopediche
Tue	15-17	Ex Officine Ortopediche
Thu	15-17	Ex Officine Ortopediche
Fri	15-17	Ex Officine Ortopediche

Diagnostic imaging **(exam n. 19)**
C. Catalano – M. Francone – A. Laghi

Wed	11-12	Ex Officine Ortopediche
	15-17	Ex Officine Ortopediche
Fri	11-13	Ex Officine Ortopediche

Pharmacology (I) **and toxicology** **(ongoing examination)**
F. Nicoletti – **S. Maccari**

Mon	11-13	Ex Officine Ortopediche
Wed	12-13	Ex Officine Ortopediche

5th YEAR

1st SEMESTER (coordinator of semester: I. Quinti)

Applied Pathology IV **(exam n. 20)**

F. Conti - S. Chiaretti - **R. Foà** – I. Quinti **–** G. Valesini	Wed	14-16	B – II Clinica Medica
	Fri	13-15	B – II Clinica Medica

Medical-scientific methods: public health (IX) **(Ongoing examination)**

G.B. Orsi – S. De Sio	Mon	16-18	B – II Clinica Medica
	Wed	16-18	B – II Clinica Medica

Applied pathology V **(exam n. 21)**

M.R. Ciardi – A. Isidori - M. Lichtner	Mon	13-16	B – II Clinica Medica
Additional activities: S. Vita, M. Iannetta	Thu	13-16	B – II Clinica Medica

Diseases of the nervous system **(exam n. 22)**

A. Berardelli – R. Delfini	Fri	15-17	B – II Clinica Medica
Additional activities:M. Fiorelli, A. Suppa			

Pharmacology (II) and toxicology **(exam n. 24)**

F. Nicoletti - S. Maccari	Tue	13-18	B – II Clinica Medica

2nd SEMESTER (coordinator of semester: P. Martelletti)

Internal medicine and general surgery I **(exam n. 23)**

P. Marchetti - **P. Martelletti** - G. Nigri **–** M. F. Osti	Mon-	13-14*	B – II Clinica Medica
	Fri		B – II Clinica Medica
	Wed	13-17	

Psychiatry and Clinical Psychology **(exam n. 25)**

M. Biondi – L. Tarsitani - C. Violani	Mon-Fri	13-14*	B – II Clinica Medica
	Tue	14-16	

Movement Disorders, Rheumatology **(exam n. 26)**

R. Scrivo **– G. Costanzo**	Tue	16-17*	B – II Clinica Medica
	Wed	16-17	
	Thu	14-17	

Dermatology and plastic surgery **(exam n. 27)**

F. Santanelli di Pompeo – **A. Tammaro**	Mon-Fri	13-14*	B – II Clinica Medica
Additional activities:B. Longo	Wed	14-16	B – II Clinica Medica
	Fri	14-16	

Diseases of the sensory organs **(exam n. 28)**

M. Barbara – U. Romeo – L. Spadea **–** V. Valentini	Mon	14-16*	B – II Clinica Medica
Additional activities:F. Atturo, E. Covelli, M. Della Monaca	Tue	14-17	B – II Clinica Medica
	Thu	15-17	B – II Clinica Medica
	Fri	14-16	

Scientific English (V) **(exam n. 29)**

Lucia Stefanini	Mon	16-17	B – II Clinica Medica

*****Variations from one month to the other

6th YEAR

1st SEMESTER (coordinator of semester: S. Basili)

Medical scientific methods: public health (X)		**(exam n.30)**	
G. Citoni – P. Villari	See online schedule		Aula Castrini Aula Castrini
Internal medicine and general surgery II		**(exam n. 31)**	
S. Basili – P. Chirletti – M. Del Ben – G. Piccirillo – M. Rossi *Additional activities: R. Cangemi, R. Caronna*	See online schedule		Aula Castrini Aula Castrini
Paediatrics		**(exam n. 32)**	
S. Cucchiara – V. Leuzzi – F. Midulla *Additional activities: S. Oliva, G. Terrin*	See online schedule		Aula Castrini Aula Castrini
Obstetrics and Gynaecology		**(exam n. 33)**	
F. Bellati – **D. Caserta** – M.P. Villa *Additional activities: P. Bianchi, A. Lukic*	See online schedule		Aula Castrini Aula Castrini

2nd SEMESTER (coordinator of semester: F. Consorti)

Medical scientific methods: forensic medicine, medicine and the law (XI)		**(exam n. 34)**	
N.M. Di Luca	See online schedule		Aula Castrini Aula Castrini
Internal medicine and general surgery III		**(exam n. 35)**	
F. Consorti – C. Durante – **S. Filetti** – M. Maranghi	See online schedule		Aula Castrini Aula Castrini
Emergency medicine and surgery		**(exam n. 36)**	
G. Bertazzoni – C. Catalano - G. Cinotti - L. di Marzo – A. Mingoli – M. Ranieri – D. Toni	See online schedule		Aula Castrini Aula Castrini

7. Teaching staff: Contact information

Adamo Sergio *(BIO/17 Istologia)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Histology and Medical Embryology, Via A. Scarpa 14
☎: 06.49766756 - *Fax*: 06.4462854; *E-mail*: sergio.adamo@uniroma1.it
Reception hours: Monday thru Friday, 10 a.m.- 4 p.m. (by e-mail or phone appointment)

Alvaro Domenico *(MED/12 Gastroenterologia)*
Department of Medico-Surgical Sciences and Biotechnologies
Location: Dipartinmento di Scienze e Biotecnologie Medico-chirurgiche, Corso della Repubblica 79, Latina
☎: 06.49972023; *E-mail*: domenico.alvaro@uniroma1.it
Reception hours: Tuesday and Wednesday 9 a.m.-1 p.m. by appointment

Angelico Francesco (*MED/09 Medicina Interna***)**
Department of Public Health and Infectious Diseases
Location: Policlinico Umberto I, Build. 7, ground floor - Day Service of Internal Medicine and Metabolic Diseases
☎: 06.49972249; *E-mail:* francesco.angelico@uniroma1.it
Reception hours: Monday-Thursday 11 a.m.-12 p.m.

Angeloni Antonio *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Viale Regina Elena 324
☎: 06.49978500 - *Fax*: 06.49970596; *E-mail*: antonio.angeloni@uniroma1.it
Reception hours: Tuesday, Wednesday, Thursday and Friday 10 a.m.-1 p.m.

Antonelli Guido *(MED/07 Microbiologia e Microbiologia Clinica)*
Department of Molecular Medicine
Location: Section of Virology, V.le di Porta Tiburtina 28
☎: 06.44741220 - *Fax*: 06.44741236; *E-mail*: guido.antonelli@uniroma1.it
Reception hours: Thursday 11 a.m.-1 p.m. and by appointment

Arca Marcello *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: Policlinico Umberto I, Building I Clinica Medica
☎: 06.49974550; *E-mail*: marcello.arca@uniroma1.it
Reception hours: Tuesday 12 p.m.-2 p.m. by appointment

Barbara Maurizio *(MED/31 Otorinolaringoiatria)*
Department of Neurosciences , Mental Health and Sensory Organs
Location: St. Andrea University Hospital
☎: 06.33775628 - *F*ax: 06.33775058; *E-mail*: maurizio.barbara@uniroma1.it

Basili Stefania *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: V.le del Policlinico 155
☎: 06.49974678; *E-mail*: stefania.basili@uniroma1.it
Reception hours: Monday 12 p.m.-4.30 p.m. by appointment

Bellati Filippo *(MED/40 Ginecologia e Ostetricia)*
Department of Surgical and Medical Sciences and Translational Medicine
Location: Clinica Ostetrica, Policlinico *Umberto I*
☎: 06.4940550; *E-mail*: filippo.bellati@uniroma1.it
Reception hours: Wednesday and Thursday 10 a.m. to 12 p.m.

Bellelli Andrea *(BIO/10 Biochimica)*
Department of Biochemical Sciences "Alessandro Rossi Fanelli"
☎: 06.49910556; *E-mail*: andrea.bellelli@uniroma1.it
Reception hours: Monday 3 p.m.- 6 p.m.

Berardelli Alfredo *(MED/26 Neurologia)*
Department of Neurology and Psychiatry
Location: Viale dell'Università 30, 2nd floor
☎: 06.049914700; *E-mail*: alfredo.berardelli@uniroma1.it
Reception hours: by e-mail appointment

Bertazzoni Giuliano *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: Auletta Ferro Luzzi, intermediate storey Palazzo Centrale, Policlinico *Umberto I*
☎: 06.49970695- *Fax*: 06.49970821; *E-mail*: giuliano.bertazzoni@uniroma1.it
Reception hours: from Monday to Friday 1 p.m. to 2 p.m.

Biondi Massimo *(MED/25 Psichiatria)*
Department of Neurology and Psychiatry
Location: V.le dell'Università, 30
☎: 06.49914591- *F*ax: 064454765; *E-mail*: massimo.biondi@uniroma1.it
Reception hours: by appointment

Brunamonti Emiliano *(BIO/09 Fisiologia)*
Department of Physiology and Pharmacology "Vittorio Erspamer"
Location: Palazzo Fisiologia Umana, Città Universitaria
☎: 06.49690389; *E-mail*: emiliano.brunamonti@uniroma1.it
Reception hours: by appointment

Canettieri Gianluca *(MED/04 Patologia Generale)*
Department of Molecular Medicine
Location: Viale Regina Elena 291
☎: 06.49255130– *Fax:* 06.49255660; *E-mail*: gianluca.canettieri@uniroma1.it
Reception hours: by appointment

Cangemi Roberto *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: Building I Clinica Medica, 2nd floor (Torre di Ricerca), room 19
☎: 06.49970164; *E-mail*: roberto.cangemi@uniroma1.it
Reception hours: 1 p.m.-2 p.m.

Capocci Mauro *(MED/02 Storia della Medicina)*
Department of Medical-Surgical Sciences and Biotechnologies
Location: Section of History of Medicine, Viale dell'Università 34/a
☎: 06.4451721 - *Fax*: 06.4451721; *E-mail*: mauro.capocci@uniroma1.it
Reception hours: by appointment

Caserta Donatella (*MED/40 Ginecologia e Ostetricia***)**
Department of Surgical and Medical Sciences and Translational Medicine
Location: Sant'Andrea Hospital, 2nd floor
☎:06.33775381; *E-mail*: donatella.caserta@uniroma1.it
Reception hours: by appointment

Catalano Carlo (*MED/50 Scienze Tecniche Mediche Applicate*)
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Policlinico Umberto I, Building Radiologia Centrale, 2nd floor
☎: 0649975464 and 5475- *Fax:* 06.490243*; E-mail:* carlo.catalano@uniroma1.it
Reception hours: Monday 1 p.m.-2 p.m.

Cattaruzza Maria Sofia *(MED/42 Igiene Generale ed Applicata)*
Department of Public Health and Infectious Diseases
Location: P.le A. Moro 5, Dept. Public Health and Infectious Diseases, 1st Floor, room 29
☎: 06.49914076 – *Fax:* 06.4454845; *E-mail*: mariasofia.cattaruzza@uniroma1.it
Reception hours: by appointment

Chiaretti Sabina *(MED/15 Ematologia)*
Department of Cellular Biotechnology and Hematology
Location: Via Benevento 6, Centro di Ematologia Umberto I
☎: 06.441639824; *E-mail*: chiaretti@bce.uniroma1.it
Reception hours: by appointment

Chirletti Piero (*MED/18 Chirurgia Generale***)**
Department of Surgical Sciences
Location: General Surgery N (ex IV Clinica Chirurgica), 3rd floor
☎: 06.49970385; *E-mail*: piero.chirletti@uniroma1.it/segreteriachirletti@uniroma1.it
Reception hours: Tuesday 10 a.m. to 1 p.m. by appointment

Ciardi Maria Rosa *(MED/17 Malattie Infettive)*

Department of Public Health and Infectious Diseases
Location: Viale del Policlinico 155
☎: 06.491749/06.49970311 - *F*ax: 0649972625; *E-mail*: maria.ciardi@uniroma1.it
Reception hours: by appointment

Cinotti Gianluca *(MED/33 Malattie Apparato Locomotore)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
E-mail: gianluca.cinotti@uniroma1.it
Reception hours: Monday and Wednesday 9.30 a.m.-1.30 p.m.

Citarella Franca *(BIO/13 Biologia Applicata)*
Department of Cellular Biotechnology and Hematology
Location: Section of Molecular Genetics, Viale Regina Elena 324
☎: 06.49918243; *E-mail*: citarella@bce.uniroma1.it
Reception hours: Wednesday 2 p.m.-4 p.m.

Citoni Guido *(SECS-P/06 Economia Applicata)*
Department of Molecular Medicine
Location: Centro Didattico Polifunzionale, Policlinico *Umberto I*
☎: 06.49970251- *Fax*: 06.4958348; *E-mail*: guido.citoni@uniroma1.it
Reception hours: by appointment

Coletti Dario *(BIO/17 Istologia)*
Department of Anatomical, Histological, Forensic and Orthopedic
Location: Section of Histology and Medical Embryology, Via A. Scarpa 14
☎: 06.49766643- *Fax*: 06.4462854; *E-mail*: dario.coletti@uniroma1.it
Reception hours: by appointment

Consorti Fabrizio *(MED/18 Chirurgia Generale)*
Department of Surgical Sciences
☎: 06.49970634; *E-mail*: fabrizio.consorti@uniroma1.it
Reception hours: by appointment

Conti Fabrizio *(MED/16 Reumatologia)*
Department of Internal Medicine and Medical Specialities
Location: Viale del Policlinico 155
☎: 06.49974661 - *Fax*: 06.49974670; *E.mail*: fabrizio.conti@uniroma1.it
Reception hours: Monday 1.30 p.m.- 2.30 p.m.

Costanzo Giuseppe *(MED/33 Malattie Apparato Locomotore)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
E-mail: giuseppe.costanzo@uniroma1.it
Reception hours: by appointment

Cucchiara Salvatore *(MED/38 Pediatria Generale e Specialistica)*
Department of Pediatrics and pediatric Neuropsychiatry
Location: Policlinico Umberto I, V.le Regina Elena 324
☎: 06.49979326/4- *Fax*: 06.49979325/06 62277415; *E-mail*: salvatore.cucchiara@uniroma1.it
Reception hours: by appointment

d'Amati Giulia *(MED/08 Anatomia Patologica)*
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324, Building of General Pathology/ Anatomic Pathology
☎: 06.49973332; *E-Mail:* giulia.damati@uniroma1.it
Reception hours: Wednesday 3 p.m.-4 p.m.

De Biase Daniela *(BIO/10 Biochimica)*
Department of Medico-Surgical Sciences and Biotechnologies
☎: 0773.1757212 (Latina), 06 49917692 (Roma); *E-mail*: daniela.debiase@uniroma1.it
Reception hours: Thursday 10 a.m.-12 p.m. (Latina) and Friday 2 p.m.-3 p.m. (Rome)

Del Ben Maria *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: I Clinica Medica, Torre di Ricerca, room 21, 2nd floor, Policlinico *Umberto I*
☎: 0649970104 - *Fax*: 06.49972249; *E-mail*: maria.delben@uniroma1.it
Reception hours: Tuesday 12 p.m. to 2 p.m.

Delfini Roberto *(MED/27 Neurochirurgia)*

Department of Neurology and Psychiatry
Location: V.le del Policlinico, 155
☎: 06.49979105 - *Fax*: 06.4940941; *E-mail*: delfiniroberto@gmail.com, roberto.delfini@uniroma1.it
Reception hours: by appointment

De Sio Simone *(MED/44 Medicina del Lavoro)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Viale Regina Elena 336
☎: 06.49912174; *E-mail*: simone.desio@uniroma1.it
Reception hours: by appointment

De Smaele Enrico *(MED/46 Scienze Tecniche di Medicina di Laboratorio)*
Department of Experimental Medicine
Location: Viale Regina Elena 291, 2nd floor
☎: 06.49255659; *E-mail*: enrico.desmaele@uniroma1.it
Reception hours: by e-email appointment

Devoto Marcella *(MED/03 Genetica Medica)*
Department of Molecular Medicine
Location: Viale Regina Elena 324
☎: 06.44160573 – *Fax*: 06.44160548; *E-mail*: marcella.devoto@uniroma1.it
Reception hours: by e-mail appointment

Di Luca Natale Mario *(MED/43 Medicina Legale)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Viale Regina Elena 336
☎: 06.49912607; *E-mail*: natalemario.diluca@uniroma1.it
Reception hours: by appointment

Di Marzo Luca *(MED/22 Chirurgia Vascolare)*
Department of Surgery " Pietro Valdoni"
Location: Dipartimento di Chirurgia *P. Valdoni*, Policlinico *Umberto I*
☎: 06.49970683- *Fax*: 06.49970794; *E-mail*: luca.dimarzo@uniroma1.it
Reception hours: Saturday 8.30 a.m. to 10.30 a.m (by e-mail appointment)

Durante Cosimo *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: II Clinica Medica, 4th floor, room 432, Policlinico *Umberto I*
☎: 06.49978390- *Fax*: 06.4463783; *E-mail*: cosimo.durante@uniroma1.it
Reception hours: Monday 12 p.m. to 2 p.m.

Familiari Giuseppe *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Human Anatomy, Via Alfonso Borelli 50
☎: 06.49918086 – *Fax:* 06.49918040; *E-mail*: giuseppe.familiari@uniroma1.it
Reception hours: Monday 10 a.m.-12 p.m. by appointment

Farcomeni Alessio *(MED/01 Statistica Medica)*
Department of Public Health and Infectious Diseases
E-mail: alessio.farcomeni@uniroma1.it
Reception hours: by e-mail appointment

Fedele Francesco *(MED/11 Malattie dell'Apparato Cardiovascolare)*
Department of Cardiovascular, Respiratory,Geriatric Nephrology and Anaesthetic Sciences
Location: Policlinico Umberto I, Building VIII Padiglione
☎: 06.49979021 - *Fax*: 06.49979060; *E-mail*: francesco.fedele@uniroma1.it
Reception hours: Tuesday 12 p.m. - 2 p.m.

Felli Maria Pia *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Laboratory of Molecular Pathology (4th floor), Viale Regina Elena 291
☎: 06-49255673 – *Fax :* 06-49255671; *E-mail*: mariapia.felli@uniroma1.it
Reception hours: by appointment

Ferraina Stefano *(BIO/09 Fisiologia)*
Department of Physiology and Pharmacology "Vittorio Erspamer"
Location: Building Fisiologia Umana, Città Universitaria
☎: 06.49910306; *E-mail*: stefano.ferraina@uniroma1.it

Reception hours: Thursday 11 a.m.-1 p.m.

Ferretti Elisabetta *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Viale Regina Elena 291
☎: 06.49255135 - *Fax:* 06. 49255660; *E-mail*: elisabetta.ferretti@uniroma1.it
Reception hours: by appointment

Filetti Sebastiano *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: Policlinico Umberto I, II Clinica Medica, 1st floor
☎: 06.49978304; *E-mail*: sebastiano.filetti@uniroma1.it
Reception hours: Monday 8.30 a.m.-10.30 a.m.

Foà Roberto *(MED/15 Malattie del Sangue)*
Department of Cellular Biotechnology and Hematology
Location: Section of Hematology, Via Benevento, 6
☎: 06.85795753 - *Fax:* 06.49974792; *E-mail*: rfoa@bce.uniroma1.it
Reception hours: by appointment

Fortina Paolo *(MED/03 Genetica Medica)*
Department of Molecular Medicine
Location: Viale Regina Elena 324
☎: 06.44160573; *E-mail*: paolo.fortina@uniroma1.it
Reception hours: by e-mail appointment

Franco Giorgio *(MED/24 Urologia)*
Department of Gynecology-Obstetrics and Urology
Location: Viale del Policlinico, 155
☎: 06.49974260 - *Fax:* 06.49974278, *E-mail*: giorgio.franco@uniroma1.it, giorgio.franco@libero.it

Francone Marco *(MED/36 Diagnostica per Immagini e Radioterapia)*
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Building Radiologia Centrale
E-mail: marco.francone@uniroma1.it
Reception hours: by appointment

Frustaci Andrea *(MED/11 Malattie dell'Apparato Cardiovascolare)*
Department of Cardiovascular, Respiratory, Geriatric Nephrology and Anaesthetic Sciences
Location: Viale del Policlinico 155
E-mail: andrea.frustaci@uniroma1.it
Reception hours: by appointment

Gattuso Roberto *(MED/22 Chirurgia Vascolare)*
Department of General Surgery, surgical specialties and organ transplants
Location: Policlinico Umberto I, Building II padiglione
☎: 06.49970225 ; *E-mail*: gattuso.r@libero.it
Reception hours: Thursday 11 a.m.-12.30 p.m.

