Student Guide
Degree Course in Medicine and Surgery “F”
International Medical School

Academic Year 2014-2015
Student Guide
Degree Course
in Medicine and Surgery “F”
International Medical School

Academic Year 2014-2015
farmaciamedicina1.uniroma1.it
A cura della Presidenza
del Consiglio di Corso di Laurea Magistrale
in Medicina e Chirurgia “F”

Editing

Anja Berger

©2014
Università degli Studi di Roma La Sapienza
http://www.uniroma1.it
# INDEX

Greetings to students and teachers 5

1. Offices Degree Course “F” 6
2. Syllabus 7
3. Courses and course coordinators for each semester 8
4. Timetable lectures 10
5. Exams and ongoing examinations 18
6. Course organisation: Teaching staff 22
7. Teaching staff: Contact information 26
8. Course Programs 33
9. Electives (ADE) 60
10. Registration to the following years 63
11. Legend and map of Policlinico Umberto I 64
12. Legend and map of Città Universitaria 66
Greetings to students and teachers

Dear Students, Dear Colleagues,

The Student Guide of the Degree Course “F” in Medicine and Surgery, academic year 2014-2015, 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, last year has been introduced 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://w3.uniroma1.it/ims/, 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.

The Dean
Prof. Eugenio Gaudio
1. Offices Degree Course “F”

The students office of the single cycle course of study in Medicine and Surgery “F” (CLMMC “F”) is located at Palazzina ex SCRE -Presidenza della Facoltà di Farmacia e Medicina-, ground floor, Azienda Policlinico Umberto I.

Responsible
Dean Prof. Eugenio Gaudio
Department of Anatomy
☎: 06.49918055 - Fax: 06.44918062
E.mail: eugenio.g audio@uniroma1.it
Office hours: Monday 1:00 p.m.-2:00 p.m., Thursday 10:30 a.m.-11:30 a.m.
Location: Dean’s office, Department of Anatomy, Via Borelli 50, 2nd floor

Secretary
Dott.ssa Anja Berger
Location: Palazzina ex SCRE -Presidenza della Facoltà di Farmacia e Medicina-, ground floor, room 2, Azienda Policlinico Umberto I.
Office hours: Monday and Wednesday 09:30 a.m.-11:00 a.m.
E.mail: anja.berger@uniroma1.it
Responsibilities: The didactic office of the CLMMC “F” is in charge of the regular function of the academic activities (teachers, time schedules, lecture rooms, programs, exam calendars, supervision of learning agreements and change forms for Erasmus scholarships), and the distribution of useful information to the students through the pin board next to the student office and through the website (http://elearning2.uniroma1.it/course/index.php?categoryid=211&inpopup=1).

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.
E.mail: vincenzo.mancino@uniroma1.it

Coordinator I year – I semester
Prof. Paolo Sarti
☎: 06.49910944
E.mail: paolo.sarti@uniroma1.it

Coordinator I year – II semester
Prof. Francesco Malatesta
☎: 06.4454952
E.mail: francesco.malatesta@uniroma1.it

Coordinator II year – I semester
Prof. Maurizio Muscaritoli
☎: 06.49972020
E.mail: maurizio.muscaritoli@uniroma1.it

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

Coordinator III year – I semester
Prof.a Gabriella Palmieri
☎: 06.4468448
E.mail: gabriella.palmieri@uniroma1.it

Coordinator III year – II semester
Prof. Enrico De Smaele
☎: 06.49255659
E.mail: enrico.desmaele@uniroma1.it

Coordinator IV year – II semester
Prof. Paolo Puddu
☎: 06.49972659
E.mail: paoloemilio.puddu@uniroma1.it

Coordinator IV year – I semester
Prof. Oliviero Riggio
☎: 06.49972001
E.mail: oliviero.riggio@uniroma1.it
## 2. Syllabus

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

<table>
<thead>
<tr>
<th>I YEAR</th>
<th>Course Coordinator</th>
<th>Coordinator of Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SEMESTER</td>
<td></td>
<td>P. Sarti</td>
</tr>
<tr>
<td>Human Anatomy (I)</td>
<td>L. Pannarale</td>
<td></td>
</tr>
<tr>
<td>Biology and Genetics (I)</td>
<td>F. Citarella</td>
<td></td>
</tr>
<tr>
<td>Chemistry and Introduction to Biochemistry</td>
<td>B. Vallone</td>
<td></td>
</tr>
<tr>
<td>Medical Physics</td>
<td>R. Pani</td>
<td></td>
</tr>
<tr>
<td>Basic Medical Scientific Methods (I)</td>
<td>M. Muscaritoli</td>
<td></td>
</tr>
<tr>
<td>II SEMESTER</td>
<td></td>
<td>F. Malatesta</td>
</tr>
<tr>
<td>Biochemistry (I)</td>
<td>F. Malatesta</td>
<td></td>
</tr>
<tr>
<td>Biology and Genetics (II)</td>
<td>F. Citarella</td>
<td></td>
</tr>
<tr>
<td>Histology and Embryology</td>
<td>S. Adamo</td>
<td></td>
</tr>
<tr>
<td>Scientific English- Journal Club (I)</td>
<td>J.F. Osborn</td>
<td></td>
</tr>
<tr>
<td>Basic Medical Scientific Methods (II)</td>
<td>M.S. Cattaruzza</td>
<td></td>
</tr>
<tr>
<td>II YEAR</td>
<td></td>
<td>M. Muscaritoli</td>
</tr>
<tr>
<td>I SEMESTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Anatomy (II)</td>
<td>S. Nottola</td>
<td></td>
</tr>
<tr>
<td>Biochemistry (II)</td>
<td>D. De Biase</td>
<td></td>
</tr>
<tr>
<td>Human Physiology (I)</td>
<td>C. Limatola</td>
<td></td>
</tr>
<tr>
<td>Basic Medical Scientific Methods (III)</td>
<td>M. Muscaritoli</td>
<td></td>
</tr>
<tr>
<td>II SEMESTER</td>
<td></td>
<td>F. Grassi</td>
</tr>
<tr>
<td>Human Anatomy (III)</td>
<td>E. Gaudio</td>
<td></td>
</tr>
<tr>
<td>Human Physiology (II)</td>
<td>F. Grassi</td>
<td></td>
</tr>
<tr>
<td>Scientific English-Journal Club (II)</td>
<td>J.F. Osborn</td>
<td></td>
</tr>
<tr>
<td>Clinical Scientific Methods (IV)</td>
<td>M. Arca</td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td>G. Antonelli</td>
<td></td>
</tr>
</tbody>
</table>
### III YEAR

<table>
<thead>
<tr>
<th>I SEMESTER</th>
<th></th>
<th>G. Palmieri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Physiology (III)</td>
<td></td>
<td>S. Ferraina</td>
</tr>
<tr>
<td>Immunology and Immunopathology</td>
<td></td>
<td>A. Santoni</td>
</tr>
<tr>
<td>Laboratory Medicine (I)</td>
<td></td>
<td>A. Angeloni</td>
</tr>
<tr>
<td>Clinical Scientific Methods (V)</td>
<td></td>
<td>M. Arca</td>
</tr>
<tr>
<td>Pathology and Pathophysiology (I)</td>
<td></td>
<td>M. P. Felli</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II SEMESTER</th>
<th></th>
<th>E. De Smaele</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific English-Journal Club (III)</td>
<td></td>
<td>M. Levrero</td>
</tr>
<tr>
<td>Laboratory Medicine (II)</td>
<td></td>
<td>A. Angeloni</td>
</tr>
<tr>
<td>Clinical Scientific Methods (VI)</td>
<td></td>
<td>M. Arca</td>
</tr>
<tr>
<td>Pathology and Pathophysiology (II)</td>
<td></td>
<td>G. Giannini</td>
</tr>
</tbody>
</table>

### IV YEAR

<table>
<thead>
<tr>
<th>I SEMESTER</th>
<th></th>
<th>P. E. Puddu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathological Anatomy and Associations with Clinical Anatomy (I)</td>
<td></td>
<td>C. Giordano</td>
</tr>
<tr>
<td>Scientific English-Journal Club (IV)</td>
<td></td>
<td>J. Osborn</td>
</tr>
<tr>
<td>Applied Medical Scientific Methods (VII)</td>
<td></td>
<td>R. Gattuso</td>
</tr>
<tr>
<td>Applied Pathology I – Diseases of Respiratory System and Cardiovascular System</td>
<td></td>
<td>F. Fedele</td>
</tr>
<tr>
<td>Applied Pathology II – Diseases of Kidney and Urinary System</td>
<td></td>
<td>S. Mazzaferro</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II SEMESTER</th>
<th></th>
<th>O. Riggio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathological Anatomy and Associations with Clinical Anatomy (II)</td>
<td></td>
<td>G. D’Amati</td>
</tr>
<tr>
<td>Diagnostic Imaging</td>
<td></td>
<td>C. Catalano</td>
</tr>
<tr>
<td>Pharmacology I and Toxicology</td>
<td></td>
<td>S. Maccari</td>
</tr>
<tr>
<td>Applied Medical Scientific Methods (VIII)</td>
<td></td>
<td>F. Angelico</td>
</tr>
<tr>
<td>Applied Pathology III – Diseases of the Digestive System, Endocrine System and Metabolism</td>
<td></td>
<td>S. Ginanni Corradini</td>
</tr>
</tbody>
</table>
4. Timetable lectures

I YEAR – I SEMESTER

CLASSROOM: C1 Istituto d’Igiene – Città Universitaria “Sapienza” Università di Roma

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>HUMAN ANATOMY</td>
<td>BIOLOGY AND GENETICS</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS</td>
<td>HUMAN ANATOMY</td>
<td></td>
</tr>
<tr>
<td>10 - 11</td>
<td>HUMAN ANATOMY</td>
<td>BIOLOGY AND GENETICS</td>
<td>MEDICAL PHYSICS</td>
<td>HUMAN ANATOMY</td>
<td>MEDICAL PHYSICS</td>
</tr>
<tr>
<td>11 - 12</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS</td>
<td>MEDICAL PHYSICS</td>
<td>MEDICAL PHYSICS</td>
<td>MEDICAL PHYSICS</td>
</tr>
<tr>
<td>12 - 13</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
</tr>
<tr>
<td>13 - 14</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
<td>CHEMISTRY AND INTRODUCTION TO BIOCHEMISTRY</td>
</tr>
<tr>
<td>14 - 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 - 16</td>
<td></td>
<td></td>
<td>BIOLOGY AND GENETICS (15:30-16:30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 - 17</td>
<td>HUMAN ANATOMY - LAB*</td>
<td></td>
<td>BIOLOGY AND GENETICS (16:30-17:30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 - 18</td>
<td>HUMAN ANATOMY - LAB*</td>
<td></td>
<td>BIOLOGY AND GENETICS (17:30-18:30)**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td><strong>BASIC MEDICAL-SCIENTIFIC METHODS II</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
<td><strong>BASIC MEDICAL-SCIENTIFIC METHODS II</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
</tr>
<tr>
<td>10 - 11</td>
<td><strong>BASIC MEDICAL-SCIENTIFIC METHODS II</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
<td><strong>BASIC MEDICAL-SCIENTIFIC METHODS II</strong></td>
<td><strong>BIOCHEMISTRY I</strong></td>
</tr>
<tr>
<td>11 - 12</td>
<td><strong>BIOLOGY AND GENETICS II</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
<td><strong>BIOLOGY AND GENETICS II</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
</tr>
<tr>
<td>12 - 13</td>
<td><strong>BIOLOGY AND GENETICS II</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
<td><strong>BIOLOGY AND GENETICS II</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY</strong></td>
</tr>
<tr>
<td>13 - 14</td>
<td><strong>BIOLOGY AND GENETICS II</strong>**</td>
<td><strong>SCIENTIFIC ENGLISH I</strong></td>
<td><strong>BIOLOGY AND GENETICS II</strong></td>
<td><strong>SCIENTIFIC ENGLISH I</strong></td>
<td><strong>SCIENTIFIC ENGLISH I</strong></td>
</tr>
<tr>
<td>14 – 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 – 16</td>
<td></td>
<td></td>
<td></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY – LAB</strong>*</td>
<td></td>
</tr>
<tr>
<td>16- 17</td>
<td></td>
<td></td>
<td></td>
<td><strong>HISTOLOGY AND EMBRIOLOGY – LAB</strong>*</td>
<td></td>
</tr>
</tbody>
</table>