Gaudio Eugenio *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Rector's Office, 1st floor, Piazzale Aldo Moro 5
☎: 06.49910020/06.49910292 - *Fax*: 06.49910382; *E-mail*: eugenio.gaudio@uniroma1.it
Reception hours: Friday 12.30 p.m.-1.30 p.m.by appointment

Giacomelli Laura *(MED/18 Chirurgia Generale)*
Department of Surgical Sciences
Location: DAI Chirurgia "R. Paolucci", Viale Regina Elena 324
☎: 06.49975537; *E-mail*: laura.giacomelli@uniroma1.it
Reception hours: Monday 10 a.m.-12 a.m.

Giannini Giuseppe *(MED/04 Patologia Generale)*
Department of Molecular Medicine
Location: Viale Regina Elena 291
☎: 06.49255136; *E-mail*: giuseppe.giannini@uniroma1.it
Reception hours: by appointment

Ginanni Corradini Stefano *(MED/12 Gastroenterologia)*

Department of Clinical Medicine
Location: Viale dell'Università 37, 4th floor, room A IV 8
☎: 06.49972086 *E-mail*: stefano.corradini@uniroma1.it
Reception hour: by appointment (e-mail)

Giordano Carla *(MED/08 Anatomia Patologica)*
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324, Building of General Pathology/ Anatomic Pathology
☎: 06.49973332; *E-mail*: giordano.carla@uniroma1.it
Reception hour: Wednesday 2 p.m.-3 p.m.

Gnessi Lucio *(MED/09 Medicina Interna)*
Department of Experimental Medicine
Location: Policlinico Umberto I, Viale Regina Elena 324
☎: 06.49970542/06.49970509; *E-mail*: lucio.gnessi@uniroma1.it
Reception hour: Wednesday 2 p.m.-3 p.m.

Grammatico Paola *(MED/03 Genetica Medica)*
Department of Molecular Medicine
Location: Medical Genetics Laboratory, San Camillo-Forlanini Hospital, Circ.ne Gianicolense 87
☎: 06.58703210 – *Fax:* 06.58704646; *E-mail*: paola.grammatico@uniroma1.it
Reception hours: From Monday to Friday 9 a.m.-1 p.m. by appointment

Grassi Francesca *(BIO/09 Fisiologia)*
Department of Physiology and Pharmacology "Vittorio Erspamer"
Location: Section of Human Physiology, P.le Aldo Moro 5, 3rd floor
☎: 06.49910060; *E-mail*: francesca.grassi@uniroma1.it
Reception hours: by appointment

Gualdi Gianfranco *(MED/50 Scienze Tecniche Mediche Applicate)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324
E-mail: gianfranco.gualdi@uniroma1.it
Reception hours: by appointment

Isidori Andrea *(MED/13 Endocrinologia)*
Department of Experimental Medicine
Location: V Medical Clinic, Viale Regina Elena 324
☎: 0649970540 ; *E-mail*: andrea.isidori@uniroma1.it
Reception hours: Tuesday 9.30 a.m.-11 a.m.

Laghi Andrea *(MED/36 Radiologia)*
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Policlinico Umberto I, Building Radiologia Centrale
☎: 06.49975461; *E-mail*: andrea.laghi@uniroma1.it;
Reception hours: Wednesday 3 p.m.-5 p.m.

La Torre Giuseppe *(MED/50 Scienze Tecniche Mediche Applicate)*
Department of Public Health and Infectious Diseases
Location: Istituto d'Igiene, Citta Universitaria
☎:06.49694308; *E-mail*: giuseppe.latorre@uniroma1.it
Reception hours: Tuesday 12 p.m.-1 p.m.

Leuzzi Vincenzo *(MED/39 Neuropsichiatria Infantile)*
Department of Pediatrics and Pediatric Neuropsychiatry
E-mail: vincenzo.leuzzi@uniroma1.it
Reception hours: by appointment

Lichtner Miriam *(MED/17 Malattie Infettive)*
Department of Public Health and Infectious Diseases
Location: Viale del Policlinico 155, Rome (Research Laboratory), Via Canova Latina (UOC Malattie Infettive)
☎: 06.49970614 (lab) - *F*ax: 06.49972625/ 0773.6553788 (Ward); *E-mail*: miriam.lichtner@uniroma1.it
Reception hours: Wednesday 12 p.m.- 4 p.m. by e-mail appointment

Limatola Cristina *(BIO/09 Fisiologia)*
Department of Physiology and Pharmacology "Vittorio Erspamer"
Location: Section of Human Physiology, P.le Aldo Moro 5, I floor
☎: 06.49690243 – *Fax:* 06.49910851; *E-mail*: cristina.limatola@uniroma1.it

Reception hours: Monday 9 a.m.-1 p.m.

Lombardo Francesco *(MED/50 Scienze Tecniche Mediche Applicate)*
Department of Experimental Medicine
Location: Viale del Policlinico, 155
☎: 06.4469663– *Fax:* 06.49970717; *E-mail*: francesco.lombardo@uniroma1.it
Reception hours: by appointment

Maccari Stefania *(MED/48 Scienze Infermieristiche e Tecniche Neuro-Psichiatriche e Riabilitative)*
Department of Medical-Surgical Sciences and Biotechnologies
E-mail: stefania.maccari@uniroma1.it
Reception hours: by appointment

Mainiero Fabrizio *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Viale Regine Elena 324
☎: 06.49970966 – *Fax* : 06.4453244; *E-mail*: fabrizio.mainiero@uniroma1.it
Reception hours: by appointment

Malatesta Francesco *(BIO/10 Biochimica)*
Department of Biochemical Sciences "Alessandro Rossi Fanelli"
Location: P.le Aldo Moro 5
☎*:* 06.4454952- *Fax:* 06.4440062*; E-mail:* francesco.malatesta@uniroma1.it
Reception hours: Monday and Friday 2.30 p.m.-4 p.m.

Mancinelli Romina *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Human Anatomy, Via Alfonso Borelli 50, 2nd floor
☎: 06.49918063 – *Fax:* 06.49918062; *E-mail*: romina.mancinelli@uniroma1.it
Reception hours: Thursday 11 a.m.-12 p.m.

Maranghi Marianna *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: ex II Clinica Medica, 4th floor, room 433
☎: 06.49978391; *E-mail*: marianna.maranghi@uniroma1.it
Reception hours: Monday 1 p.m.-2.30 p.m.

Marchetti Paolo *(MED/06 Oncologia Clinica)*
Department of Clinical and Molecular Medicine
Location: Sant' Andrea Hospital, Via di Grottarossa, 1039
☎: 06.33775831 – *Fax:* 0633776663; *E-mail*: paolo.marchetti@uniroma1.it
Reception hours: by appointment

Mardente Stefania *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Istituto di Patologia Generale, 1st floor
☎: 06.49970662; *E-mail*: stefania.mardente@uniroma1.it
Reception hours: Tuesday 10 a.m.-12 p.m.

Martelletti Paolo *(MED/09 Medicina Interna)*
Department of Clinical and Molecular Medicine
Location: Sant'Andrea Hospital
☎: 06.33775111 - *Fax:* 06.33775110; *E-mail*: paolo.martelletti@uniroma1.it
Reception hours: Monday and Friday 12 p.m.-1 p.m.

Mazzaferro Sandro *(MED/14 Nefrologia)*
Department of Cardiovascular, Respiratory, Geriatric Nephrology and Anaesthetic Sciences
Location: Policlinico Umberto I, Viale Regina Elena 324, Building I Clinica Medica
☎: 07736513096; *E-mail*: sandro.mazzaferro@uniroma1.it
Reception hours: Thursday 12 p.m.-1 p.m.

Mennini Gianluca *(MED/18 Chirurgia Generale)*
Department of General Surgery, Surgical Specialities and Organ Transplantation "Paride Stefanini"
E-mail: gianluca.mennini@uniroma1.it
Reception hour: by appointment (e-mail)

Merli Manuela *(MED/12 Gastroenterologia)*

Department of Clinical Medicine
Location: Viale dell'Università 37
☎: 06.49972001; *E-mail*: manuela.merli@uniroma1.it
Reception hours: by appointment (e-mail)

Midulla Fabio *(MED/38 Pediatria Generale e Specialistica)*
Department of Pediatrics and Pediatric Neuropsychiatry
Location: Deaprtment of Pediatrics, Policlinico Umberto I
☎: 06.49979363; *E-mail*: midulla@uniroma1.it
Reception hours: from Monday to Friday 9.30 a.m.-1 p.m. (by appointment)

Miele Adriana Erica *(BIO/10 Biochimica)*
Department of Biochemical Sciences "Alessandro Rossi Fanelli"
Location: P.le Aldo Moro 5
☎: 06.49910556- *Fax:* 06.4440062; *E-mail*: adriana.miele@uniroma1.it
Reception hours: by appointment (e-mail or telephone)

Mingoli Andrea *(MED/18 Chirurgia Generale)*
Department of Surgery " Pietro Valdoni"
Location: Policlinico Umberto I
☎: 06.49970445; *E-mail*: andrea.mingoli@uniroma1.it
Reception hours: by appointment

Mitterhofer Anna Paola *(MED/09 Medicina Interna)*
Department of Clinical Medicine
Location: Viale dell'Università 37
☎: 06.49972089- *Fax:* 06.49972089; *E-mail*: annapaola.mitter@uniroma1.it
Reception hours: Friday 10.30 a.m.-12.00 p.m.

Modiano David *(VET/06 Parassitologia)*
Department of Public Health and Infectious Diseases
Location: Section of Parasitology
☎: 06.33775629 - *Fax:* 06.49914653; *E-mail*: david.modiano@uniroma1.it
Reception hours: Monday 8.30 a.m.-10.30 a.m.

Muscaritoli Maurizio *(MED/09 Medicina Interna)*
Department of Clinical Medicine
Location: Viale dell'Università 37
☎: 06.49972020; *E-mail*: maurizio.muscaritoli@uniroma1.it
Reception hours: Monday 11 a.m.-1 p.m.

Nicoletti Ferdinando *(BIO/14 Farmacologia)*
Department of Physiology and Pharmacology "Vittorio Erspamer"
Location: Piazzale Aldo Moro, 5
☎: 06.49912969; *E-mail*: ferdinandonicoletti@hotmail.com
Reception hours: by appointment

Nigri Giuseppe *(MED/18 Chirurgia Generale)*
Department of Medical and Surgical Sciences and Translational Medicine
Location: St. Andrea University Hospital, Via di Grottarossa 1035
☎: 06.33776746/5634/7746; *E-mail*: giuseppe.nigri@uniroma1.it
Reception hours: by appointment

Nottola Stefania *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Human Anatomy, Via Alfonso Borelli 50
☎: 06.49918072- *Fax:* 06.49918081; *E-mail*: stefania.nottola@uniroma1.it
Reception hours: Tuesday and Thursday 10 a.m.-11 a.m. by appointment

Orsi Giovanni Battista *(MED/42 Igiene Generale ed Applicata)*
Department of Public Health and Infectious Diseases
Location: P.le Aldo Moro 5 Roma 00185
☎: 06.49914553 - *Fax*: 06.4454845; *E-mail*: giovanni.orsi@uniroma1.it
Reception hours: weekdays 9 a.m.-10 a.m.

Osti Mattia Falchetto *(MED/36 Diagnostica per Immagini e Radioterapia)*
Department of Surgical and Medical Sciences and Translational Medicine

Location: Ospedale Sant' Andrea, first floor, room 4, Radiotherapy
☎: 06.33775601 - *Fax:* 06.33776608; *E-mail*: mattiafalchetto.osti@uniroma1.it
Reception hours: Tuesday and Thursday 10 a.m.-12 p.m.

Palamara Anna Teresa *(MED/07 Microbiologia e Microbiologia Clinica)*
Department of Public Health and Infectious Diseases
Location: P.le Aldo Moro 5
☎: 06.49694311- *Fax:* 06.4468625; *E-mail*: annateresa.palamara@uniroma1.it
Reception hours: Thursday 12 p.m.-2 p.m.

Palange Paolo *(MED/09 Medicina Interna)*
Department of Public Health and Infectious Diseases
Location: Section of Internal Medicine, Viale dell'Università 37
☎: 06.4941110- *Fax:* 06.4941110; *E-mail*: paolo.palange@uniroma1.it
Reception hours: Tuesday 12 p.m.-1 p.m.

Palmieri Gabriella *(MED/04 Patologia Generale)*
Department of Experimental Medicine
Location: Policinico Umberto I, Viale Regina Elena 324, Building Patologia Generale, 1st floor
☎: 06.4468448; *E-mail*: gabriella.palmieri@uniroma1.it
Reception hours: by appointment

Pani Roberto *(FIS/07 Fisica Applicata)*
Department of Molecular Medicine
Location: Building Banca Unicredit - Fisica Sanitaria -1st floor, Policlinico Umberto I
☎: 06.49918277- *Fax:* 06.49918277; *E-mail*: roberto.pani@uniroma1.it
Reception hours: Thursday 2 p.m.- 4 p.m. by appointment

Pannarale Luigi *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Human Anatomy, Via Alfonso Borelli 50
☎: 06.49918058- *Fax:* 06.49918062; *E-mail*: luigi.pannarale@uniroma1.it
Reception hours: Thursday 10 a.m.-11 a.m.

Perluigi Marzia *(BIO/10 Biochimica)*
Department of Biochemical Sciences "Alessandro Rossi Fanelli"
Location: P.le Aldo Moro 5
☎: 06.49910885- *Fax:* 06.4440062; *E-mail*: marzia.perluigi@uniroma1.it
Reception hours: Monday and Wednesday 2 p.m.-3 p.m.

Piccirillo Gianfranco *(MED/09 Medicina Interna)*
Department of Cardiovascular, Respiratory, Nephrologic and Geriatric Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324
E-mail: gianfranco.piccirillo@uniroma1.it
Reception hours: by appointment

Quinti Isabella *(MED/09 Medicina Interna)*
Department of Molecular Medicine
Location: Viale dell'Università 37, DAI Internal Medicine, Immunology, Endocrinology and Nutrition
☎: 06.49972007 - *Fax:* 06.49972007; *E-mail*: isabella.quinti@uniroma1.it
Reception hours: by appointment

Ranieri Marco Vito *(MED/41 Anestesiologia)*
Department of Cardiovascular, Respiratory, Nephrologic and Geriatric Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324, D.A.I. Anestesia
E-mail: marco.ranieri@uniroma1.it
Reception hours: Tuesday 11 a.m.-12 p.m.

Relucenti Michela *(BIO/16 Anatomia Umana)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Human Anatomy, Via Alfonso Borelli 50
☎: 06.49918061- *Fax:* 06.49918040; *E-mail*: michela.relucenti@uniroma1.it
Reception hours: Monday 9 a.m.-10 a.m. by appointment

Riggio Oliviero *(MED/12 Gastroenterologia)*
Department of Clinical Medicine
Location: Dept. Of Clinical Medicine, Viale dell'Università 37
☎: 06.49972001; *E-mail*: oliviero.riggio@uniroma1.it

Reception hours: by appointment

Romeo Umberto *(MED/28 Malattie Odontostomatologiche)*
Department of Oral and Maxillofacial Sciences
Location: Via Caserta, 6, 2nd floor, room 212
☎: 06.49918165 - *Fax: 06.49976627; E-mail*: umberto.romeo@uniroma1.it

Rossi Massimo *(MED/18 Chirurgia Generale)*
Department of General Surgery, Surgical Specialities and Organ Transplantation "Paride Stefanini"
Location: Policlinico Umberto I, V.le del Policlinico 155
☎: 06.4450297; *E-mail*: massimo.rossi@uniroma1.it
Reception hours: Wednesday 11 a.m.-1 p.m. or by e-mail appointment

Rossi Arnaud Clelia Matilde *(M-PSI/01Psicologia Generale)*
Department of Psychology
Location: Dipartimento di Psicologia, 1st floor, room 16
☎: 06.44427513; *E-mail*: clelia.rossi-arnaud@uniroma1.it
Reception hours: Thursday 2.15 p.m.

Santanelli di Pompeo Fabio *(MED/19 Chirurgia Plastica)*
Department of Neurosciences, Mental Health and Sensory Functions (NESMOS)
Location: Department of Plastic Surgery, Sant'Andrea Hospital,Via di Grottarossa, 1035-39
☎: 06.33775692 - *Fax:* 06.33776691; *E-mail*: fabio.santanelli@uniroma1.it

Santoni Angela *(MED/04 Patologia Generale)*
Department of Molecular Medicine
☎: 06.44340632; *E-mail*: angela.santoni@uniroma1.it
Reception hours: by appointment

Savoia Carmine *(MED/11 Malattie dell'Apparato Cardiovascolare)*
Department of Clinical and Molecular Medicine
Location: Sant'Andrea Hospital, Cardiology Unit (Audit Clinico, 3rd floor)
☎: 06.33775561 - *Fax:* 06.33775061; *E-mail*: carmine.savoia@uniroma1.it
Reception hours: Monday 3 p.m.-5 p.m. and Tuesday 3 p.m.-5 p.m.

Scrivo Rossana *(MED/16 Reumatologia)*
Department of Internal Medicine and Medical Specialities
☎:06 49974640 ; *E-mail*: rossana.scrivo@uniroma1.it
Reception hours: by appointment

Spadea Leopoldo *(MED/30 Malattie dell'Apparato Visivo)*
Department of Medico-Surgical Sciences and Biotechnologies
Location: "A. Fiorini" Terracina Hospital, Eye Clinic
☎: 0773708337*; E-mail*: leopoldo.spadea@uniroma1.it
Reception hours: Wednesday 10 a.m.-12 p.m.

Stefanini Lucia *(MED/09 Medicina Interna)*
Department of Internal Medicine and Medical Specialities
Location: Policlinico Umberto I, Building I Clinica Medica, 2nd floor, room 13
E-mail: lucia.stefanini@uniroma1.it
Reception hours: Wednesday 9.30 a.m.-12.30 p.m. by appointment

Tammaro Antonella *(MED/35 Malattie Cutanee e Veneree)*
Department of Neurosciences, Mental Health and Sensory Organs
Location: Sant'Andrea Hospital, Via di Grottarossa 1035, Dermatologia
☎: 06.33775270; *E-mail*: antonella.tammaro@uniroma1.it/tammaroantonella@gmail.com
Reception hours: by appointment

Tarsitani Lorenzo
Department of Neurology and Psychiatry
Location: V.le dell'Università, 30
Fax: 06.49978748; *E-mail*: lorenzo.tarsitani@uniroma1.it
Reception hours: Monday 10 a.m.-12 p.m.

Toni Danilo *(MED/26 Neurologia)*
Department of Neurology and Psychiatry

Location: UTN DEA
☎: 06.49979526; *E-mail*: danilo.toni@uniroma1.it
Reception hours: Monday and Tuesday 12 p.m.-1 p.m.

Tubaro Andrea *(MED/24 Urologia)*
Department of Clinical and Molecular Medicine
☎: 06.33777712; *E-mail*: andrea.tubaro@uniroma1.it
Reception hours : Thursday 10a.m.-1p.m.

Valenti Piera *(MED/07 Microbiologia e Microbiologia Clinica)*
Department of Public Health and Infectious Diseases
☎: 06.49914543; *E-mail*: piera.valenti@uniroma1.it

Valentini Valentino *(MED/29 Chirurgia Maxillofacciale)*
Department of Oral and Maxillofacial Sciences
Location: Viale del Policlinico 155, ex terzo repartino, 2nd floor
☎: 06.49979118 - *Fax:* 06.4462980; *E-mail*: valentino.valentini@uniroma1.it
Reception hours: by appoint

Valesini Guido *(MED/16 Reumatologia)*
Department of Internal Medicine and Medical Specialities
Location: Policlinico Umberto I
☎: 06.49974631 - *Fax:* 06.49974670; *E-mail*: guido.valesini@uniroma1.it
Reception hours: by appointment

Vallone Beatrice *(BIO/10 Biochimica)*
Department of Biochemical Sciences "Alessandro Rossi Fanelli"
Location: Department of Biochemical Sciences " Alessandro Rossi Fanelli"
☎: 06.49910548- *Fax:* 06.4440062; *E-mail*: beatrice.vallone@uniroma1.it
Reception hours: Monday 1 p.m.-4 p.m.

Venuta Federico *(MED/21 Chirurgia Toracica)*
Department of Surgery "Paride Stefanini"
☎: 06.4461971; *E-mail*: federico.venuta@uniroma1.it
Reception hours: Monday, Wednesday and Friday 8.00 a.m.-10.00 a.m.

Vicini Elena *(BIO/17 Istologia)*
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
Location: Section of Histology and Medical Embryology, Via A. Scarpa 14
☎: 06.49766804- *Fax:* 06.4462854; *E-mail*: elena.vicini@uniroma1.it
Reception hours: Monday 8.30 a.m.-10.30 a.m

Villa Maria Pia *(MED/38 Pediatria Generale e Specialistica)*
Department of Neurosciences, Mental Health and Sensory Organs
Location: Sant'Andrea Hospital, Via di Grottarossa 1035, Pediatria
☎: 06.33775855; *E-mail*: mariapia.villa@uniroma1.it
Reception hours: by appointment

Villari Paolo *(MED/42 Igiene Generale e Applicta)*
Department of Public Health and Infectious Diseases
Location: P.le Aldo Moro 5, Building Hygiene "G. Sanarelli"
☎: 06.49914886; *E-mail*: paolo.villari@uniroma1.it
Reception hours: by e-mail appointment

Violani Cristiano *(M-PSI/08 Psicologia Clinica)*
Department of Psychology
Location: Via dei Marsi 78, room 210
☎: 06.49917646/06.49917781; *E-mail*: cristiano.violani@uniroma1.it
Reception hours: Monday 3p.m. -4p.m

8. Course Programs

1 - CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY

Main teaching objectives :

Knowledge of basic chemistry and of biochemical structures: glucides, proteins, lipids. At the end of the course, the students should: i) know the chemical bases of pathophysiological processes, ii) address in molecular terms some simple biomedical aspects, iii) be aware of the importance of the chemical instruments in the cultural formation of a medical doctor.

Formal Teaching (subjects)

- The matter: atomic and molecular orbitals; chemical bonds, strong and weak interactions, states of matter.
- The behaviour of Gases: ideal gas laws, solubility of gases in liquids
- Solutions: definition & properties; concentration; vapour pressure; electrolytes; dissociation equilibrium; colligative properties; osmosis.
- Redox reactions: defining oxidation and reduction, biological relevance
- Thermodynamics: the T. Parameters enthalpy, entropy, free energy and temperature. Equilibrium and T.
- Chemical reactions: equilibrium and kinetics; the *mass action low* and the equilibrium constant.
- Water solutions: acids, bases strength and pH; buffers, the interaction of salts with water.

Bio-organic Chemistry

The biomolecules: classification, shape and conformation

Hydrocarbon compounds, linear & cyclic, saturated, insaturated, homocyclic and heterocyclic: nomenclature, classification, properties.

Functional groups, chemical properties and biomedical relevance: the carbonyl group, aldehides and ketons; the carboxylic group, the alcoholic hydroxyl- , the amino- and the sulphydril- group; ethers and esters.

Glucides or saccharides: nomenclature and classification. Structure stabilization and stereochemistry, anomeric carbons and mutarotation. Redox properties of saccharides.

Mono-, di- & polysaccharides: structural properties and stabilizing bonds.

Aminoacids: nomenclature and classification. Structure stabilization and stereochemistry. The functional groups and the α-Carbon properties. Protonation and deprotonation equilibria.

Proteins: primary, secondary, tertiary and quaternary structure; denaturation and folding.

Lipids: nomenclature and classification. Fatty acids, mono- di- tri-glycerides; basic structure of phospholipids and bio-membranes. Cholesterol

Nucleic Acids: purines and pyrimidines, the nucleosides and nucleotides composition; keto-enolic tautomerism and hydrogen bonds.

Interactive teaching (goals)

The student should learn how to solve basic problems, dealing with solutions and their properties.

Interactive teaching, practical course (20 hours)

The matter: structure/function relationships.

Molecular modelling (groups of max. 20 students)

Calculus (subjects):

- Gas
- Acqueous solutions
- Colligative properties
- Equilibrium properties
- pH
- Buffers
- Hydrolysis

Tutorial Teaching Activities (small groups)	
Clinical relevance of pH. Evaluation of the blood buffering capacity.	Acid-base titrations
Clinical relevance of osmosis. Induced hemolysis evaluation.	Osmometry and spectrophotometry

Apprenticeship (practical laboratory)

Educational tasks	observed	done	Know how
Spectrophotometric, amperometric and chromatographic measurements, of biomedical relevant substances	yes	yes	yes
Fundamental molecular biology	yes	yes	yes
Cell viability measurements by fluorescence microscopy	yes	yes	no

Seminars:

- The chemical-biochemical nomenclature: laboratory conventions.

Exam:

- written: multiple choice questions (quiz), chemical formulas, basic stoichiometry and general chemistry exercises.
- oral.

Suggested textbooks:

- **"Introduction to General, Organic and Biochemistry"**, **Bettelheim, Brown, Campbell, Farrell.**

  Brooks & Cole Eds. (preferred)

- Chemistry for the Biosciences: The Essential concepts
- Au: T. Bradshow & J. Crowe – Oxford University Press (accepted)

Suggested Internet web sites:

- http://www.chem.qmw.ac./iupac/; http://www.webelements.com/
- http://www.chemistry.mcmaster.ca/faculty/bader/aim/

2 - MEDICAL PHYSICS

Main teaching objectives:

- To acquire Physics basic knowledge consistent with scientific and technological progress in medicine.
- At the end of this course, the student should be able to know basic principles of Physics helpful to understand biomedical phenomena and some working principles of new diagnostic methodologies.
- Learning outcomes: at the end of the course, the student must be able to identify and apply Physics' law necessary to explain a physics phenomenon

Physics quantities and measurement units. The SI system.
Point mass kinematics. Scalars and vectors. 2D motion. Force and Newton's laws of motions. Work and energy. Conservation of energy. The center of mass of a solid body. Point mass momentum. Momentum of a particles system. Conservation of momentum. Equilibrium of solid bodies. Principles of statics applied to human body. Momentum and its use in the human body.
Fluids statics. Fluids Dynamics. General concepts about fluids motion. Continuity equation. Bernoulli's equation. Pumps and heart. Stenosis and Aneurysm. TIA. Surface tension and Laplace. Real fluids. Laminar and turbulent motion. Hagen-Poiseuille. Measurement of blood pressure. Physics of circulatory and respiratory system. Cardiac work and power.
Wave phenomena. Mechanical waves. Example of waves. The propagation of waves. The speed of waves. Wave intensity and wave power. Superposition principle.
Temperature. Thermal Equilibrium and the Zeroth Law of Thermodynamics. Thermal Expansion. The Gas Laws and Absolute Temperature. The Ideal Gas Law. Heat and Internal Energy. Specific Heat. Calorimetry. Heat conduction. Heat capacity and specific heat. The first law of thermodynamics. Entropy and second law of thermodynamics. Human Metabolism and the First Law.
Electric charge and Coulomb's law. Electric Field. Electric field flux and Gauss' law. Isolated charged conductor. Electrostatic and gravitational forces. Electric potential energy. Equipotential surfaces. Capacitor and dielectric. Electric current. Current density. Resistance, resistivity and conductivity. Ohm's law. Circuit. Heart electrical phenomena: ECG. The Magnetic field, Motion of charge in a magnetic field. Biot-Savart law. Ampere's law. Faraday's law of induction. Lenz's rule. Electromotive force resulting from motion. Induced electric field.
Changing Electric Fields Produce Magnetic Fields. Maxwell's Equations. Production of Electromagnetic Waves. Light as an Electromagnetic Wave. The electromagnetic spectrum and the relative applications to medicine: Pulse oximetry, thermography, X-ray diagnostics.
Geometric optics. The Ray Model of Light. Reflection. Image Formation by a plane and a spherical Mirror. Indcx of Refraction. Snell's Law. Total Internal Reflection. Fiber Optics. Thin Lenses. Ray Tracing. The Thin Lens Equation. Magnification. The Human Eye. Corrective Lenses. Reso1ution of the Human Eye and Useful Magnification. Optical fibers and endoscopy.
Atomic model. X ray spectrum. The discovery of the nucleus. Some nucleus' properties. Radioactive decay. Ionizing radiation.

Exam: written & oral

Suggested textbooks:

- Physics: Principles with Applications, Douglas C. Giancoli, 6th edition *University of California* 6th edition
- Physics for Scientists and Engineers with Modern Physics by Raymond A. Serway and John W. Jewett
- Fundamentals of Physics: David Halliday, Robert Resnick, Jearl Walker *John Wiley & Sons*

Suggested Physics websites:

- http://www.mi.infn.it/~phys2000/
- http://www.explorescience.com/activities/index.cfm
- http://www.phy.ntnu.edu.tw/java/index.html
- http://ww2.unime.it/dipart/i_fismed/wbt/

3 - BIOLOGY AND GENETICS (I & II)

Main teaching objectives:

The aim of the integrated course is to give students the tools to be familiar with structure and function of the principal components of the cell; to understand the molecular basis of cellular functions; to be aware of how the alteration of cellular functions can bring about pathological states. Students will learn how the genetic information flows between DNA, RNA, and proteins and how traits are inherited from one generation to the other. Concepts of classical and molecular genetics will be taught.

Biology

Franca Citarella, Department of Cellular Biotechnology and Hematology , Sapienza University of Rome.
e-mail: Citarella@bce.uniroma1.it ; phone: 390649918243

Introduction to cellular biology: the diversity and similarity of living organisms.
Biology and the scientific method, The Origin and Evolution of Cells
Cells As Experimental Models, Tools of Cell Biology
The Chemistry of Life
The Molecular Composition of Cells
Enzymes as Biological Catalysts
The Flow of Genetic Information
Nucleic acids, Chromatin and Chromosomes, DNA Replication, DNA Repair
RNA Synthesis and Processing: Transcription in Prokaryotes,
Eukaryotic RNA Polymerases and General Transcription Factors,
Regulation of Transcription in Eukaryotes, RNA Processing and Turnover
Protein Synthesis, Processing, and Regulation: Translation of mRNA,
Protein Folding and Processing, Regulation of Protein Function, Protein Degradation
Cell Structures and Function
The Cell Surface: Structure of the Plasma Membrane, Transport of Small Molecules
Protein Sorting and Transport - The Endoplasmic Reticulum, Golgi Apparatus, Lysosomes
The mechanism of Vesicular Transport (receptor mediated endocytosis)
The Cytoskeleton and cell junctions
Nucleus: The Nuclear Envelope, Traffic between the Nucleus and Cytoplasm, the Nucleolus
Bioenergetics and Metabolism - Mitochondria, The Mechanism of Oxidative Phosphorylation
Peroxisomes
Cell regulation
Cell Signaling: Signaling Molecules and Their Receptors, Functions of Cell Surface Receptors
Pathways of Intracellular Signal Transduction, Regulation of Programmed Cell Death

The Cell Cycle: The Eukaryotic Cell Cycle, Regulators of Cell Cycle Progression, Mitosis
Cancer: The Development and Causes of Cancer, Tumor Viruses, Oncogenes,
Tumor Suppressor Genes

Textbooks:

"Cell and Molecular Biology" Gerald Karp published by Wiley & Sons, Inc
"World of the Cell" Becker, Kleinsmith, Hardin, Bertoni published by Pearson Education
NCBI bookshelf on line: "Molecular Biology of the Cell" Bruce Alberts;
"The Cell, a molecular approach" Geoffrey M Cooper

Genetics

Marcella Devoto and Paolo Fortina

I SEMESTER

1. Structure and functions of genes and human genome
    - DNA, RNA, non-coding RNA, pseudo-genes
    - Anatomy of the human genome
2. Variation in the human genome
    - Mutations, polymorphisms, SNP, VNTR, repetitive DNA, CNV, LOH
3. Mendelian inheritance and its exceptions
    - Autosomal recessive and dominant, X-linked, and mitochondrial transmission
    - Imprinting, genetic heterogeneity, reduced penetrance, variable expressivity
    - Recurrence risk for Mendelian traits in human pedigrees

II SEMESTER

4. Molecular analysis of nucleic acids
    - DNA extraction
    - Restriction enzymes, electrophoresis and hybridization
    - Southern and Northern blotting
    - PCR, RT-PCR, TaqMan, ASO, ARMS, OLA, SSCP, DHPLC, MLPA
    - Sanger sequencing
    - Microarray
5. Human chromosomes and cytogenetic analysis
    - Karyotype
    - FISH, aCGH
6. Gene mapping and linkage analysis
    - Recombination and genetic distance
    - Genetic mapping of rare Mendelian disorders
    - Lod-score and model-free analysis in human pedigrees
7. Basic principles of population genetics
    - Allelic frequency

- Hardy-Weinberg equilibrium
- Consanguinity
- Linkage disequilibrium

8. Complex genetic traits and genetic epidemiology
   - Multifactorial inheritance, threshold model
   - Twin and adoption studies, recurrence risk ratios
   - Common disease/common variant hypothesis
   - Association studies
   - Lessons learned from genome-wide association studies (GWAS) on common complex traits
9. High-throughput technologies and their applications
   - Genome-wide association study (GWAS)
   - Next-generation sequencing (NGS)
   - Whole genome sequencing (WGS)
   - Whole exome sequencing (WES)
   - Whole transcriptome (WT)
10. The Human Genome Project and its developments
   - HapMap Project
   - 1000 Genomes Project
   - The Cancer Genome Atlas (TCGA)
11. Basic principles of clinical genetics
   - Chromosomal syndromes and genomic disorders
   - Dynamic mutations and mental retardation
   - Neuromuscular disorders and cardiomyopathies
   - Hemoglobinopathies, hemophilia, congenital errors of metabolism, cystic fibrosis, hearing loss
   - Clinical cancer genetics
   - Prenatal diagnosis of genetic disorders

Texbook:

- Bruce Korf and Mira Irons, Human Genetics and Genomics, Fourth Edition, Wiley-Blackwell 2013

4 - HISTOLOGY AND EMBRYOLOGY

Main teaching objectives:

Through the integrated study of Cytology, Histology and Embryology, the student will learn the microscopic anatomy of cells, tissues and organs, with an emphasis on relationships between structure and function, and to describe and discuss, using a correct terminology, specific morphological organizations. The course will teach the fine mechanisms of cell differentiation, histogenesis and embryogenesis. Through the study of gametogenesis, fertilization and the early stages of embryonic development, the student will learn the mechanisms and processes of primitive embryonic layers formation, and the development of organs and apparatus.

Course Program

INTRODUCTION: Histological techniques: overview of methods in cytology and histology; tissue preparation for microscopic examination; optical and electronic instruments for studying cells and tissues.

CYTOLOGY: Structural organization and function of the eukaryotic cell. Cytoplasm and nucleus. Cytoplasmic organelles. Plasma membrane. Rough and smooth endoplasmic reticulum. Golgi apparatus and vesicle trafficking. Mitochondria. Cytoskeleton and centrioles. Inclusions. Cytosol. Nucleus. Nuclear envelope. Chromatin. Nucleolus. Cell cycle, cell proliferation (mitosis) cell death.

HISTOLOGY: Introduction to tissues. Cell differentiation and histogenesis of tissue. Tissue engineering.

Epithelial tissue. Overview of epithelial structure and function. Classification of epithelium. Specializations of cells surface and cell polarity. Lining epithelia: generalities: Histological structure of epidermis and digestive, respiratory, urogenital mucosae.

Glands: Classification of multicellular glands. Mechanisms of secretion. Histogenesis and structure of major exocrine and endocrine glands (pancreas, liver, prostate, salivary, mammary, pituitary, thyroid, parathyroid, adrenal).

Connective tissues: General structure and functions of connective tissue; extracellular matrix, fibers, ground substance and cells; basement membranes. Classification of connective tissue. Connective tissue proper: loose, dense, reticular, Adipose tissue: types and functions

Cartilage: cells and extracellular matrix. Types of cartilage and their distribution. Perichondrium. Chondrogenesis and cartilage growth and repair.

Bone: Bone architecture and functions. Bone matrix. Cells of bone. Osteogenesis, bone remodeling and homeostasis.

Blood: plasma, erythrocytes, leucocytes, platelets. Bone marrow. Prenatal and postnatal hemopoiesis. Hematopoietic stem cells, progenitor cells and precursor cells.

Immune system and organs, including the histological structure of thymus, spleen and lymph nodes.

Muscle tissues: types of muscle tissues: overview of structure and function. Morphology and functional characteristics of skeletal muscle. Fine structure of skeletal muscle fibers. Contraction and relaxation. Motor and sensory innervation of skeletal muscle. Neuromuscular junction.

Morphology and functional characteristics of cardiac muscle. Fine structure of cardiac muscle fibers; intercalated disk, organelles. Contraction of cardiac fibers. Conducting system of the heart.

Morphology and functional characteristics of smooth muscle. Fine structure of smooth muscle fibers. Smooth muscle contraction. Regeneration of muscle tissues.

Nervous tissue: Histogenesis, general organization, morphofunctional relationships. Cells of the nervous system. Neuron types and their morphology. Axonal transport system. Synapses and synaptic transmission. The nerve fibers; general structure of nerves, connective tissue investments. Neuroglia. Impulse conduction. Response of neurons to injury.

EMBRYOLOGY:

A: General Embryology

Introduction. Genetics and molecular biology of human development. Morphogenetic mechanisms.

Gonads, meiosis, gametogenesis and fertilization. The uterine cycle and its regulation. Hormonal control of gametogenesis. Medically assisted reproduction.

Early stages of the embryo development. Segmentation. Morula. Blastocyst and implantation. The bilaminar embryonic disk.

Embryonic and adult stem cells, somatic cell reprogramming into pluripotent stem cells (iPS): concepts, definition and potentiality for tissue regeneration and repair.

Gastrulation: timing and 3D formation of primitive layers: endoderm, ectoderm and mesoderm.

The notochord and its role in embryo development.

Neurulation

Embryonic foldings and definition of body cavities

Development of trophoblast. Placenta and fetal membranes. Embryo annexes.

Teratogenesis. General etiology and mechanisms of congenital disorders.

B: Systems-Based Embryology

Initial organogenesis (embryonic period) with particular reference to the development of:

- central nervous system and neural crest derivatives
- cardiovascular system
- digestive system
- respiratory system
- urogenital system
- major exocrine and endocrine glands
- examples of birth defects, prenatal diagnosis and therapy

Exam: oral

Textbooks:

Histology (including essential Cytology)

- Gartner LP & Hiatt JL, Color Textbook of Histology, Lippincott Williams & Wilkins, 2009.
- Ross MH & Pawlina W, Histology: a Text and Atlas, Lippincott Williams & Wilkins, 2010.
- Young B & Others, Wheather's Functional Histology. Churchill Livingstone Elsevier, 2006.

Embriology

- Moore K.L. The developing Human. Clinically oriented Embryology, Saunders Elsevier, 9th ed.
- Sadler T.W. Langman's Medical Embryology, Lippincott Williams & Wilkins, 2010.
- Shoenwolf G.C. Larsen's Human Embryology, Churchill Livingston Elsevier, 2009

Additional textbooks:

- Alberts and Others, Molecular Biology of the Cell, Garland Science, 2008.
- Ross MH, Pawlina W & Barnash TA, Atlas of descriptive Histology, Sinauer Associates, 2009
- Eroschenko VP, Di Fiore's Atlas of Histology with functional correlations, Lippincott Williams & Wilkins, 2007
- Gartner LP & Hiatt JL, Color Atlas of Histology, Lippincott Williams & Wilkins, 2009.

Further informations at: https://elearning2.uniroma1.it/course/view.php?id=5250

5 - BASIC MEDICAL-SCIENTIFIC METHODS (I, II and III)

Basic Medical-Scientific Methods (I)

Main teaching objectives:

- have acquired method and learning appropriate towards a theoretical practical background based on scientific bases and human relationships. The student should know the main stages of the evolution of medical thought, including a multicultural perspective. The student should know the origin, evolution and current use of the main terms used in medicine and be able to explain conceptual implications. The student should be aware of the variability inherent in biological, clinical and instrumental data and the usefulness of statistical methodology for synthesis and understanding of bio-medical phenomena.
- be able to establish collaboration with different professionals in group work, respecting the various autonomies. The student should use precise and appropriate medical terminology for a better understanding and transmission of data. The student should correctly apply the method of gathering and recording information: be able to discuss about quantitative methods in medicine and the measurement of biological phenomena, be able to use statistical, probabilistic and data processing instruments in order to manage the uncertainty connected with the nature of the medical process.
- know how to establish a therapeutic alliance with the patient and be able to apply the principle of "caring for". The student should create a relationship with the patient, relatives and the personnel involved in assisting the patient and other colleagues involved in the diagnostic-therapeutic programme.