*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: D, Ex Officine Ortopediche** – Città Universitaria “Sapienza” Università di Roma

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>BIOCHEMISTRY II</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>HUMAN ANATOMY II</td>
</tr>
<tr>
<td>10 - 11</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>BIOCHEMISTRY II</td>
<td>BASIC MEDICAL-SCIENTIFIC METHODS III</td>
<td>HUMAN ANATOMY II</td>
</tr>
<tr>
<td>11 - 12</td>
<td>BIOCHEMISTRY II</td>
<td>HUMAN ANATOMY II</td>
<td>BIOCHEMISTRY II</td>
<td>HUMAN PHYSIOLOGY I</td>
<td>HUMAN PHYSIOLOGY I</td>
</tr>
<tr>
<td>12 - 13</td>
<td>BIOCHEMISTRY II</td>
<td>HUMAN ANATOMY II</td>
<td>HUMAN PHYSIOLOGY I</td>
<td>BIOCHEMISTRY II</td>
<td>HUMAN PHYSIOLOGY I</td>
</tr>
<tr>
<td>13 - 14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HUMAN PHYSIOLOGY I</td>
</tr>
<tr>
<td>14 – 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GENETICS SEMINAR</td>
</tr>
<tr>
<td>15 – 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GENETICS SEMINAR</td>
</tr>
<tr>
<td>16 – 17</td>
<td>HUMAN ANATOMY-LAB*</td>
<td></td>
<td></td>
<td></td>
<td>GENETICS SEMINAR</td>
</tr>
<tr>
<td>17 - 18</td>
<td>HUMAN ANATOMY-LAB*</td>
<td></td>
<td></td>
<td></td>
<td>GENETICS SEMINAR</td>
</tr>
</tbody>
</table>

* Classroom L, Department of Human Anatomy (Via Borelli, 50)
## II YEAR – II SEMESTER

**CLASSROOM: D, Ex Officine Ortopediche** – Città Universitaria “Sapienza” Università di Roma

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>HUMAN PHYSIOLOGY II</td>
<td></td>
<td>HUMAN PHYSIOLOGY II</td>
<td>HUMAN PHYSIOLOGY II</td>
<td>HUMAN PHYSIOLOGY II</td>
</tr>
<tr>
<td>10 - 11</td>
<td>HUMAN ANATOMY III</td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td>HUMAN ANATOMY III</td>
<td>HUMAN PHYSIOLOGY II</td>
<td>HUMAN PHYSIOLOGY II</td>
</tr>
<tr>
<td>11 - 12</td>
<td>MICROBIOLOGY</td>
<td>HUMAN ANATOMY III</td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td>HUMAN ANATOMY III</td>
<td>MICROBIOLOGY</td>
</tr>
<tr>
<td>12 - 13</td>
<td>MICROBIOLOGY</td>
<td>SCIENTIFIC ENGLISH II</td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td>HUMAN PHYSIOLOGY II</td>
<td>MICROBIOLOGY</td>
</tr>
<tr>
<td>13 - 14</td>
<td>MICROBIOLOGY</td>
<td>SCIENTIFIC ENGLISH II</td>
<td></td>
<td>HUMAN PHYSIOLOGY II</td>
<td></td>
</tr>
<tr>
<td>14 - 15</td>
<td></td>
<td></td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 - 16</td>
<td>HUMAN ANATOMY- LAB</td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td></td>
<td>MICROBIOLOGY</td>
<td></td>
</tr>
<tr>
<td>16 - 17</td>
<td>HUMAN ANATOMY- LAB</td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 - 18</td>
<td></td>
<td></td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 19</td>
<td></td>
<td></td>
<td>CLINICAL-SCIENTIFIC METHODS IV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### III YEAR – I SEMESTER

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY I</td>
<td>CLINICAL-SCIENTIFIC METHODS V</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 - 11</td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY I</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - 13</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 - 14</td>
<td>LABORATORY MEDICINE I</td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY I</td>
<td>IMMUNOLOGY AND IMMUNOPATHOLOGY</td>
<td>LABORATORY MEDICINE I</td>
<td></td>
</tr>
<tr>
<td>14 – 15</td>
<td>LABORATORY MEDICINE I</td>
<td>HUMAN PHYSIOLOGY III</td>
<td></td>
<td>LABORATORY MEDICINE I</td>
<td></td>
</tr>
<tr>
<td>15 – 16</td>
<td>HUMAN PHYSIOLOGY III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### III YEAR – II SEMESTER

**CLASSROOM: B, Ex Officine Ortopediche** – Città Universitaria “Sapienza” Università di Roma

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II</td>
<td></td>
<td></td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II*</td>
<td></td>
</tr>
<tr>
<td>10 - 11</td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II</td>
<td>SCIENTIFIC ENGLISH III</td>
<td></td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II*</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>LABORATORY MEDICINE II</td>
<td>SCIENTIFIC ENGLISH III</td>
<td></td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II*</td>
<td></td>
</tr>
<tr>
<td>12 - 13</td>
<td>LABORATORY MEDICINE II</td>
<td>SCIENTIFIC ENGLISH III</td>
<td></td>
<td>PATHOLOGY AND PATHOPHYSIOLOGY II*</td>
<td></td>
</tr>
<tr>
<td>13 - 14</td>
<td></td>
<td></td>
<td></td>
<td>LABORATORY MEDICINE II*</td>
<td></td>
</tr>
<tr>
<td>14 – 15</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td></td>
<td>LABORATORY MEDICINE II*</td>
<td></td>
</tr>
<tr>
<td>15 – 16</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td></td>
<td>LABORATORY MEDICINE II*</td>
<td></td>
</tr>
<tr>
<td>16 - 17</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td>CLINICAL SCIENTIFIC METHODS VI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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)*
### IV YEAR – I SEMESTER