Basic Medical-Scientific Methods (II)

Main teaching objectives:

After attending this course the student should:

- know how to use appropriate methodology to analyze: health indicators such as infant mortality, demographic indicators such as population pyramids, demographic transition theory, measures of risks, proportions, odds, rates, relative risks, Normal ranges, evaluation of screening and diagnostic tests;
- understand and interpret basic epidemiology, measures of disease frequency and association (prevalence, incidence, epidemic curves, relative and attributable risks, odds ratios, cause-effect relationship), strategies for prevention;
- recognize and counter threats to public health: particularly tobacco and obesity;
- compare and contrast strategies based on the individual person and on the population, for the prevention of ill-health and premature death;
- understand why medical students should study psychology, know the history of psychology, the research methods, the adaptiveness of behaviour (genetic and evolutionary foundations of behaviour), the basic processes of learning, memory (short-term, working memory, declarative and non-declarative memory),

the implications for comunication with patients; cognitive decline, thought, and systematic biases in our reasoning with implications for the medical context;

- understand basic components of legal medicine: the causal link in medicine, medical doctors and other health professionals (doctor-patient relationship; the care and cure process; consensus), fundamentals of responsibility in medical practice and in research, informed consent in medicine and in research, clinical charts and medical documentation, medical and legal aspects of safety at work.

Basic Medical-Scientific Methods (III)

Main teaching objectives:

- know the development of scientific thought in relation to medical care based on reasoning and clinical method; the methodological study of genetic diseases and the new frontiers of genetics for the development of medicine; health as primary benefit of man and the community.
- know how to apply scientific method in the medical field in order to define the basis of the formulation of clinical reasoning, in the light of fundamental ethical models of reference.
- be able to evaluate the close relationship between health-person-bioethics-genetic inheritance-symptoms and objective examination in order to provide appropriate management of the patient.

6 - BIOCHEMISTRY (I & II)

Main teaching objectives:

- knowing the structure and function of the main classes of biomolecules, and specifically of macromolecules and supramolecular structures, and the main biochemical methodologies used in their study;
- recognizing the structure-function relationships in biological macromolecules;
- being aware that the study of molecular structures constitutes the conceptual basis for the understanding of metabolic processes and cellular physiopathology;
- knowing the main metabolic pathways, their regulation at the molecular and cellular level, and their integration;
- recognizing the rationale that governs the intermediate metabolite fluxes;
- being conscious that perturbations in the structures of biological macromolecules, which carry out reactions and which are involved in the regulation of metabolic pathways, are the onset of pathological cellular and systemic conditions.

Biochemistry I (first year – II semester – aptitude test)

Chemical composition of the living matter. Properties of water. Biological buffer systems. .

Proteins: Amino acids. Classification, properties, dissociation, isoelectric point. Peptide bond. Natural peptides. Glutathione. Neuropeptides. Structure of proteins. Structural organization levels. Collagen, elastin. Denaturation of proteins. Hemoglobin and myoglobin. Hemoglobinopathies. Immunoglobulins. Blood composition. Biochemical basis of muscle contraction.

Introduction to proteomics. Domains and structural motifs in proteins. Principles of macromolecules recognition: protein-protein and protein-nucleic acid interactions. Thermodynamics and kinetics of protein folding. Molecular basis of degenerative diseases caused by misfolding: prions and □-amyloids.

Nucleic acids. Nucleotides. DNA double helical structures: A, B and Z; DNA supercoiling; cruciform DNA structures; RNA structure. Genetic code. Protein synthesis and its inhibition.

Principles of biochemical methods and molecular biology techniques. Macromolecules purification and characterization methods: chromatography, electrophoresis, spectrophotometry, fluorimetry, mass spectrometry. Methods for the determination of macromolecules' molecular weight. DNA purification. Nucleic acid hybridizations. Molecular cloning. PCR and its applications. Recombinant protein expression methods.

Carbohydrates. Mono-, oligo- and poly-saccharides. Storage and structural polysaccharides. Proteoglycans. Peptidoglycan. Glycoproteins: blood groups.

Lipids. Classification. Fatty acids and neutral fats. Phospholipids and sphingolipids. Arachidonic acid and its derivatives. Cholesterol and derivatives. Lipoprotein structure. Biological membranes. Membrane proteins: structure and properties. Membrane transport. The Na^+/K^+ pump. Ion channels. Peptide antibiotics.

Vitamins. Natural sources. Active forms and function. Hypo- and hypervitaminosis.

Enzymes. Thermodynamic aspects of catalysis. Enzyme kinetics. Mechanisms of catalysis and regulation. Allostery. Enzyme inhibition. Enzyme classification. Coenzymes. Proteases. Blood clotting: physiological role and involvement in pathology.

Biochemistry II (second year – I semester - exam)

Carbohydrate metabolism. Absorption and digestion. Glycolysis. Synthesis and degradation of glycogen. Gluconeogenesis. The pentose phosphate pathway. Shuttle systems. Regulation and physiological implications.

Lipid metabolism. Absorption and digestion. Bile salts. Fatty acid oxidation. Ketone bodies. Fatty acid biosynthesis, Cholesterol metabolism. Role of lipoproteins in lipid metabolism. Regulation and physiopathological implications.

Oxidation of pyruvate and acetyl-CoA. Citric acid cycle.

Protein metabolism. Absorption and digestion. Proteasome structure and function. Amino acid metabolism: transamination, deamination, decarboxylation. Adrenalin and GABA biosynthesis. Urea cycle. Regulation and physiopathological implications. Heme metabolism. Basics of purine and pyrimidine metabolism.

Electron transport and oxidative phosphorylation. Respiratory chain: complex I-IV and chemiosmotic theory. ATP synthase. Inhibitors and uncouplers. Energetic yield of carbohydrate and lipid catabolism.

Integration and control of metabolic processes.

Signal transduction. Structural basis of receptor biochemistry. Receptor families. Adrenergic, nicotinic and tyrosine-kinase receptors. Second messengers (cAMP, inositol, Ca^{2+}). Meccanism of action of steroid hormones. Local hormones (NO, eicosanoids). Meccanism of vision, taste and smell.

Interactive activities

Biochemistry (I-II): the goal is to let the student get acquainted with the basic techniques and methods used in a biochemistry lab.

Exams:

Biochemistry I : written aptitude test

Biochemistry II : oral examination

Texts:

- Lehninger Principles of Biochemistry**,** DL Nelson & MM Cox Fifth Ed.
- Biochemsitry, D. Voet & JG Voet, Biochemistry, Fourth Ed.

7 - HUMAN ANATOMY (I, II & III)

Main teaching objectives:

- Structural organization and functions of the human body and their main anatomical and clinical applications at macroscopic, microscopic and ultrastructural level.
- Skills: to identify macroscopic anatomical samples and to recognize the structure of the organs by light microscopy.

Human Anatomy (I)

- *General Anatomy*: History of Anatomy. Anatomical terminology. General organization of the human body.
- *Skeletal and Muscular system*: Generalities on bones, joints and muscles. External skull and intracranial region. Vertebral column and Thoracic skeleton. Pectoral girdle and upper limb (arm, elbow, forearm, wrist and hand). Abdominal wall. Pelvic girdle and lower limb (hip, knee, leg, ankle and foot). Muscles of the head, neck, back, thorax, abdomen, pectoral and pelvic girdle, upper and lower limb.
- *Cardiovascular system*: Generalities of the cardiovascular system. Mediastinum. Heart and great vessels. Pericardium. Coronary circulation. Conduction system. Arteries; Capillaries, Veins.

Human Anatomy (II)

- *Lymphoid system*: Bone marrow. Thymus. Spleen. Lymph nodes.
- *Respiratory system*: Nose. Nasal cavities and paranasal sinuses. Pharynx. Larynx. Trachea and bronchi. Lungs and pleura.
- *Digestive system*: Oral cavity. Major salivary glands. Isthmus of fauces. Pharynx. Oesophagus. Stomach. Small and large intestine. Rectum. Liver, gallbladder and biliary tree. Pancreas. Peritoneum and peritoneal cavity.
- *Urogenital system*: Kidney and ureter. Bladder and urethra. Male reproductive system (testis and spermatic tracts, prostate). Female reproductive system (ovary, uterine tubes and uterus). External genitalia.

Human Anatomy (III)

- *Neuroanatomy*: Overview of the Central Nervous System. Spinal cord. Brain stem. Cerebellum. Diencephalon. Basal ganglia. Cerebral hemisphere. Ventricular system, subarachnoid spaces and meninges. Motor pathways. Pathways of the general and the specific sensibility.
- *Peripheral nervous system*: Generalities. Spinal nerves. Plexuses. Cranial nerves. Organization of the Autonomic Nervous System.

- *Visual apparatus*: Orbit and accessory visual apparatus. Eyeball. Visual Pathway.
- *Auditory apparatus*: External and middle ear. Internal ear. Pathway of sound reception.
- *Endocrine system*: Generalities. Hypothalamus and its nuclei. Pituitary gland. Pineal gland. Thyroid and parathyroid glands. Adrenal gland. Endocrine Pancreas. Interstitial glands of testis and ovary.

Suggested textbook:

- GRAY'S ANATOMY (fortieth edition) – Churchill Livingstone.

Suggested atlases:

- Atlas of Human Anatomy – FH Netter - Saunders Elsevier.

Additional textbooks:

- WHEATER'S FUNCTIONAL HISTOLOGY – Elsevier *(Human Anatomy 2)*
- GRAY'S CLINICAL NEUROANATOMY – Mancall and Brock – Elsevier *(Human Anatomy 3)*
- GRAY'S ANATOMY for student (second edition) - Churchill Livingstone

8 - MICROBIOLOGY

Main teaching objectives:

The course will introduce students to basic principles of microbial pathogenesis, using some infectious agents as model. The plan for conveying the knowledge in medical microbiology is to present, first, concepts of infectious agent structure and morphology, and then relate them to principles of microbial growth, replication and/or multiplication. Together these concepts will form the basis for understanding how infectious agents are classified, how their genetic apparatus works and how they interact with and affect the host. The above molecular and cellular mechanisms are combined with the concept of microbial pathogenesis, innate and adaptive immune response, immune evasion, persistent infections and epidemiology, evolution, and control of infectious agents. The most important infectious agent families are then discussed individually. At the end of the course, some students will be invited to make a presentation of 15 minutes. The topic of the presentation will be chosen from recent articles on hot topics in medical microbiology which deserve or may stimulate an interactive discussion. Opportunity of short laboratory research/diagnostic experience will also offered to students who are particularly interested on such a subject.

General Microbiology, Bacteriology, Mycology

Introduction to Microbiology.

Normal Microbiota, Host-Microrganism Relationships, Occasional Pathogens, Opportunistic Pathogens, Primary Pathogens.

Bacterial structure, classification, and replication.

Microbial Nutrition and Growth.

Bacterial genetics.

Mechanisms of bacterial pathogenesis. Bacterial toxins.

Microbial Diseases and Their Control.

Basic concepts in Immune response: serums and vaccines.

Antimicrobial Chemotherapy: mechanisms of action and drug resistance.

Gram positive bacteria: Staphylococci (*S.aureus, S.epidermidis*); Streptococci (*S.pyogenes, S.agalactiae, S.pneumoniae*); Spore forming bacilli (*B.anthracis, B.cereus*); Clostridium (*C.tetani, C.botulinum, C.perfringens; C.difficile*); Listeria (*L.monocytogenes*); Corynebacterium (*C.diphteriae*)

Gram negative bacteria: Neisseria (*N.gonorrhoeae, N.meningitidis*); Enterobacteria (*Escherichia, Salmonella, Shigella, Yersinia*); Vibrio (*V.cholerae*); Helicobacter (*H.pylori*); Campylobacter; Brucella; Haemophilus (*H.influenzae*); Bordetella (*B.pertussis*); Legionella (*L.pneumophila*);

Acid-alcohol resistant bacillus: Mycobacteria (*M.tuberculosis*)

Spirochetes (*T.pallidum, B.burgdorferi, L.interrogans*)

Mycoplasma, Rickettsia, Chlamydia (*C.pneumoniae, C.trachomatis*)

Fungal classification, structure, and replication.

Mechanisms of fungal pathogenesis.

Antifungal drugs.

Throughout the course, laboratories in microbiology will introduce students to some of basic techniques used in diagnostic laboratories for the identification of infectious bacteria and fungi.

Parasitology

General Parasitology: basic terminology : parasites, obligate parasite, facultative parasite, ectoparasites, endoparasites; commensal and pathogenic parasites. Host, definitive host, intermediate host, reservoir ; vector ; zoonosis, zooparasitosis, antropoparasitosis.

Intestinal and urogenital protozoa: life cycle and pathology of intestinal amebae (*Entamoeba histolytica*) and outlines of non-pathogenic amebae; intestinal flagellates (*Giardia lamblia*), intestinal coccidia (*Cryptosporidium parvum*) and urogenital flagellates (*Trichomonas vaginalis*).

Blood and tissue protozoa: African Trypanosomiasis (*Trypanosoma brucei gambiense* and *rhodesiense*), American Trypanosomiasis (*Trypanosoma cruzi*), Leishmaniasis, Malaria, Toxoplasmosis.

Helminths: classification and general concepts; morphology, life cycles, and pathogenic mechanisms of: liver, intestinal and lung Trematodes (*Fasciola, Opistorchis, Fasciolopsis, Paragonimus*); blood trematodes (*Schistosoma*); Cestodes (*Taenia, Hymenolepis, Echinococcus)*; intestinal and tissue Nematodes (*Enterobius, Ascaris, Trichuris, Ancylostoma, Necator, Strongyloides Trichinella, Daracunculus, Wuchereria, Loa, Onchocerca*).

Arthropods: basic concepts on arthropods of medical importance; temporary and permanent ectoparasites (*Sarcoptes, Argas, Ixodes, Pediculus, Pulex*, hematophagous diptera).

Virology

General Virology: principles of viral structure, virus replication strategies, effect of viral replication on host cells and cell transformation, immune response to viral infections, pathogenesis of viral infections, principles of diagnostic virology, epidemiology, antiviral agents an control of viral infections.

Specific virus families: Picornaviridae, Caliciviridae, Astroviridae, Togaviridae, Flaviridae, Rabdoviridae, Paramyxoviridae, Orthomixoviridae, Arenaviridae, Reoviridae, Retroviridae, Polyomaviridae, Papillomaviridae, Adenoviridae, Parvoviridae, Herpesviridae, Hepadnaviridae.

Textbooks:

- Medical Microbiology - Jawetz Melnick&Adelbergs/ Mac Graw Hill– 2015
- Medical Microbiology - Murray, Rosenthal, Pfaller /Elsevier Saunders– 2015

9 - HUMAN PHYSIOLOGY (I, II & III)

Main teaching objectives:

At the end of the course, students must know the function of the organs in the human body; the dynamical integration of the various organs into systems; the general mechanisms of functional control under normal conditions; the normal values of the main functional parameters in healthy humans; the medical application of biophysical and biotechnological principles. They must also know some of the techniques used to measure physiological parameters.

Human Physiology (I)

What is physiology. Homeostasis. Body fluids.

Cell as unit: electrical parameters of cell membrane and circuitry; resting membrane potential; action potential. Voltage-dependent ion channels. Biophysical methods to study electrical membrane events. Neurotransmitters. Electrical synapses: structure and functions. Chemical synapses: structure and functions. Transmitter release spontaneous and evoked. Synaptic potential, spatial and temporal summation. Membrane receptors. Families of ionotropic receptors: structural analogies and functional characteristics. Families of metabotropic receptors: structural analogies and functional differences. Second messengers and signal transduction mechanisms. Synaptic activity and cognitive processes.

Muscle physiology: neuromuscolar junction. Muscles: structure and function of the different muscle types. – Skeletal, smooth and cardiac muscle contraction.

Blood physiology: Functions. – Blood components: plasma, erythrocytes, leukocytes, platelets. Mechanisms of hemostasis.

Autonomic nervous system. General organization and cardiocirculatory centers.

Heart and circulation: Laws of fluid mechanics applied to circulation. Arterial pressure and peripheral resistances. The heart: myocardial physiology, cardiac cycle. Cardiac output, venous return. Myocardial excitation and impulse conduction; control mechanisms. Electrocardiography. – Microcirculation and lymphatic system. Exchanges between tissues and blood. Control of blood flow and arterial pressure. Methods to measure arterial pressure.

Exam: oral

Textbooks:

- Guyton & Hall: Medical physiology, Elsevier Imprint: Saunders
- Berne e Levy: Medical Physiology, Imprint: Mosby
- Silverthorn: Human Physiology, Publisher: Benjamin Cummings

Human Physiology (II)

The kidney and the body fluids. Body fluid compartments; water and salt equilibrium. Urine formation: glomerular filtration, tubular transport of the electrolytes, tubular water reabsorption and the regulation of fluid osmolarity. Mincturition. Renal mechanisms for the control of blood and extracellular fluid volume. Regulation of the concentration of the principal electrolytes (sodium, potassium, calcium, magnesium, phosphate).

Respiration: structure of the lungs. Pulmonary pressure and ventilation; Pulmonary volumes. Mechanical properties of the lungs. Pulmonary circulation. Gas exchange. Respiratory gas transport. Control of breathing.

Acid-base balance: Body buffer systems for extracellular pH: plasma proteins, bicarbonate, phosphate. Renal regulation of the acid-base balance. Respiratory regulation of the acid-base balance. Disturbances of the acid-base balance.

Gastrointestinal physiology: motility, nervous control and blood circulation in the gastrointestinal tract. Food progression and mixing in the digestive tract. Gastrointestinal secretion: salivary, gastric, pancreatic, biliary, intestinal secretions. Food digestion. Absorption of water, nutrients and electrolytes in the small intestine. Absorption in the large intestine. Main metabolic functions of the liver.

Endocrinology: hormone structure and action. Measurement of hormone levels. Pituitary hormones and hypothalamic control mechanisms. Thyroid hormones. Adrenocortical steroid hormones. Endocrine pancreas: insulin and diabetes. Parathyroid hormone and calcitonin: calcium and phosphate metabolism. Male and female sex steroid hormones. Reproduction and pregnancy.

Textbooks:

- BM Koeppen, BA Stanton: Berne & Levy Physiology. Mosby Elsevier 2010. ISBN: 978-0-323-07362-2
- JH Hall: Guyton and Hall Medical Physiology. Saunders Elsevier. ISBN: 978-1-4160-44574-8
- DU Silverthorn: Human Physiology. 6th edition. Benjamin Cummings. ISBN: 978-0321750006

Human Physiology (III)

Sensory receptors: neural circuits for processing information.

Somatic Sensations: I. General organization: senses of touch and position.

Somatic Sensations: II. Pain, headache and temperature.

The Eye: I. Vision optics. The Eye II. Function of the eye and retinal nerve. The eye III. Central neurophysiology of vision.

The sense of hearing. The chemical senses: taste and smell.

Motor functions of the spinal cord: spinal reflexes. Control of motor function in the cortex and the brainstem. The cerebellum, basal ganglia and overall control of the movement.
The cerebral cortex: intellectual functions of the brain, learning and memory. Mechanisms of behavior and motivation of the brain: the limbic system and hypothalamus. Brain activity states: sleep, brain waves, epilepsy, psychosis.

Exam: oral

Textbooks:

- JH Hall: Guyton and Hall Medical Physiology. Saunders Elsevier. ISBN: 978-1-4160-44574-8
- BM Koeppen, BA Stanton: Berne & Levy Physiology. Mosby Elsevier 2010. ISBN: 978-0-323-07362-2
- DU Silverthorn: Human Physiology. 6th edition. Benjamin Cummings. ISBN: 978-0321750006

10 - IMMUNOLOGY AND IMMUNOPATHOLOGY

Main teaching objectives:

To understand the molecular and cellular basis of the immune response. To understand the fundamental mechanisms responsible for protection and for tissue damage, and to comprehend their specific role in the resistance against pathogens, the immune surveillance against tumors, and immune-mediated diseases.

Formal teaching subjects:

General aspects of the immune system: cellular and molecular participants to innate and adaptive immune responses.
Cytokines and their receptors.
Innate immunity: cellular and molecular components, cell differentiation, activation, and effector functions.
The molecular basis of antigenicity, antigen receptors and the generation of diversity.
The Major Histocompatibility Complex and antigen presentation.
Maturation, activation and effector functions of B and T lymphocytes.
Biology of T cell subsets: helper (Th), cytotoxic (CTL), and regulatory (T reg).
Antibodies: molecular structure, effector functions, Fc receptors, the antigen/antibody reaction.
The complement cascade: activation pathways and regulation.
NK cells.
Hematopoiesis, lymphoid organs, leukocyte migration and trafficking.
Mucosal immunology.
Development and regulation of immune responses.
Immune responses against different classes of pathogens: viruses, bacteria, fungi and parasites, and mechanisms of pathogen evasion.
Principles of vaccination.
Immune responses against tumors and principles of immunotherapy.
Type I hypersensitivity reactions (allergies).
Type II hypersensitivity reactions and elements of immunohematology.

Type III and type IV (delayed-type) hypersensitivity reactions.
Mechanisms of central and peripheral tolerance; autoimmune diseases.
Transplantation immunology.
Primary and acquired immunodeficiencies.
The most common immunological techniques.

Interactive teaching: guided discussion of clinical cases (with the participation of clinical teachers), as a mean to illustrate the major subjects of immunopathology.

Exam: oral

Textbooks:

- Cellular and Molecular Immunology, 7th Edition (2011, Elsevier)
  Abul K. Abbas, Andrew H. Lichtman, & Shiv Pillai
- Kuby Immunology, Seventh Edition (2012, W.H. Freeman and Company)
  J. Owen, J. Punt, S. Stransford
- IMMUNOLOGY, 8th Edition (2012, Elsevier)
  David Male, Jonathan Brostoff, David Roth, Ivan Roitt
- Janeway's Immunobiology, 8th Edition (2011, Garland Science, Taylor Francis Group)
  Kenneth M. Murphy

11 - CLINICAL SCIENTIFIC METHODS (IV, V & VI)

Main teaching objectives:

- Methods of patient's interviewing and health history taking (Adapting Interviewing Techniques to Specific Situations)
- Physical Examination: General Survey and Vital Signs
- Blood pressure measurement
- Basic of surgical procedures
- Basic interpretation of ECG
- Basics of clinical reasoning
- Training in Basic Life Support (licenzed by American Heart Association)

TECHNIQUES OF EXAMINATION

- Beginning the Examination: Setting the Stage; Approaching the Patient; Examination Sequence
- Identification of major physical signs

THE GENERAL SURVEY

- Apparent State of Health; Level of Consciousness, Signs of Distress; Skin Color and Obvious Lesions, Facial Expression; Odors of the Body and Breath Posture, Stance; Examination of head and neck; Examination of skin (Color, Moisture; Temperature), Eyes and Ear

BASIC LIFE SUPPORT (BLS)

THORAX AND LUNG EXAMINATION

- SEQUENCE OF TORAX AND LUNG EXAMINATION: Initial Survey of Respiration, Examination of the Posterior Chest (Inspection, Palpation, Percussion, Auscultation); Examination of the Anterior Chest (Inspection, Palpation, Percussion, Auscultation).
- SPECIAL TECHNIQUES:

CARDIOVASCULAR EXAMINATION

- SEQUENCE OF THE CARDIAC EXAMINATION: Inspection and Palpation, Percussion , Auscultation (Listening for Heart Sounds; Attributes of Heart Murmurs)
- TECHNIQUES OF EXAMINATION: (Measurement of blood pressure, Jugular Venous Pulsations, The Carotid and Femoral Pulses , Thrills and Bruits, The Brachial Artery, Performing ECG: principles)
- SPECIAL TECHNIQUES : Aids to Identify Systolic and Diastolic Murmurs; Basic Life Support

ABDOMEN EXAMINATION

- SPECIFIC ABDOMINAL SYMPTOMS: Pain, Diarrhea, Nausea, Anorexia , Vomiting
- SEQUENCE OF ABDOMEN EXAMINATION: Inspection, Palpation, Percussion, Auscultation
- SPECIAL TECHNIQUES: Identification of fluids in the abdomen, Liver localization

NEUROLICAL EXAMINATION (Basics**)**

- SEQUENCE OF NEUROLOGICAL EXAMINATION: Evaluation of mental status (appearance and behavior, speech and language, mood, cognition), Muscle tone and strength, Coordination, Gait and Motor activity
- SPECIAL TECNIQUES: Tendon and plantar reflexes

MUSCOLO-SKELETAL EXAMINATION (Basics)

- SEQUENCE OF THE MUSCOLOSKELETAL EXAMINATION: Common musculo-skeletal symptoms, Inspection, Palpation and Range of Motion (ROM) maneuvers
- SPECIAL TECHNIQUES: Assessment of inflammation, maneuvers to test knee function and stability

Practical activities:

- Practicing in history taking and patient's interviewing
- Practicing in physical examination (torax, lung, heart and abdomen)
- Practicing in neurological and musculo-skeletal examinations (basics)
- Blood pressure measurement

Each group for practical activities will constituted by 5-6 students; the calendar and the locations of practical activities will be explained during course presentation.

Exam: Written test (multiple choice) and practical text (performing a medical interview and physical examination of a subject)

Textbooks:

- Bates' Guide to Physical Examination and History-Taking - Lippincott Williams & Wilkins - Lynn Bickley MD (Author), or
- Goldman's Cecil medicine 24th edition

12 - PATHOLOGY AND PHYSIOPATHOLOGY (I+II)

Main teaching objectives:

- Knowledge of the etiology and the pathogenetic mechanisms of human diseases, basic pathophysiological mechanisms of major organs and systems.
- Interpretation of basic pathophysiological and pathogenetic mechanisms of human disease.
- Ability to analyze the fundamental pathophysiological mechanisms of human diseases and interpret their results.
- Knowledge of the pathogenetic basis of disease and pathophysiological processes as the essential substrate for subsequent clinical approach to human diseases.

Pathology and Pathophysiology (I)

- Etiology: Main concepts of health, pathologic process and disease; etiology, pathogenesis, evolution, resolution (exitus). General environmental pathology. Pathology by physical and chemical agents. Biological agents of disease: bacterial exotoxins and endotoxins. Non-hereditary congenital disease. Teratogenesis.
- Genetic disorders: Gene mutation and disease. Genetic inheritance patterns. The major chromosomal and gene disorders. Genetics of multifactorial diseases. Kariotype analysis and methods for genetic diseases. Models of human genetic disorders.
- Molecular Pathology: Molecular pathology of proteins. Hemoglobinopathies. Pathology by enzyme deficiencies. Molecular pathology of the plasma membrane: receptors, channels, transduction mechanisms. Molecular pathology of the components of the connective tissue. Molecular pathology of mitochondria.
- Inflammation: The basics of inflammation, acute and chronic inflammation. Innate immunity and inflammation. Inflammation as a transcriptional program. Inflammatory cells. Chemical mediators of inflammation of cellular and plasma origins. Acute inflammation: the vascular phenomena of inflammation, the mechanisms of formation of exudate, the various types of exudative inflammation. Chronic inflammation: mechanisms of granuloma formation. Foreign-body granulomas. The main immunological granulomas. Systemic manifestations of inflammation: acute phase proteins, erythrocyte sedimentation rate, and leukocytosis. Pathophysiology of thermoregulation and fever. Tissue repair and granulation tissue. Pathological aspects of wound healing: keloids, scars.

- Pathology of cell structures: the cell's response to injury: cellular stress, cellular adaptations (hypertrophy, hyperplasia, atrophy, metaplasia), intracellular storage diseases (steatosis, lysosomal diseases). Molecular mechanisms of cellular damage. Cell death: necrosis and apoptosis. Renewal, regeneration and tissue repair. Growth factors. Aging.
- Abnormalities of the extracellular matrix: Beta-fibrillosis. Localized and systemic fibrosis. The diseases of collagen and other basement membrane components.

Pathology and Pathophysiology (II)

- Oncology: Cell/Tissue phenotypic changes: metaplasia, dysplasia, anaplasia and precancerous lesions.
- Definition of cancer. Morphological and biochemical features of the neoplastic cell. Histogenetic classification of tumors. Clinical criteria for the classification of tumors: grading and staging. Pathophysiology of replication and of cell differentiation and growth factors. Physical, chemical, viral and hormonal cancerogenesis. Stages of the neoplastic process: initiation, promotion and progression (invasion, metastasis, angiogenesis). Oncogenes and their activation mechanisms. Tumor suppressor genes. Genomic instability. Hereditary tumors. Immunity, inflammation and cancer. Biological basis of target antineoplastic therapy.
- General Pathophysiology: Pathophysiology of metabolism (amino acids, purine and pyrimidine bases, lipids and lipid disorders).
- Pathophysiology of the Endocrine System: classes of hormones and receptors, secretion and transport.
- Pathophysiology of the thyroid gland: epithelial cells and parafollicular C cells, thyroid hormones, transporters iodine and TPO. Pathogenesis of hypothyroidism and hyperthyroidism, papillary thyroid cancer, follicular, medullary and anaplastic (MTC).
- Pathophysiology of diabetes mellitus: endocrine pancreas, definitions and etiological classification: type 1 diabetes, type 2 diabetes, other types of diabetes and gestational diabetes: Pathophysiology of complications of the diabetic patient. The gut hormones: the incretin hormones GLP-1 and GIP. Atherogenesis and atherosclerosis.
- General pathophysiology of blood, blood-forming organs and haemostasis.
- General pathophysiology of major systems: renal, respiratory, hepatic, cardiocirculatory systems; fluid and electrolyte replacement; acid-base balance.

Exam: oral

Suggested texbooks:

- Pathologic Basis of Disease. Robbins & Cotran. Eight Edition. Editor: W B Saunders Co, 2009
- Understanding pathophysiology. S. Huether, K. McCance. Elsevier, 2012
- Cells, Tissues and Disease. Principles of general pathology. G. Majno, I. Joris. Oxford University Press, 2004.
- Rubin's Pathology. Clinicopathologic foundation of medicine. Rubin & Straier. Lippincott Raven; 6 Har/Psc, ed. 2011.

13 - LABORATORY MEDICINE (I+II)

Main teaching objectives:

- understand the application of the most relevant techniques in Biochemistry, Molecular Biology, Microbiology, Parasitology, Clinical Pathology, Immunology and Immunohematology;
- be able to decide which clinical laboratory analyses are appropriate for the patient under study.
- be aware of the usefulness and limits of the clinical information provided by the clinical laboratory analyses.

Formal Teaching (Topics)

The request of clinical analyses - Urgent and routine analyses - The concepts of prevention, early medical diagnosis and follow up - Methods to obtain biological samples and their application. Collection and validity of biological samples - Quality control in the clinical laboratory, between laboratory and on a global scale - Sensitivity and specificity of clinical methods. Significance and diagnostic relevance of the analysis results - Methods for clinical microbiology and parasitology. Timeline and interpretation of the results - Clinical microbiology of infectious diseases of organs and apparatuses - Blood parasites; intestinal parasites. - Biochemical characterization of dysmetabolic conditions - Purine metabolism; hyperuricemias. - Disorders of heme biosynthesis; porphyrias - Heme degradation; jaundice - Measurement and identification of proteins; electrophoresis - Acute phase proteins and complement - Lipoproteins and dyslipidemias - Glucose metabolism; glycemia; diabetes mellitus - The urea cycle and its disorders - Disorders of the metabolism of aminoacids - Acid-base equilibrium and its dirsorders - Enzymes in the blood and their clinical significance - Laboratory medicine for the evaluation of the cardiovascular, renal, endocrine apparatuses; assays to monitor liver pathophysiology; Transfusion Medicine - Laboratory Medicine of Immune Disorders. Histocompatibility Testing and Transplantation.

Interactive teaching (goals)

- Selection of the analysis to be carried out, in relation to the patient's disease.
- Evaluation of the quantitative and qualitative alterations of the most relevant analytes.

Apprenticeship (practical laboratory)

- How to effect a standard laboratory analysis of the urine (physical, chemical and microbiological).
- How to prepare a blood smear; how to read a hemocytometric (non-pathological) test

Exam: oral

Textbook:

Michael Laposata: Laboratory Medicine: The Diagnosis of Disease in the Clinical Laboratory (LANGE Basic Science)

14 - APPLIED PATHOLOGY I

Main teaching objectives:

Students must have an adequate knowledge of the most important cardiovascular and respiratory diseases, in terms of basic research, nosography, etiopathogenesis, pathophysiology, anatomopathology and clinic.

Cardiovascular Diseases

Fundamental: signs and symptoms of cardiovascular diseases; cardiovascular risk factors; metabolic syndrome; atherosclerosis and arteriosclerosis; ischemic heart disease: angina, cardiac syndrome X, acute myocardial infarction and major complications; aortic diseases; major hyperkinetic and hypokinetic arrhythmias; valvular disease: mitral stenosis and regurgitation, aortic stenosis and regurgitation, tricuspid and pulmonary stenosis and regurgitation; primitive and secondary cardiomyopathies; myocarditis; endocarditis; pericarditis; acute and chronic heart failure; systemic and pulmonary hypertension; arterial hypotension, pre-syncope, syncope, shock; acute pulmonary edema; acute and chronic pulmonary heart disease; major cardiac tumors; congenital heart disease: atrial and ventricular septal defect, ductus Botalli patency, overview on the remaining congenital heart diseases; major cardiac emergencies; cardiac sudden death. Basis of ECG. Overview on the main cardiovascular therapies.

Professionalizing: history, clinical examination and auscultation of the cardiac patient; basis of instrumental diagnostic tools: basic ECG, mono-dimensional and two-dimensional echocardiography, main laboratory markers, chest X-ray. Overview on the main diagnostic techniques: CT, MRI, scintigraphy, ergometry, pharmacological stress echocardiography, cardiac catheterization and coronary angiography.

Vascular Surgery

Fundamental: arterial aneurysms and dissections; chronic occlusive arterial disease of the extremities; acute limb ischemia; cerebrovascular insufficiency; renal vascular hypertension; visceral ischemic syndromes; thoracic outlet syndrome; varices; chronic venous insufficiency: thrombophlebitis and venous thrombosis. Overview on the main diagnostic techniques: carotid ultrasound imaging and lower limbs venous ultrasonography.

Cardiac surgery

Fundamental: indications to cardiac surgery in congenital heart disease, acquired valvular heart disease, ischemic heart disease, pericardial diseases, thoracic aortic disease. Heart and heart-lung transplantation; artificial heart.

Respiratory Diseases

Fundamental: mention on functional anatomy, pathophysiology and semeiotics of respiratory system (cyanosis; dyspnea; atelectasis; hemoptysis and hemoptoe). Acute infections: bronchopneumonia; COPD; bronchial asthma; pulmonary fibrosis; sarcoidosis; pneumoconiosis and other occupational lung diseases; pulmonary vascular disease: embolism; lung cancer; pleural effusions; acute (including respiratory distress syndrome) and chronic respiratory failure; tuberculosis; pulmonary mycosis.

Professionalizing: clinical examination of the respiratory system; basis of instrumental diagnostic tools: spirometry; blood gas analysis; main laboratory tests; chest X-ray; CT; MRI; ventilation/ perfusion scintigraphy; allergy testing; diagnosis of respiratory infections; overview of the main respiratory therapy: drugs, oxygen therapy and physiokinesitherapy.

Thoracic Surgery

Fundamental: surgical anatomy of the chest; pneumothorax; benign and malignant pleural effusions; pulmonary abscess and gangrene; benign and malignant diseases of the airway; tumors of the lung, pleura and mediastinum; chest trauma; hydatid disease; surgical treatment of chronic respiratory failure.

15 - APPLIED PATHOLOGY II

Main teaching objectives:

Nephrology: Collect renal history, Require specific tests to evaluate and distinguish among clinical manifestations of Renal Disease, Evaluate urinary sediment, Understand the diagnostic value of radiologic techniques in nephrology, Diagnose Acute Renal Failure, Classify and understand the prognostic values of different stages of Chronic Renal Failure, Identify major electrolyte and acid-base derangements, Understand the clinical value of renal biopsy, Identify the hallmarks of the main primary glomerulonephritides, Identify the hallmarks of the main secondary glomerulonephritides, Understand the clinical specificities of those renal clinical conditions allowed by renal replacement therapies (dialysis and transplantation), Evaluate an hypertensive patients from a nephrologic point of view, Evaluate a patient presenting with nephrolithiasis,

Urology: Medical history tacking in Urology, Physical examination in Urology including DRE, Testicular examination, Insertion of urethral catheter, Carry out and interpret urine analysis, Interpretation of: Plain radiograph of kidney, ureter and bladder, IVU films, Urinary flow rate, CT of abdomen and pelvis, Ultrasonography of the kidney, ureters and bladder, Urodynamics, Semen analysis

Nephrology

Anatomy of the kidney, Clinical Manifestations of renal diseases**:** Nephritic Syndrome, Nephrotic syndrome, Isolated Urinary Abnormalities, Acute Renal Failure, Sub-acute (or rapidly progressive) Renal Failure, Chronic Renal Failure, Arterial Hypertension, Hydro-electrolytic derangements.

Diagnostic tools in renal diseases: Methods to evaluate renal function. Laboratory tests (urinary sediment, biochemistries, microbiology, molecular biology), Radiology and ultrasonography. Renal biopsy.

Acute renal failure: Definition, etiology, pathogenesis, clinical picture, diagnosis and differential diagnosis (Pre-renal, Renal and Post-renal)

Chronic renal failure and uremic syndrome: Definition and classification (Stages I-5/D/T)). Etiology and Pathophysiology of chronic renal failure. Clinical picture. Diagnosis of chronic renal failure (tests and criteria).

- *Metabolic derangements*: Hypo- and hyper- natremia, metabolic acidosis and alcalosis, hypo- and hyper- kalemia. Mineral (calcium, phosphate, parathyroid hormone, vitamin D) and **B**one (renal osteodystrophy) **D**isorders (definition of CKD-MBD).

- *Organ involvements:* Cardiovascular, Pulmonary, Hematologic, Neuromuscular, Endocrine, Gastrointestinal, Dermatologic and Immune involvements.

Glomerulonephritides:

Pathologic mechanisms of glomerular injury. Immunologic and non-immunologic glomerular lesions

Primary glomerulonephritide**s**: Minimal lesion glomerulonephritis; Post-infectious Nephritis; IgA nephropathy; Focal and segmental glomerulosclerosis; Membranous nephropathy; Membranoproliferative glomerulonephritis; Extracapillary proliferative glomerulonephritis.

Secondary glomerulonephritides: Diabetic nephropathy; Systemic Erithematous Lupus nephritis; vasculitis; cryoglobulinemia; myeloma kidney and amyloidosis.

Tubulointerstitial Nephritis,

Nephrolithiasis,

Urinary tract infections

Hereditary Renal Diseases glomerular and tubular (Policystic kidney, Alport's disease, etc)

Renal vascular diseases and nephrovascular hypertension

Clinical Conditions Peculiar to Renal Patients:

The case of Hemodialysis: principles of hemodialysis, therapeutic indications for- and clinical picture of the patients on- maintenance hemodialysis.

The case of Peritoneal dialysis: principles of peritoneal dialysis, therapeutic indications for- and clinical picture of the patients on- maintenance peritoneal dialysis

The case of Renal Transplantation: selection criteria of the receiver; organ donation and donor selection; typization; immunosuppression; clinical picture of renal transplant patient.

Urology

Anatomy of the genitourinary tract, Diagnosis and management of urinary tract infection and sexually transmitted diseases including cystitis, epididymitis, prostatitis and urethritis, Diagnosis and management of haematuria, Testicular torsion, PSA screening, BPH, Diagnosis/staging/management of prostate cancer, Diagnosis/staging/management of bladder cancer, Diagnosis/staging/management of testicular cancer, Diagnosis/staging/management of renal cancer Diagnosis/staging/management of nested transitional cell carcinomas, Diagnosis/staging/management of urinary tract trauma, Paraphymosis, Vesico-urethral reflux, Bladder extrophy, Hypospadias, Undescended testis, Spermatocele Hydrocele, Male factor infertility, Varicocele, Diagnosis and management of urinary incontinence, Diagnosis and management of impotence, Diagnosis and management of renal calculiDiagnosis and management of ureteric calculi Diagnosis and management of bladder calculi

Exam modalities: oral

Textbooks:

Smith and Tanago's General Urology, Jack. W. McAninch, Tom. F. Lue, Editors; Eighteenth Edition, McGraw Hill

Harrison's Principles of Internal Medicine

16 - APPLIED MEDICAL SCIENTIFIC METHODS (VII+VIII)

Applied Medical Scientific Methods (VII)

Main teaching objectives:

The rationale approach to pathology: from the clinical examination to laboratory and diagnostic tests.