**CLASSROOM:** E, Ex Officine Ortopediche – Città Universitaria “Sapienza” Università di Roma

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td><strong>PRACTICAL SKILLS</strong>*</td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
<td><strong>PATHOLOGICAL ANATOMY I</strong></td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
<td><strong>PATHOLOGICAL ANATOMY I</strong></td>
</tr>
<tr>
<td>10 - 11</td>
<td><strong>PRACTICAL SKILLS</strong>*</td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
<td><strong>PATHOLOGICAL ANATOMY I</strong></td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
</tr>
<tr>
<td>11 - 12</td>
<td><strong>PRACTICAL SKILLS</strong>*</td>
<td><strong>APPLIED MEDICAL SCIENTIFIC METHODS VII</strong></td>
<td><strong>PATHOLOGICAL ANATOMY I</strong></td>
<td><strong>SCIENTIFIC ENGLISH IV</strong></td>
<td><strong>APPLIED PATHOLOGY I</strong></td>
</tr>
<tr>
<td>12 - 13</td>
<td><strong>PRACTICAL SKILLS</strong>*</td>
<td><strong>APPLIED PATHOLOGY II</strong></td>
<td><strong>PATHOLOGICAL ANATOMY I</strong></td>
<td><strong>APPLIED PATHOLOGY II</strong></td>
<td></td>
</tr>
<tr>
<td>13 - 14</td>
<td></td>
<td><strong>APPLIED PATHOLOGY II</strong></td>
<td></td>
<td><strong>APPLIED PATHOLOGY II</strong></td>
<td></td>
</tr>
<tr>
<td>14 – 15</td>
<td></td>
<td></td>
<td><strong>APPLIED MEDICAL SCIENTIFIC METHODS VII</strong></td>
<td></td>
<td><strong>APPLIED PATHOLOGY II</strong></td>
</tr>
</tbody>
</table>

*From October 13th to November 28th*
### IV YEAR – II SEMESTER

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
</tr>
<tr>
<td>10 - 11</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
<td>PRACTICAL SKILLS</td>
</tr>
<tr>
<td>11 - 12</td>
<td>PHARMACOLOGY AND TOXICOLOGY</td>
<td>PATHOLOGICAL ANATOMY II</td>
<td>PHARMACOLOGY AND TOXICOLOGY</td>
<td>PATHOLOGICAL ANATOMY II</td>
<td>DIAGNOSTIC IMAGING</td>
</tr>
<tr>
<td>12 - 13</td>
<td>PHARMACOLOGY AND TOXICOLOGY</td>
<td>PATHOLOGICAL ANATOMY II</td>
<td>DIAGNOSTIC IMAGING</td>
<td>PATHOLOGICAL ANATOMY II</td>
<td>DIAGNOSTIC IMAGING</td>
</tr>
<tr>
<td>13 - 14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 – 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 – 16</td>
<td>APPLIED PATHOLOGY III</td>
<td>APPLIED PATHOLOGY III</td>
<td>DIAGNOSTIC IMAGING</td>
<td>APPLIED PATHOLOGY III</td>
<td>APPLIED PATHOLOGY III</td>
</tr>
<tr>
<td>16 - 17</td>
<td>APPLIED PATHOLOGY III</td>
<td>APPLIED PATHOLOGY III</td>
<td>DIAGNOSTIC IMAGING</td>
<td>APPLIED PATHOLOGY III</td>
<td>APPLIED PATHOLOGY III</td>
</tr>
</tbody>
</table>
5. Exams and ongoing examinations

I YEAR

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits (CFU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Year</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>CFU</th>
<th>Exam/ongoing examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I SEMESTER</strong></td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Human anatomy (I)</td>
<td>5</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Biology and genetics (I)</td>
<td>5</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Chemistry and introduction to biochemistry</td>
<td>9</td>
<td>Exam</td>
</tr>
<tr>
<td>Medical physics</td>
<td>6</td>
<td>Exam</td>
</tr>
<tr>
<td>Basic medical scientific methods (I)</td>
<td>6</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td><strong>II SEMESTER</strong></td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Biochemistry (I)</td>
<td>6</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Biology and genetics (II)</td>
<td>8</td>
<td>Exam</td>
</tr>
<tr>
<td>Histology and embriology</td>
<td>8</td>
<td>Exam</td>
</tr>
<tr>
<td>Scientific English (I)</td>
<td>2</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Basic medical scientific methods (II)</td>
<td>4</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
# II YEAR

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits (CFU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II Year</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>CFU</th>
<th>Exam/ongoing examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human anatomy (II)</td>
<td>7</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Biochemistry (II)</td>
<td>8</td>
<td>Exam</td>
</tr>
<tr>
<td>Human physiology (I)</td>
<td>8</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Basic medical scientific methods (III)</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>CFU</th>
<th>Exam/ongoing examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>II SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human anatomy (III)</td>
<td>7</td>
<td>Exam</td>
</tr>
<tr>
<td>Human physiology (II)</td>
<td>7</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Scientific English (II)</td>
<td>4</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Microbiology</td>
<td>7</td>
<td>Exam</td>
</tr>
<tr>
<td>Clinical scientific methods (IV)</td>
<td>5</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### III YEAR

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits (CFU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>III Year</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>CFU</th>
<th>Exam/ongoing examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Physiology (III)</td>
<td>3</td>
<td>Exam</td>
</tr>
<tr>
<td>Immunology and Immunopathology</td>
<td>8</td>
<td>Exam</td>
</tr>
<tr>
<td>Laboratory Medicine (I)</td>
<td>5</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Pathology and Pathophysiology (I)</td>
<td>7</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Clinical scientific Methods (V)</td>
<td>8</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td><strong>II SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific English (III)</td>
<td>4</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Laboratory Medicine (II)</td>
<td>6</td>
<td>Exam</td>
</tr>
<tr>
<td>Pathology and Pathophysiology (II)</td>
<td>10</td>
<td>Exam</td>
</tr>
<tr>
<td>Clinical scientific Methods (VI)</td>
<td>8</td>
<td>Exam</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Courses</td>
<td>CFU</td>
<td>Exam/ongoing examination</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>I SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathological Anatomy and Ass. with Clin. Anat. (I)</td>
<td>6</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Scientific English (IV)</td>
<td>1</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Applied Pathology I (Diseases of Respiratory System and Cardiovascular System)</td>
<td>12</td>
<td>Exam</td>
</tr>
<tr>
<td>Applied Pathology II (Diseases of Kidney and Urinary System)</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Applied Medical Scientific Methods (VII)</td>
<td>3</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td>Verifica nei Corsi Integrati</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>CFU</th>
<th>Exam/ongoing examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>II SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathological Anatomy and Ass. with Clin. Anat. (II)</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Diagnostic Imaging</td>
<td>6</td>
<td>Exam</td>
</tr>
<tr>
<td>Pharmacology (I) and Toxicology</td>
<td>4</td>
<td>Ongoing examination</td>
</tr>
<tr>
<td>Applied Pathology III (Diseases of Digestive System, Endocrine System and Metabolism)</td>
<td>12</td>
<td>Exam</td>
</tr>
<tr>
<td>Applied Medical Scientific Methods (VIII)</td>
<td>3</td>
<td>Exam</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td>Verifica nei Corsi Integrati</td>
</tr>
</tbody>
</table>

| Credits for the preparation of the final thesis | 1 |
6. Course organisation: Teaching staff

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

## I YEAR

### I SEMESTER (coordinator of semester: P. Sarti)

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Time</th>
<th>Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic medical scientific methods (I)</strong>&lt;br&gt;M. Capocci – A. Farcomeni – <strong>M. Muscaritoli</strong></td>
<td>(ongoing examination)</td>
<td>Mon 11-12 C1 – Istituto d’Igiene&lt;br&gt;Tue 11-14 C1 – Istituto d’Igiene&lt;br&gt;Wed 09-10 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Chemistry and introduction to biochemistry</strong>&lt;br&gt;A.E. Miele – P. Sarti – <strong>B. Vallone</strong></td>
<td>(exam n. 1)</td>
<td>Mon 12-14 C1 – Istituto d’Igiene&lt;br&gt;Wed 12-14 C1 – Istituto d’Igiene&lt;br&gt;Thu 12-14 C1 – Istituto d’Igiene&lt;br&gt;Fri 12-14 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Medical physics</strong>&lt;br&gt;R. Pani – A.D. Polosa</td>
<td>(exam n. 2)</td>
<td>Wed 10-12 C1 – Istituto d’Igiene&lt;br&gt;Thu 11-12 C1 – Istituto d’Igiene&lt;br&gt;Fri 10-12 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Biology and genetics (I)</strong>&lt;br&gt;F. Citarella – M. Devoto – P. Fortina</td>
<td>(ongoing examination)</td>
<td>Tue 09-11 C1 – Istituto d’Igiene&lt;br&gt;Thu 15:30-17:30 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Human anatomy (I)</strong>&lt;br&gt;L. Pannarale – R. Mancinelli</td>
<td>(ongoing examination)</td>
<td>Mon 09-11 C1 – Istituto d’Igiene&lt;br&gt;Thu 09-11 C1 – Istituto d’Igiene</td>
</tr>
</tbody>
</table>

### II SEMESTER (coordinator of semester: F. Malatesta)

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Time</th>
<th>Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic medical scientific methods (II)</strong>&lt;br&gt;M.S. Cattaruzza – V. Fineschi – C.M. Rossi Arnaud</td>
<td>(ongoing examination)</td>
<td>Mon 09-11 C1 – Istituto d’Igiene&lt;br&gt;Thu 09-11 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Biology and genetics (II)</strong>&lt;br&gt;F. Citarella – M. Devoto – P. Fortina</td>
<td>(exam n. 3)</td>
<td>Mon 11-14 C1 – Istituto d’Igiene&lt;br&gt;Wed 11-14 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Histology and embryology</strong>&lt;br&gt;E. Vicini – <strong>S. Adamo</strong> – M. Bouché</td>
<td>(exam n. 4)</td>
<td>Tue 11-13 C1 – Istituto d’Igiene&lt;br&gt;Thu 11-13 C1 – Istituto d’Igiene&lt;br&gt;Fri 11-13 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Biochemistry (I)</strong>&lt;br&gt;F. <strong>Malatesta</strong> - M. Perluigi – D. De Biase</td>
<td>(ongoing examination)</td>
<td>Tue 09-11 C1 – Istituto d’Igiene&lt;br&gt;Wed 09-11 C1 – Istituto d’Igiene&lt;br&gt;Fri 09-11 C1 – Istituto d’Igiene</td>
</tr>
<tr>
<td><strong>Scientific English – Journal Club (I)</strong>&lt;br&gt;J.F. Oborn</td>
<td>(ongoing examination)</td>
<td>Tue 13-14 C1 – Istituto d’Igiene&lt;br&gt;Thu 13-14 C1 – Istituto d’Igiene</td>
</tr>
</tbody>
</table>
II Year

I SEMESTER (coordinator of semester: M. Muscaritoli)

Basic medical scientific methods (III)  
M. Muscaritoli – A. Farcomeni – M. Capocci - P. Grammatico  
(exam n. 5)  
Mon 09-11 Ex Officine Ortopediche  
Tue 09-11 Ex Officine Ortopediche  
Thu 09-11 Ex Officine Ortopediche

Biochemistry (II)  
D. De Biase - F. Malatesta - M. Perluigi  
(exam n. 6)  
Mon 11-13 Ex Officine Ortopediche  
Wed 09-11 Ex Officine Ortopediche  
Thu 11-13 Ex Officine Ortopediche

Human anatomy (II)  
G. Familiari - E. Gaudio – S. Nottola – M. Relucenti  
Additional activities: A. Renzi, G. Vivacqua  
(ongoing examination)  
Tue 11-13 Ex Officine Ortopediche  
Fri 09-11 Ex Officine Ortopediche

Human physiology (I)  
C. Limatola – G. Tanzilli  
(ongoing examination)  
Wed 12-14 Ex Officine Ortopediche  
Fri 11-14 Ex Officine Ortopediche

II SEMESTER (coordinator of semester: F. Grassi)

Clinical scientific methods (IV)  
M. Arca – L. Giacomelli  
Additional activities: S. Guarino  
(ongoing examination)  
Wed 10-13 Ex Officine Ortopediche  
Wed 15-17/14.30-19.30 Ex Officine Ortopediche