Etiopathogenesis of the cardiovascular, pulmonary and renal pathologies

Clinical assessment in order to finalize the instrumental diagnostic tests.

The international guidelines to be followed for the choice between medical or invasive treatment

The need of the post-treatment control

Primary and secondary cardiovascular prevention

Objectives of the APP

The students will be able to apply theoretical knowledge to clinical practice in the diagnosis and treatment

Applied Medical Scientific Methods (VIII)

Main teaching objectives:

The rationale approach to pathology: from the clinical examination to laboratory and diagnostic tests.

Pathophysiology of main gastroenterological, metabolic and nutritional diseases

Clinical assessment and approach to biochemical and instrumental diagnostic tests

Nutrition in health and diseases

From basic science, epidemiology and RTCs to international guidelines

How to write a scientific paper

Objectives of the APP

Through the interactive discussion or clinical cases representative of the disease included in the applied pathology III - diseases of the digestive system endocrine system and metabolism, the students will be able to apply theoretical knowledge to clinical practice in the diagnosis, management and treatment.

Exam: written (solution of clinical case)

Textbooks:

Goldman's Cecil medicine 24th edition

Harrison Principles of Internal Medicine 18 edition

17 - PATHOLOGICAL ANATOMY AND ASSOCIATIONS WITH CLINICAL ANATOMY (I+II)

Main objectives of the course.

For each of the diseases listed below, the students will:

a) Learn the macroscopic and microscopic features.
b) Understand the physiopathology underlying the clinical and morphologic features of each disease, and the role of pathology in the diagnostic flow-chart.
c) Be able to interpret a pathology report.

<u>Heart and vessels</u>

Atherosclerosis

Aneurysms and dissections

Vasculidities

Myocardial hypertrophy and adverse cardiac remodelling

Ischemic heart disease

Valvular heart disease
- Dystrophic
- Myxomatous
- Inflammatory

Cardiomyopathies
- Inflammatory
- Dilated
- Hypertrophic
- Arrhythmogenic
- Restrictive

Pericardial disease
- Pericardial effusion and hemopericardium
- pericarditis

Lung, pleura and mediastinum

Pulmonary edema

Acute respiratory distress syndrome

Embolism, hemorrage and infarction

Emphisema, cronic obstructive pulmonary disease

Pneumotorax

Pulmonary hypertension

Diffuse interstitial disease

Pulmonary infections

Lung tumors
- Benign
- Malignant
- Tissue determination of prognostic and predictive factors

Pleural effusions

Pleural tumors

Thymomas

Kidney and urinary tract

Congenital anomalies and cystic disease

Glomerular disease
- Acute glomerulonephritis
- Rapidly progressive glomerulonephritis
- Membranous glomerulopathy
- Minimal change disease
- Focal segmental glomerulosclerosis
- Membranoproliferative glomerulonephritis
- IgA nephropathy
- Chronic glomerulonephritis

Tubular and interstitial disease

- Acute tubular necrosis
- Tubulointerstitial nephritis

Vascular disease
- Atherosclerosis
- Benign nephrosclerosis
- Malignant hypertension
- Renal artery stenosis
- Thrombotic microangiopathies

Obstructive uropathy
- Urolithiasis
- Other

Tumors of the kidney
- Benign
- Malignant
- Tissue determination of prognostic and predictive factors

Lower urinary tract
- Inflammations
- Benign and malignant tumors of ureter and bladder

Male genital system

Testicular tumors

Prostate disease
- Benign prostatic hyperplasia
- Prostatic tumors

Female genital system

Disease of the uterus
- Uterine cervix inflammation
- Cervical intraepithelial and invasive squamous neoplasia
- Chronic endometritis
- Endometriosis and adenomyosis
- Endometrial polyps
- Endometrial hyperplasia
- Malignant tumors of the endometrium
- Benign and malignant tumors of the endometrium

Disease of the ovary
- Benign and malignant ovarian tumors

Breast

Inflammation

Benign epithelial lesions

- Fibrocystic changes
- Proliferative breast disease without atypia
- Proliferative breast disease with atypia

Benign and malignant tumors

Tissue determination of prognostic and predictive factors in breast carcinoma

Gastrointestinal tract

Esophagus
- Esophagitis and Barrett esophagus
- Benign and malignant tumors

Stomach
- Gastritis
- Peptic ulcer disease
- Benign and malignant tumors
- Tissue determination of prognostic and predictive factors in gastric cancer

Small and large intestines
- Malabsorption syndromes
- Inflammatory bowel disease (Crohn disease, ulcerative colitis, overlap colitis)
- Vascular disorders (ischemic bowel disease)
- Benign and malignant tumors
- Tissue determination of prognostic and predictive factors

Liver and biliary tract
- Infectious disorders (viral hepatitis, bacterial, parasitic and helmintic infections)
- Alcoholic liver disease
- Metabolic liver disease (non-alcoholic fatty liver disease and steatohepatitis, hemochromatosis, Wilson disease, alpha-1 antitrypsin deficiency)
- Liver cirrhosis
- "Vanishing bile duct syndrome" (primary biliary cirrhosis, sclerosing cholangitis, chronic liver rejection)
- Nodular hyperplasia, benign and malignant tumors
- Colelithiasis, colecystitis

Exocrine pancreas
- Pancreatitis
- Benign and malignant tumors

Endocrine system

Pituitary gland
- Pituitary adenomas

Thyroid gland
- Thyroiditis (Hashimoto thyroiditis, subacute thyroiditis, lymphocytic thyroiditis)
- Diffuse and multinodular goiter
- Benign and malignant tumors

Endocrine pancreas
- Diabetes mellitus
- Endocrine pancreatic neoplasms

Adrenal glands
- Pathologic substrates of adrenal cortex insufficiency and hyperfunction
- Neoplasms of adrenal cortex and medulla

Multiple endocrine neoplasia (MEN) syndromes

Head and neck pathology

Salivary gland tumors
Larinx: reactive nodules, benign and malignat neoplasms

Diseases of white blood cells, lymph nodes, spleen and thymus

Lymphadenitis
Lymphoproliferative disorders
Myeloid neoplasms
Splenomegaly

Benign and malignant bone and soft tissue tumors

Diseases of the central nervous system

Cerebrovascular disease
- Ischemia and infarction
- Intracranial hemorrages (intracerebral and subarachnoid)

Infections (meningitis)

Cerebral and meningeal tumors, primary and metastatic

Neurodegenerative Diseases

- Alzheimer Disease
- Frontotemporal Lobar Degenerations
- Parkinson Disease

18 - APPLIED PATHOLOGY III

Gastroenterology

At the end of the teaching program the student will be able to:

- integrate the etiological and pathophysiological mechanisms of the diseases of the digestive tract with the clinical presentation
- analyse symptoms, signs, and complications of diseases
- investigate in orderly diagnostic algorithms and give indications on prevention and therapies
- comprehend the differences, similarities, and interplay between functional and organic gastrointestinal diseases
- comprehend the reciprocal interaction between environment, genetics, psychological status, and gastrointestinal function and diseases
- deal with patients' suffering for acute and chronic gastrointestinal diseases

Topics of formal teaching

- pancreatic diseases
- non-malignant biliary tract diseases
- acute and chronic hepatitis
- liver cirrhosis
- liver masses including hepatocellular carcinoma and cholangiocarcinoma
- liver transplantation in the adult patient
- emergencies in gastroenterology: digestive bleeding and intestinal occlusion

- altered deglutition and esophageal diseases (Dysphagia, Gastroesophageal Reflux Disease, Motor Alterations, Achalasia)
- Gastroduodenal Diseases (Helicobacter pylori infection, Acute and Chronic gastritis and gastropathies, Peptic ulcer, Gastric tumors)
- Intestinal Diseases (Maldigestion and malabsorption, Celiac Disease, Inflammatory Bowel Diseases, Diverticular Disease, Rectocolonic tumors)
- Functional Gastrointestinal Diseases (Dyspepsia, Irritable Bowel Syndrome, Constipation, Diarrhea)
- Anorectal Diseases (Fecal Incontinence)

Endocrinology

At the end of the teaching program the student will be able to diagnose endocrine diseases and give therapeutic indications

Topics of formal teaching

- Introduction to the endocrine system
- Clinical aspects of anterior and posterior pituitary gland
- The thyroid: Hypothyroidism, Hyperthyroidism, Nontoxic goiter, Thyroiditis, Thyroid cancer
- Calcium and bone metabolism: Hyperparathyroidism Hypoparathyroidism, Osteoporosis
- The adrenal glands: Adrenal insufficiency, Cushing's syndrome, Congenital adrenal hyperplasia, The incidentally discovered adrenal mass, The adrenal medulla
- Endocrinology of hypertension: Renin-angiotensin II-related hypertension, Mineralcorticoid-related hypertension, Pheocromocytom.
- Hirsutism
- Metabolic disorders: Diabetes mellitus, Hypoglicemia, Obesity and metabolic syndrome
- Special topics in endocrinology: Hormones and athletic performance, Trans-genderism, Late onset hypogonadism

19 - DIAGNOSTIC IMAGING

Main teaching objectives

The aim of this course will be to enable students to develop a basic familiarity with all the major medical imaging techniques employed in modern hospitals, including x-ray imaging, computed tomography, magnetic resonance imaging and ultrasound.
Each technique will be introduced in the context of the underlying clinical requirements. Major indications to various exams will also be reviewed with the aim of providing an overview about how different modalities may be adopted in different clinical scenarios and possibly integrated in order to formulate a diagnosis.

Formal Teaching (subjects)

The course aims to acquire the following knowledge.

- Radiations, radiobiology and principles of radioprotection: introduction to physics of radiation
- Conventional radiography: understanding the principles and data acquisition strategies used in radiography, mammography, fluoroscopy and, angiography
- Ultrasound: understanding the principles

- Computed Tomography: understanding the principles
- Magnetic Resonance: understanding the principles
- Contrast Media: how to increase contrast in Radiology; rationale and utilization of contrast media in various imaging modalities. Overview relative and absolute contraindications.
- Recognizing chest anatomy and a technically adequate chest radiograph
- Airspace vs interstitial lung disease: how to recognize and clinical impact of diagnostic imaging
- The opacified hemithorax: understanding main causes and recognizing imaging differentials
- Atelectasis. Pleural effusion. Pneumonia. Pneumothorax, Pmeumomediastinum, pneumopericardium and subcutaneous emphysema.
- Heart Diseases: basic principles and main indications to cardiac CT and MRI
- Vascular diseases: recognizing main pathological appearances in atherosclerotic, post-traumatic and non-atherosclerotic vasculopathies
- Gastrointestinal Radiology: awareness of clinical role and specific indications of major imaging modalities for the evaluation of abdominal organs; differential diagnoses of main pathological conditions and rational to use different diagnostic techniques
- Urinary Radiology (Kidneys and Adrenals): recognition of main pathological affections involging urinary tract; learning use, advantanges and disadvantages of different modalities
- Female Imaging: Breast and genital radiology
- Male imaging: diagnosis and staging of prostatic cancer with multimodality imaging. Recognition of main pathological entities affecting testicles and remaing organs of
- MSK Radiology: definition and imaging features of fractures and dislocations; introduction to main joint diseases; imaging of neck and back pain
- Bone density: how to quantify and clinical impact in clinical practice and for patient's therapeutic management
  Intracranial pathology: main intra- and extra-axial tumors; ischemia and intra-cranial hemorrhage; imaging of hypophysis; intracranial vascular pathology and malformations
- Interventional Radiology and Image guided therapy: significance and clinical utilization of main interventional procedures performed by radiologists

Learning outcomes
The module aims to be a foundation for the further pursuit of knowledge of theoretical and practical aspects of medical imaging which specific referral to utilization of various imaging modalities in main clinical scenarios.
Students will also be provided fundamentals of diagnostic imaging in order to recognize main anatomic structures and have the base to differentiate between most common affections.

20 - APPLIED PATHOLOGY IV

Main teaching objectives:

At the end of the course, the student must:

- Have acquired the skills essential for the approach to patients affected by Rheumatological Diseases, with particular reference to degenerative and inflammatory rheumatic diseases (systemic or not).
- Have acquired the knowledge essential for a diagnostic and therapeutic approach in the major diseases of the immune system, with particular reference to immune deficiencies, autoimmune diseases, vasculitis and allergies.
- Have acquired the skills essential for a diagnostic, prognostic and therapeutic approach to patients affected by Hematological Diseases, with particular reference to anemias, hematological malignancies and disorders of hemostasis and thrombosis.

Rheumatology

Pathophysiology of the musculoskeletal system and connective tissue.

Patient characteristics and symptoms.

Primary and secondary arthrosis.

Rheumatoid arthritis.

Spondyloepiphyseal arthritis: ankylosing spondylitis, psoriatic arthritis, reactive arthritis and enteropathic arthritis.

Connective tissue diseases (SLE, antiphospholipid syndrome, Sjogren's syndrome, progressive systemic sclerosis, polymyositis / dermatomyositis).

Juvenile chronic arthritis.

Degenerative spine disease.

Immunology

Clinical pathophysiology of the immune system.

Clinical diagnostics and laboratory investigations of diseases of the immune system.

Primary and secondary immunodeficiencies.

Main organ-specific autoimmune diseases (autoimmune hepatitis, primary biliary cirrhosis, autoimmune gastropathies).

Sarcoidosis.

Vasculitis: overview, classification, clinical and diagnosis of the main vasculitis (Giant cell arteritis (temporal arteritis), Takayasu's arteritis, polyarteritis nodosa, Kawasaki disease, Wegener's granulomatosis, Churg-Strauss syndrome; microscopic polyangiitis; Henoch-Schonlein purpura; cryoglobulinemic vasculitis, Behcet's disease).

Allergic diseases: IgE-mediated and non-IgE-mediated allergies; pseudo allergies; allergy diagnostics; food allergies; atopic dermatitis; urticaria-angioedema syndrome; allergic oculorhinitis; allergic asthma; allergic contact dermatitis; Hymenoptera venom allergy; drug allergy; severe allergic diseases (anaphylactic and anaphylactoid reactions, erythema multiforme, Stevens-Johnson syndrome); treatment of allergic diseases; allergen-specific immunotherapy.

Hematology

Principles of hemopoiesis.

The role of the laboratory in hematology.

Diagnosis and management of anemias.

Diagnosis and management of acute and chronic lymphoproliferative disorders.

Diagnosis and management of acute and chronic myeloproliferative disorders.

Diagnosis and management of monoclonal gammopathies and lymphomas,

Principles of chemotherapy.

Targeted treatment in hematology.

Pathophysiology of hemostasis.

Congenital and acquired disorders of coagulation.

Principles of autologous and allogeneic stem cell transplantation.

21 - APPLIED PATHOLOGY V

Infectious Disease

General concepts in infectious disease

HIV infection: epidemiology, diagnosis, clinical aspects, therapeutic approach and prevention

Viral hepatitis

Meningitis and encephalitis

Nosocomial infections

Respiratory infections and Tuberculosis

Herpes virus infection: CMV, EBV, VZV, HSV1/2

Parasitic disease (malaria, amebiasis, leismaniasis)

Skin infections and manifestations

Sexual Transmitted Infections

Antibiotic use

Reproductive Medicine

Pathophysiology of male reproduction and gametogenesis.

Pathophysiology of female reproduction and gametogenesis.

Diagnostic workup of male, female and couple infertility: clinical examination, laboratory investigations, specific tests and imaging techniques.

Medical treatment of reproductive disorders.

Male and Female Sexual Dysfunction.

Male and Female Contraception.

Prevention strategies and preservation of male and female reproductive potentials.

Testicular tumors.

Assisted Reproductive Technologies.

Ethic, demographic and social issues in reproductive medicine

22 – DISEASES OF THE NERVOUS SYSTEM

Program

Nervous motor system structure and function: symptoms and signs

Sensory systems: symptoms and signs of lesions

Disorders of cranial nerves

Movement disorders

Higher function and Dementias

Disorders of consciousness and coma

Multiple Sclerosis and demyelinating diseases

Nerve and muscle diseases. EMG

Neuroimaging in neurological diseases

Epilepsy, related disorders and EEG

Stroke

Traumatic brain and spinal cord injury

Cerebral Tumors

Uro-neurology

Exam modalities : oral

Textbooks:

- Clinical Neurology Fourth Edition edited by W. Scadding and Nicholas A. Losseff ; Hodder Arnold publisher
- The Netter Collection: Nervous System Part I Brain and Part II Spinal and Peripheral Motor and Sensory Systems
- Neurology, Queen Square Textbook edited by C Clarke, R Howard, M Rossor, S Shorvon; Wiley Blackwell
- La Neurologia della Sapienza, Alfredo Berardelli – Giorgio Cruccu; Esculapio Editore

23 – PHARMACOLOGY AND TOXICOLOGY

Program

Principles of Pharmacodynamics

Definitions of potency, efficacy, receptor agonists (full and partial) and antagonists, orthosteric agonists and antagonists, negative and positive allosteric modulators, superagonist, receptor reserve, habituation and tolerance, physical and motivational dependency. Classification of G-protein coupled receptors. Classification of G proteins. AGS and RGS. GRKs and arrestins: their role in receptor desensitization and internalization. Signal transduction mechanisms: focus on the adenylate cyclase/cAMP pathway and polyphosphoinositide hydrolysis. Pharmacology of nitric oxide. Pharmacology of phosphodiesterases and drug treatment of erectile dysfunction. Dopaminergic, adrenergic, serotonergic, and histamine receptors: role in physiology and pathology. Muscarinic and nicotonic receptors. Pharmacology of cholinesterases. Voltage-sensitive calcium channels.

Principles of Pharmacokinetics

Drug absorption, distribution, metabolism, and elimination. Bioavailability and AUC. Phase I reactions of drig metabolism: cytochrome-P450 (CYP1A1, 1A2, 2B6, 2C8, 2C9, 2C19, 2D6, 2E1, 3A4, 3A5, 3A7, 4F2), dihydropyrimidine dehydrogenase, alcohol dehydrogenase, epoxide hydrolase. Phase II reactions: glucuronidation and UGT, SULTs, amino acid conjugation, N-acetyltransferases, TPMT, COMT, GSH-transferases. Efflux pumps with focus on mdr-1 (glycoprotein-P).

Selected themes of endocrine pharmacology and pharmacology of the gastro-intestinal system

Drug treatment of GH deficiency and acromegalia. Drug treatment of hyperprolactinaemias. Clinical pharmacology of the adrenal cortex. Insulin receptors. Drug treatment of type-1 and type-2 diabetes (IDDM and NIDDM): short- and long-acting insulins, sulphonylureas, metformine, rosiglitazone, incretins, DPP-IV inhibitors, SGLT2 inhibitors. Ovary cycle and contraceptives. Drug treatment of hyper- and hypothyroidism.

Anti-acid drugs (proton pump inhibitors and H2 receptor antagonists). Drug treatment of chronic inflammatory bowel disorders (IBDs). Drug treatment of HBV and HCV infections.

Drugs used in inflammation, cardiovascula and lung disorders, and bacterial and viral infections

Antiarrhythmic drugs, diuretics, antihypertensive drugs, drugs used in the treatment of heart failure. Antiinflammatory drugs: NSAIDs and corticosteroids. Biological drugs used in autoimmune disorders. General principles of antibiotic resistance. Pharmacology of microbioma. Pharmacological aspects of social microbiology. □-lactamic antibiotics. Aminoglicosides. Glycopeptidic and lipopetidic antibiotics. Tetracyclines. Inhibitors of 50 S ribosomal subunit. Fluoroquinolones. Drugs used in the treatment of HIV infection.

Pharmacology of neurological and psychiatric disorders.

Drugs used in the treatment of: migraine, Parkinson's disease, epilepsy, Alzheimer's disease, and multiple sclerosis. Drugs used in the treatment of schizophrenia, major depression, anxiety, and bipolar disorders.

Textbook: Goodman and Gilman: XII Edition in English.

24 – INTERNAL MEDICINE AND GENERAL SURGERY I

Main teaching objectives:

The rationale for an integrated approach to clinical medicine and general surgery with clinical oncology and radiotherapy.