Human anatomy (III)  
E. Gaudio – M. Relucenti - S. Nottola – R. Mancinelli  
Additional activities: A. Renzi, G. Vivacqua  
(exam n. 7)  
Tue 10-12 Ex Officine Ortopediche  
Thu 10-12 Ex Officine Ortopediche

Human physiology (II)  
(ongoing examination)  
Tue 09-10 Ex Officine Ortopediche  
Thu 09-10 Ex Officine Ortopediche  
12-14 Ex Officine Ortopediche  
Fri 09-11 Ex Officine Ortopediche

Microbiology  
G. Antonelli – A.T. Palamara – D. Modiano  
(exam n. 8)  
Mon 11-14 Ex Officine Ortopediche  
Thu 15-16 Ex Officine Ortopediche  
Fri 11-13 Ex Officine Ortopediche

Scientific English – Journal Club (II)  
J.F. Osborn  
(ongoing examination)  
Tue 12-14 Ex Officine Ortopediche
### III YEAR

#### I SEMESTER (coordinator of semester: G. Palmieri)

<table>
<thead>
<tr>
<th>Course</th>
<th>Faculty Members</th>
<th>Additional activities</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wed 15-18</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Human physiology (III)</td>
<td>S. Ferraina</td>
<td></td>
<td>Tue 14-16</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immunology and immunopathology</td>
<td>S. Mardente – A. Santoni – G. Palmieri</td>
<td></td>
<td>Tue 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thu 09-12</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Laboratory medicine (I)</td>
<td>P. Valenti – D. Modiano – A. Bellelli – A. Angeloni</td>
<td></td>
<td>Mon 13-15</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fri 13-15</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Pathology and pathophysiology (I)</td>
<td>A. Gulino – G. Canettieri – M. Felli</td>
<td></td>
<td>Tue 09-11</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thu 12-14</td>
<td>Ex Officine Ortopediche</td>
</tr>
</tbody>
</table>

#### II SEMESTER (coordinator of semester: E. De Smaele)

<table>
<thead>
<tr>
<th>Course</th>
<th>Faculty Members</th>
<th>Additional activities</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical scientific methods (VI)</td>
<td>M. Arca – L. Giacomelli – F. Consorti</td>
<td>S. Guarino</td>
<td>Tue 14-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wed 14-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Pathology and pathophysiology (II)</td>
<td>E. De Smaele – M. Felli – G. Canettieri – G. Giannini</td>
<td></td>
<td>Tue 09-11</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thu 9:30-12:30</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Laboratory medicine (II)</td>
<td>F. Mainiero – A. Angeloni – A. Bellelli</td>
<td></td>
<td>Tue 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thu 13:30-15:30</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td>Scientific English – Journal Club (III)</td>
<td>M. Levrero</td>
<td></td>
<td>Wed 10-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
</tbody>
</table>
### IV YEAR

#### I SEMESTER (coordinator of semester: P. Puddu)

<table>
<thead>
<tr>
<th>Course</th>
<th>Lecturers</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applied medical scientific methods</strong> (VII)</td>
<td>F. Angelico – A. Frustaci – R. Gattuso</td>
<td>Tue 11-12</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thu 14-15</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thu 09-11</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri 10-12</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Applied pathology II</strong></td>
<td>A. Tubaro – S. Mazaferro</td>
<td>Tue 12-14</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thu 12-14</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Pathological anatomy and associations with clinical anatomy</strong> (I)</td>
<td>P. Gallo – G. d’Amati – C. Giordano</td>
<td>Wed 09-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri 09-10</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Scientific English – Journal Club</strong> (IV)</td>
<td>J. Osborn</td>
<td>Thu 11-12</td>
<td>Ex Officine Ortopediche</td>
</tr>
</tbody>
</table>

#### II SEMESTER (coordinator of semester: O. Riggio)

<table>
<thead>
<tr>
<th>Course</th>
<th>Lecturers</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applied medical scientific methods</strong> (VIII)</td>
<td>F. Angelico – M. Muscaritoli – O. Riggio</td>
<td>To be defined</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Pathological anatomy and associations with clinical anatomy</strong> (II)</td>
<td>P. Gallo – G. d’Amati – C. Giordano</td>
<td>Tue 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thu 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tue 15-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thu 15-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri 15-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Diagnostic imaging</strong></td>
<td>C. Catalano – M. Francone – A. Laghi</td>
<td>Wed 12-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15-17</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fri 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td><strong>Pharmacology (I) and toxicology</strong></td>
<td>F. Nicoletti – S. Maccari</td>
<td>Mon 11-13</td>
<td>Ex Officine Ortopediche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wed 11-12</td>
<td>Ex Officine Ortopediche</td>
</tr>
</tbody>
</table>
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)*

**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*  
☎️: 06.49970596- 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 Allied Sciences  
*Location: Policlinico Umberto I, Building I Clinica Medica*  
☎️: 06.4451354; E-mail: marcelloarca@libero.it  
*Reception hours: Tuesday 12 p.m.-2 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.*

**Bouché Marina** (BIO/17 Istologia)
Department of Anatomical, Histological, Forensic and Orthopedic Sciences  
*Location: Section of Histology and Medical Embryology, Via A. Scarpa 14*  
☎️: 06.49766755 - Fax: 06.4462854; E-mail: marina.bouche@uniroma1.it  
*Reception hours: Tuesday 10 a.m.-13 p.m. and Thursday 14 p.m.-17 p.m.*

**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 Allied Sciences  
*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*
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

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.

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

Corazziari Enrico (MED/12 Gastroenterologia)
Department of Internal Medicine and Medical Specialties
Location: Policlinico Umberto I, Building II Clinica Medica, 1st floor
☎: 06.49973332; E.Mail: enrico.corazziari@uniroma1.it
Reception hours: Tuesday 12 p.m.-1 p.m.

d’Amati Giulia (MED/08 Anatomia Patologica)
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Policlinico Umberto I, V.le Regina Elena 324
☎: 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)

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-mail 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 Tanna Gianluca (MED/01 Statistica Medica)
Department of Public Health and Infectious Diseases
☎: 06.49694264 - Fax: 06.49914654; E.mail: gianluca.ditanna@uniroma1.it
Reception hours: by appointment

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

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.

Fineschi Vittorio (MED/43 Medicina Legale)
Department of Anatomical, Histological, Forensic and Orthopedic Sciences
E.mail: vittorio.fineschi@uniroma1.it
Reception hours: by e-mail appointment

Fiori Nastro Paolo (MED/25 Psichiatria)
Department of Neurology and Psychiatry
☎: 06.40802390; E.mail: paolo.fiorinastro@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

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

Gallo Pietro (MED/08 Anatomo Patologica)
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Viale Regina Elena 324
☎: 06.4461484 E.mail: pietro.gallo@uniroma1.it
Reception hours: Thursday 12 p.m.-2 p.m.

Gattuso Roberto (MED/22 CHIRURGIA VASCOSCARE)
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: Section of Human Anatomy, Via Alfonso Borelli 50, 2nd floor
☎: 06.49918060 - Fax: 06.49918062; E.mail: eugenio.gaudio@uniroma1.it
Reception hours: Monday 1 p.m.-2 p.m. and Thursday 10.30 a.m.-11.30 a.m.

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 hours: by appointment (e-mail)

Giordano Carla (MED/08Anatomia Patologica)
Department of Radiologic, Oncologic and Pathologic Sciences
Location: Viale Regina Elena 324
☎: 06.49973332; E.mail: giordano.carla@uniroma1.it
Reception hours: 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

Gulino Alberto (MED/04 Patologia Generale)
Department of Molecular Medicine
Location: Viale Regina Elena 291, 2nd floor
☎: 06.49255661; E.mail: alberto.gulino@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.

Levrero Massimo (MED/49 Scienze Tecniche Dietetiche Applicate)
Department of Internal Medicine and Allied Sciences
Location: Policlinico Umberto I, Building I Clinica Medica
☎: 06.49255664; E.mail: massimo.levrero@uniroma1.it
Reception hours: by appointment

Lezoche Emanuele (MED/18 Chirurgia Generale)
Department of Surgery “Paride Stefanini”
Location: Viale del Policlinico, 155
☎: 06.49978852 – Fax: 06.49978849; E.mail: emanuele.lezoche@uniroma1.it or emanuele.lezoche@gmail.com;
Reception hours: Wednesday 3 p.m.-5 p.m.

Lombardo Francesco (MED/50 Scienze Tecniche Mediche Applicate)
Department of Experimental Medicine
Location: Viale del Policlinico, 155
☎: 06.4460663 – Fax: 06.49970717; E.mail: francesco.lombardo@uniroma1.it
Reception hours: by appointment

Limatola Cristina (BIO/09 Fisiologia)
Department of Physiology and Pharmacology “Vittorio Erspamer”
Location: Section of Human Physiology, P.le Aldo Moro 5, 1 floor
☎: 06.49690243 – Fax: 06.49910851; E.mail: cristina.limatola@uniroma1.it
Reception hours: Monday 9 a.m.-1 p.m.
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 Regina 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 1 p.m.-2 p.m. and Thursday 10.30 a.m.-11.30 a.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
☎: 06.49918062; Fax: 06.49918062; E.mail: romina.mancinelli@uniroma1.it
Reception hours: Monday 1 p.m.-2 p.m. and Thursday 10.30 a.m.-11.30 a.m.

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.

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
☎: 0773651396; E.mail: sandro.mazzaferro@uniroma1.it
Reception hours: Thursday 12 p.m.-1 p.m.

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)

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)

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”
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

Osborn John (MED/42 Igiene generale ed applicata)
Department of Public Health and Infectious Diseases
Location: P.le Aldo Moro 5
☎: 06.49914881 - Fax: 06.49914881; E.mail: john.osborn@uniroma1.it
Reception hours: Tuesday and Thursday 10 a.m.-11 a.m. by appointment

Palamara Anna Teresa (MED/07 Microbiologia e microbiologia clinica)
Department of Public Health and Infectious Diseases
Location: Section of Human Anatomy, Via Alfonso Borelli 50
☎: 06.49914881 - Fax: 06.49914881; E.mail: annateresa.palamara@uniroma1.it
Reception hours: Thursday 10 a.m.-11 a.m.

Palmieri Gabriella (MED/04 Patologia Generale)
Department of Experimental Medicine
Location: Policlinico 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: Tuesday 11 a.m.-1 p.m.

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.

Polosa Antonio Davide (FIS/02 Fisica Teorica)
Department of Physics
☎: 06.49694247; E.mail: antonio.polosa@uniroma1.it
Reception hours: Tuesday 11 a.m.-1 p.m.

Puddu Paolo Emilio (MED/11 Malattie dell’Apparato Cardiovascolare)
Department of Cardiovascular, Respiratory, Geriatric Nephrology and Anaesthetic Sciences
☎: 06.49972659; E.mail: paoloemilio.puddu@uniroma1.it
Reception hours: Monday 4 p.m.-6 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: Gastroenterologia B, Viale dell’Università 37
☎: 06.49972001; E.mail: oliviero.riggio@uniroma1.it
Reception hours: by appointment

Rossi Arnaud Clelia Matilde (M-PSI/01 Psicologia Generale)
Department of Psychology
Location: Dipartimento di Psicologia, 1st floor, room 16
☎: 06.49917513; E.mail: clelia.rosi-arnaud@uniroma1.it
Reception hours: Thursday 10 a.m.

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

Sarti Paolo (BIO/10 Biochimica)
Department of Biochemical Sciences “Alessandro Rossi Fanelli”
Location: Department of Biochemical Sciences “Alessandro Rossi Fanelli”
☎: 06.49910944; Fax: 06.4440062; E.mail: paolo.sarti@uniroma1.it
Reception hours: Monday, Tuesday and Friday 3 p.m.-4 p.m. (by e-mail 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)
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.