Abdomen pathologies; Alterations in acid-base balance; Bones metastasis therapy; Breast cancers: medical and surgical therapy, radiotherapy; Cardiomyopathy; Cardiovascular complications of diabetes; Cholangiocarcinoma; Chronic-obstructive pulmonary diseases; Colon-rectum cancers: medical, surgical therapy and radiotherapy; Colorectal metastasis; Deep venous thrombosis; Diabetes mellitus type I and II; Diabetes therapy; Electrolytic diseases; Exocrine pancreatic cancers: medical therapy; Headache; Heart failure; Hepatic failure; Hepatitis and Liver cyrrhosis; Hepatocarcinoma; Hypo- and Hyper-calcemias therapies; Inflammatory bowel diseases; Kidney and adrenal cancers; Kidney failure; LES / Sjögren syndrome; Lipid metabolism; Lung cancers: medical, surgical therapy and radiotherapy; Neuroendocrine cancers: medical therapy and nuclear medical therapy; Oesophageal cancers: medical therapy and radiotherapy; Phospho-calcium metabolism of vitamin D; Physical activities and prevention/treatment of chronic degenerative diseases; Pleurisy; Progressive systematic sclerosis; Psycho-oncology; Rheumathoid Arthritis; Role of

cytology in gastroenteric cancers; Simultaneous care in oncology; Soft tissues cancers: medical therapy; Stomach cancers: medical therapy, radiotherapy; Stromal intestinal cancers; Surgical site infections; Thyroid cancers.

Exam: oral

Textbooks:

- Harrison's Priciples of Internal Medicine, 19th Edition, McGraw Hill.
- Sabiston Textbook of Surgery, Elsevier/Saunders

25 – PSYCHIATRY AND CLINICAL PSYCHOLOGY

Clinical Health Psychology

Main teaching objectives:
The students should acquire knowledge and competence about the main psychological and psycho-social processes relevant for health and for the delivery of care and treatments in health care settings through a problem based and interprofessional oriented approach.

Main topics:

- Biopsychosocial changes along the live cycle
- Basic psychological processes (e.g. perception, attention, memory, emotional regulation etc.) and personality
- Interpersonal relationships and communication
- Illnesses prevention and health promotion
- Behaviours and psychological aspects in illnesses and disabilities
- Psychological interventions in illnesses and disabilities
- Motivation and Principles for behavior change
- Psychosocial aspects in the organization of health care services

Psychiatry

- Concepts of psychiatry
- Psychiatric evaluation and basics of psychopathology
- Consciousness and related disorders
- Anxiety and anxiety disorders
- Depressive and bipolar disorders - Suicide
- Schizophrenia and psychotic disorders
- Obsessive compulsive spectrum disorders
- Psychiatric disorders due to general medical conditions
- Anorexia and bulimia
- Stress, Trauma- and Stressor- Related disorders
- Somatic Symptom and Related Disorder.
- Personality disorders
- Sexual disorders and paraphilias
- Sleep disorders
- Substance use disorders
- Basic forensic aspect in psychiatry; voluntary admission and compulsory treatment
- Treatments: Psychopharmacology, psychotherapy and psychosocial interventions

Textbooks:
B. Ader, C. Abraham, E. van Teijlingen, M. Porter Psychology and Sociology Applied to Medicine, 3rd Edition - Churcill Livingstone (Elsevier) 2009 + Readings and articles delivered in class and through the omonimopus elearning unit (elearning2.uniroma1.it)

American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: American Psychiatric Publishing, 2013.

Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry. Eleventh Edition by Benjamin J. Sadock, Virginia A. Sadock, Pedro Ruiz. Philadelphia: Wolters Kluwer, 2015.

26 – MOVEMENT DISORDERS, RHEUMATOLOGY

Main teaching objectives:

How to make a correct diagnosis and to give instructions about the treatment of orthopaedic and traumatological diseases.

The therapeutic, medical, surgical and rehabilitative possibilities of the main orthopaedic and traumatological pathologies.

The diagnostic and therapeutic elements of the main rheumatic diseases, that provide major importance about the epidemiological aspects: inflammatory rheumatism (primary and reactive arthritis), systemic or connective rheumatic diseases, microcrystalline and degenerative arthropathies, generalized extra-articular and local rheumatisms (focus on fibromyalgia, osteoporosis and osteoarthritis).

27 – DERMATOLOGY AND PLASTIC SURGERY

DERMATOLOGY CONTENTS

· ANATOMY AND PHYSIOLOGY

· ELEMENTARY LESIONS OF THE SKIN

· ALLERGIC CONTACT DERMATITIS AND IRRITANT CONTACT DERMATITIS

· ATOPIC DERMATITIS

· PRICK AND PATCH TESTS AND URTICARIA

· PSORIASIS

· SEBORRHEIC DERMATITIS

· LICHEN RUBER PLANUS

· NEVI

· BENIGN SKIN NEOPLASMS

· MELANOMA AND NON MELANOMA SKIN CANCER

· ACNE

· VITILIGO

· SYPHILIS

· PEMPHIGUS AND PEMPHIGOID

· MICOSIS (CANDIDA AND TINEA)

· BACTERIAL INFECTIONS (IMPETIGO)

· VIRAL INFECTIONS (HSV AND VZV, PAPILLOMA VIRUS)

PLASTIC SURGERY

Normal and pathological wound healing.

Basic principle in plastic surgery:

· Excision and suturing

· Grafts

· Flaps

· "zeta", "v-y" plasty etc.

Burn: classification, diagnosis, systemic and local treatment.

Principal vascular anomalies: Angiomas, Simple and Complex vascular Malformations.

Traumas, tumors and malformations of the Head and Neck: reconstructive options.

· Craniofacial Traumas

· Principal tumors of the Head and Neck

· Simple and Complex Craniostenosis

· Facial clefts

Traumas, tumors and malformations of the external genitalia: reconstructive options.

· Principal tumors of penis and testicle

· Hypospadias

· Epyspadias

· Fimosis

· Fournier Sindrome

· Vaginal Aplasia

Traumas, tumors and malformations of the chest wall: reconstructive options.

· Mastectomy and breast reconstruction

· Amastia and hypomastia

· Hypermastia and gigantomastia

· Anisomastia and Poland sindrome

Traumas, tumors and malformations of the limbs: reconstructive options.

· Amputations and replantations

· Principal tumors of the limbs

· Sindattily, polidattily, clinodattily, aracnodattily

Aesthetic anomalies of aging: corrective options.

· Ritidectomy

· Mastopexy

· Addominoplasty

28 – DISEASES OF THE SENSORY ORGANS

Main teaching objectives:
The course aims to provide a thorough knowledge on issues related to the anatomy and physiology of the organs that feature the ear, the nose and the throat, with their related diagnostic and therapeutic aspects. It also aims to transmit to the student a comprehensive discussion of the wide variety of diseases that may affect the teeth and the oral cavity (mucosa and bone), the head and neck district, the eye and the ocular adnexa. The main emphasis is placed on the clinical diagnostic aspects of the diseases including also epidemiologic features. It also presents a variety of diseases that may affect the. The main emphasis is placed on the clinical diagnostic aspects of the diseases including also epidemiologic features.

Program

Otolaryngology: Anatomy of the ear; Otitis: external and middle; Acute and chronic; Cholesteatoma; Complications of chronic otitis media and cholesteatoma; Otosclerosis; Paraganglioma; Vestibular Schwannoma; Facial palsy; Notes on surgical procedures (miryngoplasty, tympanoplasty, mastoidectomy); Vertiginous syndrome; Meniere's disease; BPPV; Vestibular neuritis; Nasal obstruction: rhinitis; Acute and chronic sinusitis; Osas (adult and children); Adenotonsillitis; Laryngopharyngeal reflux; Laryngeal cancer; Precancerous lesions.

Audiology: Physiology of hearing; Hearing loss; Audiometry: subjective and objective tests; Physiology of balance; Vestibular examination; Auditory screening; Hearing rehabilitation: hearing aids, implantable devices; Cochlear implant.

Ophthalmology: Optics, Refractive defects, Conjunctivitis, Keratitis, Keratopathies, Corneal transplantations, Glaucoma, Cataract, Diabetic retinopathy, Retinal detachment, Age-related macular degeneration, Electrophysiology of vision, Retinitis pigmentosa, Uveitis, Ocular tumors, Diseases of the optic nerve.

Oral Pathology: Diagnostic iter in Oral Pathology; Dental caries; Dental pulp diseases; Dental trauma; Oral infections; Anomalies of the dental lamina; Disembriogenetic disorders of the oral mucosa; Infective diseases of the oral mucosa; Potential Malignant Disorders and Oral Cancer; Jaw cysts; Osteonecrosis of the jaw drug related; Emergency cases management: airway management and tracheotomy, bleeding management; Maxillo – Facial traumas: mandible fractures, maxilla fractures, Zygoma fractures, Orbital fractures, Complex and combined facial bone fractures; Cranio – Facial malformation: epidemiology and classification; Maxillo – Facial malformation: epidemiology and classification, presurgical and surgical treatment;Head and Neck Surgical Oncology: oral cavity and oropharyngeal cancer, nose and paranasal sinuses cancer; Head and Neck reconstructive surgery; Surgical treatment of facial palsy.

Radiotherapy: Principles of Radiation Biology and Radiotherapy; Radiotherapy in Cancer of the Breast, of Head and Neck, in Cancer of the Lung, of the Oesophagus, of the Stomach, of the Pancreas, of the Rectum, of the Anal Canal;

New Techniques in Radiotherapy. Textbooks: Perez, Brady Principles and Practice of Radiation oncology+Lippincott Williams & Wilkins or Gunderson & Tepper Clinical radiation Oncology Churchill Livingstone Elsevier

30 – MEDICAL SCIENTIFIC METHODS: PUBLIC HEALTH (IX)

Main teaching objectives:
The course is focused on the interdisciplinary competences needed by public health practitioners and researchers, ranging from economic and managerial skills to epidemiological and evidence-based knowledge.

Program:
Health systems in the world: a comparative evaluation. Evidence-based medicine, systematic review and meta-analysis. The economic evaluation of health care programs. The Financing of health care systems at macro-level. Italian Financing System. The Financing of health care systems at micro-level: hospitals and other services. Efficiency measurement, control and programming in health care institutions.

Expected results:
Students, at the end of the course, should be able to: 1) read, understand and possibly improve existing economic evaluations, 2) have a deep knowledge of different organizational and financing settings of health services, both at macro and at micro level, 3) show that they have acquired the habit of accepting only statements supported by scientific evidence.

Textbooks:
Oxford Handbook of Public Health Practice. Edited by Charles Guest, Walter Ricciardi, Ichiro Kawachi, Iain Lang. Oxford University Press, United Kingdom, 2013 - Third Edition.
https://global.oup.com/academic/product/oxford-handbook-of-public-health-practice-9780199586301?cc=it&lang=en&

Chapters:
1.2 - Priorities and ethics in health care
1.6 - Economic assessment
2.4 - Epidemiological approach and design
2.5 - Statistical understanding
2.7 - Finding and appraising evidence
5.1 - Planning health service
5.2 - Funding and delivering health care
5.4 - Controlling expenditures
5.7 - Evaluating health care technologies
5.10 - Evaluating health care system

31 – INTERNAL MEDICINE AND GENERAL SURGERY II

Main teaching objectives:

- Assessment of geriatric patients and clinic management of the most important geriatric disorders (chronic heart failure, dementia, falls and syncope)
- Management of complications in liver cirrhosis patients
- Management and treatment of venous thrombosis
- Old and new antithrombotic drugs: choosing the right treatments
- Management and treatment of Non-alcoholic Fatty Liver Disease (NAFLD) and nonalcoholic steatohepatitis (NASH)

Exam: practical skills and oral examination

Textbooks:

- Harrison's Principles of Internal Medicine, 19th Edition, McGraw Hill
- Sabiston Textbook of Surgery, Elsevier/Saunders

32 – PAEDIATRICS

Program

- Growth, Development and Behavior
- Nutrition
- Fluid and Electrolyte Disorders
- Human Genetics
- Metabolic Disorders
- The Fetus and Neonatal Infant
- Immunology
- Allergic Disorders
- Rheumatic Diseases of Childhood
- Infectious diseases
- The Digestive System
- Respiratory System
- The Cardiovascular System
- Diseases of the Blood
- Cancer and Benign tumors
- Nephrology
- Urologic Disorders in Infants and Children
- The Endocrine System
- The Nervous System and Neuromuscular Disorders

Exam: written and/or oral

Suggested Textbooks:

- Nelson Textbook of Pediatrics, Editors. RM Kliegman, BF Stanton, JW St Geme III, NF Schor, RE Behrman, 20th Edition . Elsevier, Philadelphia, 2016

- The Online Metabolic and Molecular Bases of Inherited Disease
  David Valle, MD, Editor-in-Chief, Arthur L. Beaudet, MD, Editor, Bert Vogelstein, MD, Editor, Kenneth W. Kinzler, Ph.D., Editor, Stylianos E. Antonarakis, MD, D.Sc., Editor, Andrea Ballabio, MD, Editor, K. Michael Gibson, Ph.D., FACMG, Editor, Grant Mitchell, MD, Editor

33 – OBSTETRICS AND GYNAECOLOGY

Program

Clinical anatomy and physiology of the female genital apparatus. The fecundation. Nesting and early embryo differentiation. Fetal development functions.
Gravidic phenomena. Pregnancy diagnosis. Hygiene and care during pregnancy. Semiotics of obstetrics. Monitoring of fetal wellbeing.
Causes and factors of childbirth and birth phenomena. Course of the physiological birth. Maternal fetal labour monitoring. Psychosomatic Obstetric. Puerperium. Lactation. Medical conditions in pregnancy. Twin pregnancy.
Embryofetal diseases. Uterine dystocia's. Pharmacology of pregnancy and childbirth. Dystocia's of the birth canal.
Afterbirth and post partum accidents and birth injuries. Puerperal infection. Non-infectious complications of childbirth. Maternal mortality and perinatal mortality. Ultrasound imaging in obstetrics. Gynecological semiotics. Diagnostic methods in gynecology. Diagnostic endoscopic techniques. Breast diagnostic methods. Neuroendocrinology of reproduction. Regulation of menstruation.
Menopause. Disorders of the menstrual cycle. Menometrorrhagia dysfunctional. Viral and bacterial infections in the genital tract. Alterations of the pelvic static. Urogynecology. Female and male infertility. Aspects of immunopathology of human reproduction. Endometriosis. Genital tract malformations and developmental abnormalities. Cancers of the vulva and vagina. Benign uterine tumors. Endometrial hyperplasia. Malignant tumors of the uterine corpus. Malignant tumors of the uterine cervix. The benign adnexal masses. Malignant ovarian tumors. Breast diseases. Obstetric and gynecological surgical techniques.

Exam: written and/or oral.

Textbook: Obstetrics and Gynecology (2013) by Charles R. B. Beckmann MD MHPE, William Herbert MD

34 – MEDICAL SCIENTIFIC METHODS: FORENSIC MEDICINE, MEDICINE AND THE LAW (XI)

Main teaching objectives:

- Know the main legislative norms that regulate Health organization and the fundamentals of bioethics in the present-day problematic area, knowledge of ethical norms and different cultural models, the area of action of clinical bioethics and the concept of taking care of the patient.
- Be able to carry out medico-legal procedures; be able to make an ethical analysis of a case history and an evaluation of the doctor's own behaviour in critical situations following the principles of medical ethics.
- Be aware of deontological obligations and responsibility in the practice of medicine and in the national area of the social security system.
- Be able to be a doctor who, respecting a person's dignity, acts by safeguarding the health and welfare of the patient and of the community, using the limited resources available by law, aware of the need to respect the patient's rights and autonomy but at the same time helping the patient to reach a decision aimed at what is best for him.

35 – INTERNAL MEDICINE AND GENERAL SURGERY III

Main teaching objectives:

- Managing politherapy (checking for drug interaction)
- Choosing the right treatments for type 2 diabetes mellitus
- Preventing cardiovascular disease: the metabolic syndrome model
- Managing primary and secondary dysplidemia
- Interpreting arterial blood gas results

Exam: oral

Textbooks:
Harrison's Principles of Internal Medicine, 19th Edition, McGraw Hill
Sabiston Textbook of Surgery, Elsevier/Saunders

36 – EMERGENCY MEDICINE AND SURGERY

Main teaching objectives:

Approach, management and treatment of the emergency patient.

- Knowledge of critical pathologies (cardio-respiratory, cerebro and vascular emergency;) their treatment (trauma and cardiac life support; invasive and non invasive ventilation) as well as problems relating to the Emergency Health Service and disciplinary sectors of the emergency (Medicine, Surgery and vascular Surgery, Anesthesia and Resuscitation, Orthopedics, Neurology, Radiology)
- To be able to carry out fundamental therapy in an emergency and know how to prepare the patient for surgery.

9. Electives *(ADE)*

1st YEAR - 1st SEMESTER

CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY

Teacher	Type of Elective	Subject	Credits	Hours
A.E. Miele G. Boumis	Laboratory practical	Res Blood Cells resistance to Osmotic stress	0,2	2
A.E. Miele B. Vallone G. Boumis	Laboratory practical	ED encounters with molecules	0,2	2
B. Vallone	Seminar	Biological Buffers	0,2	2

BASIC MEDICAL SCIENTIFIC METHODS (I)

Teacher	Type of Elective	Subject	Credits	Hours
M. Capocci	Seminar	History of Medicine (Visit to the Museum)	0,2	2

MEDICAL PHYSICS

Teacher	Type of Elective	Subject	Credits	Hours
R. Pani	Seminar	Time-of-Flight PET: How speed of light measurement can improve the diagnostics in obese patients.	0,2	2
L. De Sio	Seminar	Laser light and nanotechnology: A new frontier in medicine and early diagnosis.	0,2	2

HUMAN ANATOMY (I)

Teacher	Type of Elective	Subject	Credits	Hours
E. Margaritondo	Seminar	Muscles of the forearm and hand	0,2	2

1st YEAR - 2nd SEMESTER

BIOCHEMISTRY (I)

Teacher	Type of Elective	Subject	Credits	Hours
M. Perluigi F. Malatesta	Seminar	Quantitative determination of protein content in milk	0,2	2
D. De Biase M. Perluigi	Seminar	Building molecular models at hand	0,2	2

HISTOLOGY AND EMBRYOLOGY

Teacher	Type of Elective	Subject	Credits	Hours
S. Adamo	Seminar	Environmental threats to reproductive health: Endocrine Disrupting Chemicals (EDCs)	0,2	2
D. Coletti	Seminar	Regenerative Medicine: tissue regeneration and engineering	0,2	2

BASIC MEDICAL SCIENTIFIC METHODS (II)

Teacher	Type of Elective	Subject	Credits	Hours
M. Cattaruzza	Monographic Course	Tobacco	0,5	5

2nd YEAR - 1st SEMESTER

HUMAN ANATOMY (II)

Teacher	Type of Elective	Subject	Credits	Hours
S. Nottola	Seminar	Ultrastructural Anatomy of Gametes in Assisted Reproduction: From Oocyte to Blastocyst	0,2	2

HUMAN PHYSIOLOGY (I)

Teacher	Type of Elective	Subject	Credits	Hours
C. Limatola	Elective placement	Laboratory	1	30

2nd YEAR - 2nd SEMESTER

HUMAN ANATOMY (III)

Teacher	Type of Elective	Subject	Credits	Hours
E.Gaudio C.Catalano	Seminar	In vivo imaging of the Human Central Nervous System	0,2	2
S.Nottola	Seminar	Dissection	0,2	2
E.Gaudio	Elective placement	Deepening in methods of Optical microscopy (4 students)	1	25
S.Nottola	Elective placement	Deepening in methods of Electron microscopy (4 students)	1	25

HUMAN PHYSIOLOGY (II)

Teacher	Type of Elective	Subject	Credits	Hours
F. Grassi	Seminar	Nicotine receptor and smoke addiction	0,1	1
A.P.Mitterhofer	Elective placement	Kidney function in clinical Practice (2 students)	1	25

MICROBIOLOGY

Teacher	Type of Elective	Subject	Credits	Hours
G. Antonelli	Seminar	Ebola virus infection	0,1	1
D. Modiano	Seminar	Genetics of susceptibility to Plasmodium falciparum malaria	0,1	1
A. Palamara	Seminar	Human Microbiota in health and disease	0,1	1

3rd YEAR - 1st SEMESTER

HUMAN PHYSIOLOGY (III)

Teacher	Type of Elective	Subject	Credits	Hours
S. Ferraina	Seminar	Neurophysiology approaches to cognitive functions	0,2	2
S. Ferraina	Elective placement	Laboratory	1	25

IMMUNOLOGY AND IMMUNOPATHOLOGY

Teacher	Type of Elective	Subject	Credits	Hours
G. Palmieri	Seminar	Tumor immunotherapy	0,2	2
	Seminar	Immunotherapy of hematological malignancies	0,2	2
	Seminar	Osteoimmunology and immune-mediated diseases of the bone	0,2	2
	Elective placement	Laboratory	1	25

PATHOLOGY AND PATHOPHYSIOLOGY (I)

Teacher	Type of Elective	Subject	Credits	Hours
A. Campese	Seminar	Animal models of human disease	0,2	2
L. Ravenna	Seminar	Oxygen sensing, homeostasis and disease	0,2	2

3rd YEAR - 2nd SEMESTER

PATHOLOGY AND PATHOPHYSIOLOGY (II)

Teacher	Type of Elective	Subject	Credits	Hours
A. Po L. Di Marcotullio	Seminar	Emerging research areas in cancer: microRNAs and the ubiquitin system	0,5	5
G. Giannini	Seminar	New approaches in cancer therapy: target therapies	0,2	2
G. Canettieri	Seminar	Diagnosis and treatment of thyroid tumors: molecular approaches	0,2	2
G. Giannini	Elective placement	Molecular Oncology I	1	25
G. Canettieri	Elective placement	Molecular Oncology II	1	25

4th YEAR - 1st SEMESTER

APPLIED PATHOLOGY I

Teacher	Type of Elective	Subject	Credits	Hours
C.Savoia	Elective placement	Cardiology Sant'Andrea Hospital (3 students)	1	25
C.Savoia	Seminar	ECG interpretation	0,5	5
F.Fedele	Elective placement	Cardiology (5 students)	1	25

F.Fedele	Seminar	Evidence based medicine or Educational based medicine	0,2	2
F.Fedele	Seminar	Pathophysiology and clinic of heart lung interaction	0,2	2

APPLIED PATHOLOGY II

S.Mazzaferro G. Franco	Multidisciplinary Seminar	Urolithiasis: clinical management	0,2	2
S.Mazzaferro A.Tubaro	Multidisciplinary Seminar	Clinical assessment of the patient with hematuria	0,2	2
S.Mazzaferro M.Pasquali	Elective placement	Nephrology (2 students) Policlinico	1	25
A. Tubaro G. Franco	Elective placement	Urology (2 students) Sant'Andrea Hospital	1	25

4th YEAR – 2nd SEMESTER

APPLIED PATHOLOGY III

Teacher	**Type of Elective**	**Subject**	**Credits**	**Hours**
F.Lombardo	Seminar	Disorders of pubertal Development	0,2	2
S.Ginanni Corradini	Seminar	Gut microbiotica and the gut-liver axis	0,2	2
D. Alvaro	Seminar	The autoimmune liver pathologies	0,5	3
S.Ginanni Corradini	Elective placement	Gastroenterology (for 5 students)	1	25
D. Alvaro	Elective placement	Gastroenterology (for 5 students)	1	25

APPLIED MEDICAL SCIENTIFIC METHODS (VIII)

F.Angelico	Elective placement	The basis of the approach to the classification and management of dyslipidemia (max. 4 students)	1	25
F.Angelico	Elective placement	Clinical approach to the control of cardiovascular risks (max. 4 students)	1	25
R. Gattuso		Clinical and diagnostic approach to the patient with atherosclerotic arterial disease		
A.Frustaci		Clinical approach to heart failure (3 students)		

PATHOLOGICAL ANATOMY IN ASSOCIATIONS WITH CLINICAL ANATOMY

G. d'Amati C. Giordano	Elective placement	How is life in the Pathology lab?	1	25

5th YEAR - 1st SEMESTER

DISEASES OF THE NERVOUS SYSTEM

Teacher	Type of Elective	Subject	Credits	Hours
A. Berardelli	Elective placement	Grand Rounds in the Neurological Word	1	25
A. Suppa	Seminar	Neurophysiology of Movement Disorders	0,2	2
M. Fiorelli	Seminar	Neuroimaging	0,2	2

APPLIED PATHOLOGY IV

A. Guarini	Seminar	Interpretation of a blood count	0,2	2
I. Quinti	Seminar	Diagnostic test for allergy in vivo	0,2	2

APPLIED PATHOLOGY V

M.R. Ciardi	Seminar	Emerging infectious disease	0,2	2
M.R. Ciardi	Seminar	CMV infection as a cofactors for aging and cardiovascular disease	0,2	2

5th YEAR – 2nd SEMESTER

PSYCHIATRY AND CLINICAL PSYCHOLOGY

Teacher	Type of Elective	Subject	Credits	Hours
M. Biondi C. Violani	Seminar	Communication and De-escalation in Psychiatry	0,2	2
M. Biondi C. Violani	Seminar	Breaking Bad News	0,2	2

6th YEAR - 1st SEMESTER

INTERNAL MEDICINE AND GENERAL SURGERY II

Teacher	Type of Elective	Subject	Credits	Hours
M. Del Ben	Seminar	Clinical Approach to Obesity and Non alcoholic fatty liver disease	0,2	2
M. Del Ben	Elective Placement	Clinical Approach and Management of chronic metabolic diseases (max. 2 students, Day Service di Medicina Intera e Malattie Metaboliche, 8 a.m.-1 p.m.)	1	25

PAEDIATRICS

F. Midulla	Seminar	Pediatric endoscopy of respiratory Airways	0,2	2
S. Oliva	Seminar	New imaging techniques in exploring the intestine in childhood	0,2	2
S. Cucchiara	Seminar	Gut microbiota, food and immunology in health and disease	0,2	2
	Seminar	Semeiotic of movement disorders in children	0,2	2
F. Midulla	Elective placement	Pediatric emergency	1	25
F. Midulla	Elective placement	Diagnostic examination in pediatric pulmonology	1	25
S. Cucchiara	Elective placement	Pediatric gastroenterology	1	25
V. Leuzzi	Elective placement	Neurospychiatry	1	25

6th YEAR - 2nd SEMESTER

EMERGENCY MEDICINE AND SURGERY

G. Bertazzoni	Elective placement	Emergency Medicine	1	25
G. Bertazzoni	Elective placement	Anesthesia and Reanimation	1	25

1st- 6th YEAR

ENGLISH CONFERENCES OF THE ACADEMIA MEDICA DI ROMA

Teacher	**Type of Elective**	**Subject**	**Credits**	**Hours**
S. Filetti	Seminar	Various	0,2	Duration of specific Conference

10. Extract Study Regulations of the Single Cycle Degree Programme in Medicine and Surgery

1. Registration to the following years

Exclusively those students who by the end of the exam session of September or, ultimately, by the 23rd of December have finished all the exams scheduled by the table below, will be able to pass on to the following year:

To be enrolled to…	***it is mandatory to have passed…***
II year	**2 exams of the first year**
III year	All the exams of the first year
IV year	**All the exams of the first and second year and 1 exam of the third year**
V year	All the exams of the first, second and third year
VI year	**All the exams of the first, second, third and fourth year and 2 exams of the fifth year ***

*** also the exam of Scientific English is counted here**

The students, who despite their certified and regular attendance of the courses scheduled for a specific year of the programme are behind on a number of exams superior to what is stipulated by the table above, will be registered in the same year with the qualification *ripetente* (repeating) and be exempt from the attendance, unless the responsible committee will adopt different directives.

Given the fact that the observation of the propaedeutics will be checked in the moment in which a certification of the passed exams will be issued or the request for the final exam will be presented, it is the student's own responsibility and interest to observe the above mentioned standards.

Propaedeutics

To sit the exam of	***it is mandatory to have passed***
Biochemistry	Chemistry and Introduction to Biochemistry
Human Anatomy	Histology and Embryology
Human Physiology	Biology and Genetics
Pathology and Pathophysiology	Human Physiology
Applied Pathology (I, II + III), Pathological Anatomy	Pathology and Pathophysiology

Potential additional propaedeutics can be defined and suggested by the responsible committee of the educational structure.

In order to avoid the obsolescence of the acquired credits, it is forbidden to repeat more than 8 years inside of the same degree programme. The interruption of the attendance for more than six years requires the enrollment in a year determined by the decision of the responsible committee of the educational structure.

2. Learning assessment

The Degree Course in accordance with the instructions given by its technical commission (CTP) establishes the type and number of examinations needed to evaluate the student's learning process as well as, on a proposal from Course Coordinators, the composition of the relative Committee.

The total number of curricular examinations cannot exceed the one of the official courses established by the official study guidelines and cannot in any case exceed the number of 36 throughout the six years period.

Ongoing evaluations

Ongoing evaluations shall assess the efficacy of the learning and of the teaching process with respect to the specific contents:

- ongoing evaluations without qualifying impact on the final examination are not used to certify any knowledge acquirement, they are not mandatory and will not exempt the student from the whole subject of the Integrated Course during the formal exam session. Its only use is to control, if the student's preparation is satisfactory in a given moment.

- ongoing evaluations with qualifying impact on the final examination at the end of every semester can be taken optionally by the student. Their aim is to secure the proper preparation with regard to the program presented during the semester; the results will be registered on the student booklet (mark: 18-30) and the subject will not be reassessed during formal exam. The student is however required to be able to demonstrate his knowledge about the already assessed subject during the final official examination through recalls or references.

Certified exams

The certified exams serve to evaluate and quantify with a mark (18-30) the achievement of the course objectives, certifying the degree of preparation of each student.

Certified exams can be sit exclusively during specified periods referred to as "exam sessions".

Periods of assessment cannot coincide with periods of teaching activities, as they would limit the participation of students to the second.

Exam sessions:

-I° Semester: the ordinary session is held in February. The retake session of the first semester is held in the months of June, July and September.

-II° Semester: the ordinary session is held in June and July. The retake session is held in the months of September of the same year and January of the following year.

Potential extraordinary sessions (Christmas and Easter holidays), can be established by the competent Committee.

For every exam session the exam dates of the different teachings are fixed at the start of the academic year with a two-weeks-distance between the exams of the same teaching. The number of exam dates are at least two for each session and teaching.

For students enrolled to the degree programme for more than 6 years, further exam dates can be defined. In the Italian academic system a student is classified as "**fuori corso**", if he/she has attended the whole six years-course without having passed all the exams needed for the application to the final exam.

The exam calendar will published in advance on the course web site.

The examination board is composed by at least three professors engaged in the respective teaching and is chaired, as a rule, by the Coordinator of the teaching. Whenever one or more components of the board is/are absent during exam, the head of the examination board can dispose the substitution of one of the components with alternative members.

Different evaluation modalities are possible as well as the division into several steps of the same exam:

-traditional oral examinations and written tests (for the evaluation of knowledge-based objectives).

-practical examinations or simulated activities (for the evaluation of clinical skills and manual skills).

Educational assistance for the preparation of the final thesis

The student will obtain **18** credit points for the preparation of the final thesis that will be performed in collaboration with clinical academical structures. This activity, referred to as "thesis internship" needs to be carried out without coincidence with the programmed teaching activities, cannot overlap with elective activities and should be requested during the month of December of the $4^{th}/5^{th}$ year.

The student interested in performing the thesis internship in one facility needs to submit a formal request together with his/her transcript of records (list of passed exams with relative marks, list of all elective activities performed and clinical, laboratory or other educational-related internships).

The Director of the hospital department, after a consultation with the teaching staff of the same and after having verified the availability of places, will approve the request and nominate a Tutor, possibly chosen by the student himself with the responsibility of controlling and certifying the activities performed by the student.

Final exam

The final exam will concern the discussion of a thesis originally elaborated by the student under the Tutor's guidance; a supervising co-tutor and/or a second tutor can be involved.

In order to be admitted to the final exam, the student needs to:

1. have followed all the courses and passed all relative exams.
2. have obtained, overall, **360** CFU throughout the six years-time.
3. have delivered/submitted :
    a. To the administrative secretariat for students the request to the Rector and the documents requested by the University, within the defined deadlines.
    b. To the responsible Faculty Office:
        1. Receipt of graduation request submitted to the Administrative secretariat.
        2. Certificate of passed exams from INFOSTUD with relative marks.
        3. Certificate of attendance of International Exchange programs with indicated duration.

N.B.: the printed thesis, with signature and stamp of the supervisor, together with the power point presentation for the thesis discussion, need to be presented the day of the graduation before the beginning of discussion.

The graduation sessions

are usually held during following periods:

1st session (summer): JUNE, JULY, SEPTEMBER;

2nd session (autumn): OCTOBER,NOVEMBER;

3rd session (winter): JANUARY;

One more session can be held in MARCH (in this case, the students will have to pay the first university fee as stated in General Study Regulations).

To determine the graduation mark, which will be expressed in x/110 the following parameters are considered:

a) Not-weigthed average of all passed exams, expressed in x/110.
b) The points assigned by the Graduation Commission during the discussion of the thesis can reach a maximum of seven points, and refer to the following criteria:
    1) type of research (experimental study; case-report; desk study): up to a maximum of 4 points; the experimental character of the thesis, that will be judged by the Commission, has to be determined by the characteristics of originality and/or innovation of the conducted study, as well as by the respect towards the right scientific methodology involved, that should originate from conclusions based on original scientifically valid evidences (meta-analysis, retrospective analysis of pluricentric case-reports and of large databases);
    2) quality of presentation: up to 1 point;
    3) mastery of the subject: up to 1 point;
    4) ability in discussion: up to 1 point.
c) Points attributed based on course duration (6 years or more): up to 3 points;
d) Points attributed with passed exams (at least 3/6 with honors): up to 2 points;
e) Points for involvement in international exchange programs (n. of months: 2/3 – 5/6): up to 2 points;

The final mark, determined by the sum of points as expressed in "a-e" is rounded up or down to the nearest whole number.

Honors can be awarded with unanimous consent from the commission members to the candidates that will obtain a total mark of ≥113.

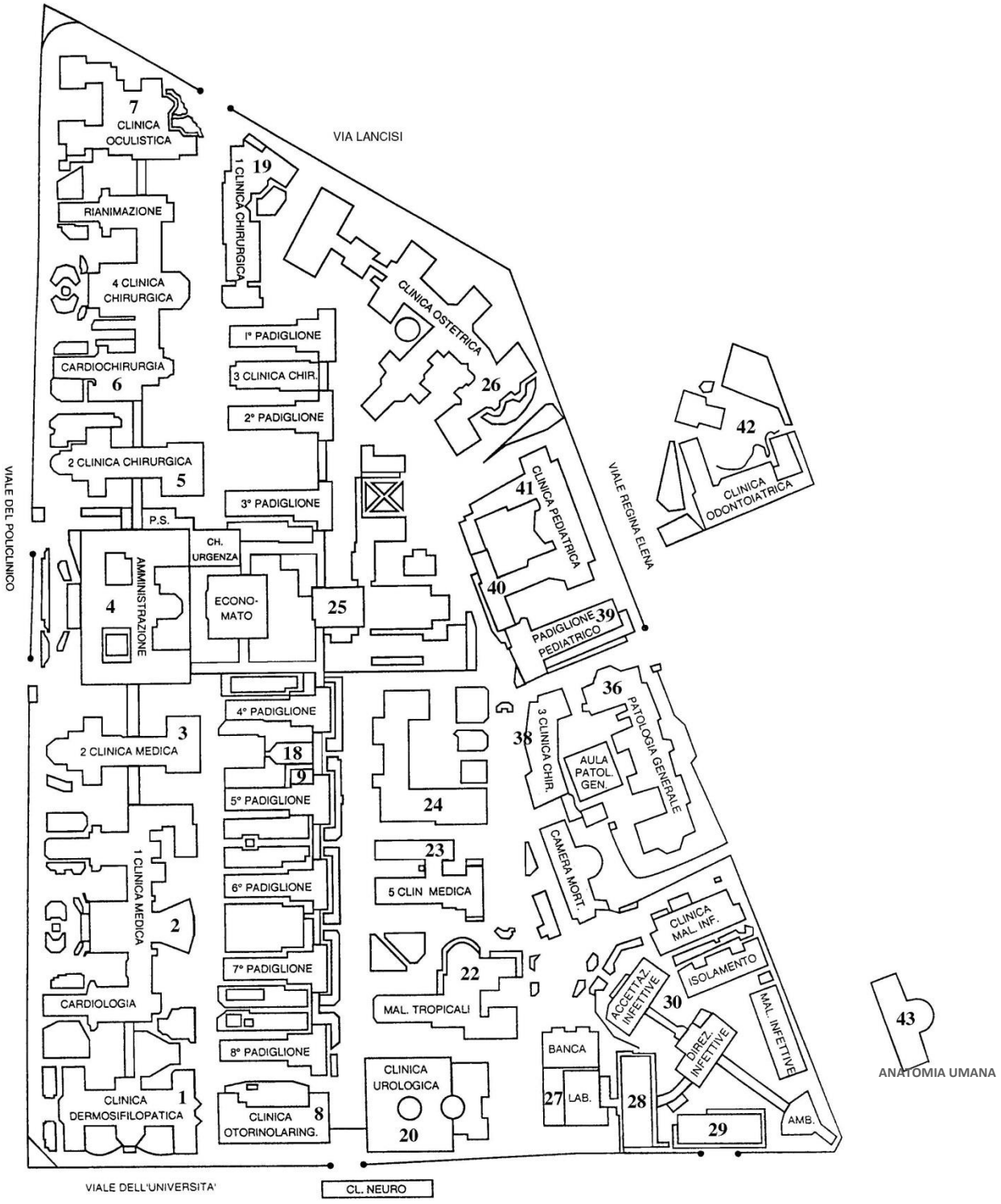
The use of eventual technical means such as PPT presentations etc, in a number not more than 10 slides, will be presented as aid for the student for a better comprehension of presentation. They cannot contain purely discursive parts, but only graphs, tables, images etc.

11. Legend and map of Policlinico *Umberto I*

1 Clinica Dermosifilopatica
2 I Clinica Medica

3	II Clinica Medica
4	Pal. Amministrazione e Pronto Soccorso
5	II Clinica Chirurgica
6	I Clinica Chirurgica Rep. B - IV Cl. Chirurgica
7	Clinica Oculistica
8	Clinica Otorinolaringoiatrica
9 - 18	(escluso 14) Padiglioni ed ex padiglioni
14	Cucina centrale
19	I Clinica Chirurgica
20 - 21	Clinica Urologica
22	Clinica Malattie Tropicali
23	V Clinica Medica e Biologia Generale
24	Clinica Radiologica
25	Palazzine ex SCRE: Presidenza di Facoltà, Segreterie CLMMC “A”, “D”, “F”, CL Professioni Sanitarie, Day Hospital Oncologico
26	Clinica Ostetrica e Ginecologica
27	Banca e Fisica Sanitaria
28	VI Clinica Medica
29	III Clinica Medica
30 - 35	Clinica Malattie Infettive
36	Patologia Generale ed Anatomia Patologica
37	Laboratorio Centrale di Analisi
38	III Clinica Chirurgica
39 - 41	Clinica Pediatrica
42	Clinica Odontoiatrica
43	Anatomia Umana

Map of Policlinico *Umberto I*



12. Legend and map of Città Universitaria *La Sapienza*

1	Aulette prefabbricate Chimica Biologica
2	Aulette prefabbricate Ex Psicologia
3	Cappella Universitaria
4	Clinica Ortopedica
5	Chimica Nuova
6	Clinica Malattie Nervose e Mentali
7	Edifici Segreterie Generali
8	Farmacia
9	Facoltà di Giurisprudenza
10	Facoltà di Lettere e Filosofia
11	Fisica Nuova
12	Istituto di Botanica
13	Istituto di Chimica
14	Istituto di Fisica
15	Istituto di Geologia
16	Istituto di Igiene e Microbiologia
17	Istituto di Fisiologia e Psicologia
18	Istituto di Fisiologia Umana e Istituto di Scienze dell'Alimentazione Dipartimento di Biochimica "A. Rossi Fanelli"
19	Istituto di Microbiologia
20	Istituto di Matematica G. Castelnuovo
21	Medicina legale
22	Dopolavoro e Teatro
23	Palazzine
24	Rettorato
25	Storia della Medicina
26	Centrale Elettrica
27	Facoltà di Scienze Politiche e Statistica
28	ex Tipografia Tuminelli
29	Uffici
30	Uffici
31	Uffici

Map of Città Universitaria *La Sapienza*