Tanzilli Gaetano (MED/11 Malattie dell’apparato cardiovascolare)
Department of Cardiovascular, Respiratory, Nephrologic and Geriatric Sciences
☎: 06.4958281; E.mail: gaetano.tanzilli@uniroma1.it
Reception hours: by appointment

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

Valenti Piera (MED/07 Microbiologia e Microbiologia Clinica)
Department of Public Health and Infectious Diseases
☎: E.mail: piera.valenti@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/21Chirurgia 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.
8. Course Programs

1 - Integrated Course of 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 law 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, unsaturated, homocyclic and heterocyclic: nomenclature, classification, properties.
Functional groups, chemical properties and biomedical relevance: the carbonyl group, aldehydes and ketons; the carboxylic group, the alcoholic hydroxyl, the amino- and the sulphhydril-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 \( \alpha \)-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
- Acquous solutions
- Colligative properties
- Equilibrium properties
- pH
- Buffers
- Hydrolysis

<table>
<thead>
<tr>
<th>Tutorial Teaching Activities (small groups)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical relevance of pH.</td>
<td>Acid-base titrations</td>
</tr>
<tr>
<td>Evaluation of the blood buffering capacity.</td>
<td></td>
</tr>
<tr>
<td>Clinical relevance of osmosis.</td>
<td>Osmometry and spectrophotometry</td>
</tr>
<tr>
<td>Induced hemolysis evaluation.</td>
<td></td>
</tr>
</tbody>
</table>

Apprenticeship (practical laboratory)

<table>
<thead>
<tr>
<th>Educational tasks</th>
<th>observed</th>
<th>done</th>
<th>Know how</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectrophotometric, amperometric and chromatographic measurements, of biomedical relevant substances</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Fundamental molecular biology</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Cell viability measurements by fluorescence microscopy</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

Seminars:
- The chemical-biochemical nomenclature: laboratory conventions.
- Nitrogen monoxide in biology and medicine.

Exam:
- written: multiple choice questions (quiz), chemical formulas, basic stoicheiometry 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 - Integrated Course of 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.
Physical principles applied to images formation process in diagnostic techniques.

Exam: written & oral

Suggested textbooks:

- Physics: Principles with Applications, Douglas C. Giancoli, University of California
- 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://ww2.unime.it/dipart/i_fismed/wbt/
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, TumorSuppressor 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

Textbook:

---

4 - Integrated Course of 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.

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


Exam: oral

Textbooks:
Histology (including essential Cytology)
- Gartner LP & Hiatt JL, Color Textbook of Histology, Lippincott Williams & Wilkins, 2009.

Embriology
- Sadler T.W. Langman’s Medical Embryology, Lippincott Williams & Wilkins, 2010.

Additional textbooks:
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:

- know how to use methodology oriented towards information, communication and health education, should be able to recognize main risk factors such as the causes of social unease and the characteristics of different human groups.
- be aware of relational, educational, social and ethical aspects involved in prevention and to be future doctors professionally coherent with the health objectives of the WHO.
- understand and interpret the basic techniques of demography and epidemiology used to measure the health of a population and investigate the aetiology of diseases; compare and contrast strategies, based on the individual person and on the population, for the prevention of ill-health and premature death.
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 - Integrated Course of 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)


Biochemistry II (second year – I semester - exam)


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


Integration and control of metabolic processes.


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.
- Biochemistry, D. Voet & JG Voet, Biochemistry, Fourth Ed.
General learning aims:

- 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)


Human Anatomy (II)

- **Lymphoid system**: Bone marrow. Thymus. Spleen. Lymph nodes.
- **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)

- **Auditory apparatus**: External and middle ear. Internal ear. Pathway of sound reception.
Suggested textbook:


Suggested atlases:


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 - Integrated Course of 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 Mircobiology, Bacteriology, Mycology**

Introduction to Microbiology.

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

Bacterial structure, classification, and replication.

Microbial Nutrition and Growth.

Bacterial genetics.


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, Opisthorchis, 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, Isodes, 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.

Textbooks:


9 - Integrated Course of 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.

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


Autonomic nervous system. General organization and cardiocirculatory centers.


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)

Textbooks:

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.
Exam: oral

Textbooks:
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
  J. Owen, J. Punt, S. Stransford
  David Male, Jonathan Brostoff, David Roth, Ivan Roitt
  Kenneth M. Murphy

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

Main teaching objectives:

Methods of patient's interviewing and health history taking
Adapting Interviewing Techniques to Specific Situations

Basics of clinical reasoning

Blood pressure measurement

Basic of surgical procedures

Physical Examination: General Survey and Vital Signs

TECHNIQUES OF EXAMINATION
Beginning the Examination: Setting the Stage; Approaching the Patient; Scope of the Examination: How Complete Should It Be?; Choosing the Examination Sequence; Examining Position and Handedness

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, Gait and Motor Activity; Examination of head and nek; Examination of skin (Color, Moisture; Temperature), Eyes and Ear

The Thorax and Lungs examination

TECHNIQUES OF EXAMINATION
Initial Survey of Respiration and the Thorax
Examination of the Posterior Chest (Inspection, Palpation, Percussion, Auscultation); Examination of the Anterior Chest (Inspection, Palpation, Percussion, Auscultation)
Special Techniques (Clinical Assessment of Pulmonary Function, Forced Expiratory Time Identification of a Fractured Rib).

**The Cardiovascular examination**

TECHNIQUES OF EXAMINATION (Jugular Venous Pressure and Pulsations, Jugular Venous Pressure (JVP), Jugular Venous Pulsations, The Carotid Pulse, Thrills and Bruits, The Brachial Artery)

SEQUENCE OF THE CARDIAC EXAMINATION
Inspection and Palpation, Percussion, Auscultation (Listening for Heart Sounds; Attributes of Heart Murmurs)

Special Techniques (Aids to Identify Systolic Murmurs, Pulsus Alternans, Paradoxical Pulse)

**PRACTICAL ACTIVITY:**
Practices of history taking and patient’s interviewing
Practices on physical examination general
Practice on physical examination cardiovascular system, lung and torax

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 (multiple choice)

**Textbooks:**

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

### 12 - Integrated Course of 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)


Pathology and Pathophysiology (II)

- Oncology: Cell/Tissue phenotypic changes: metaplasia, dysplasia, anaplasia and precancerous lesions.
- 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).
- 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 textbooks:


13 - Integrated Course of 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 - 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 - Integrated Course of 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; vascular malformations; lymphedema. 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 - Integrated Course of 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)


- Metabolic derangements: Hypo- and hyper- natremia, metabolic acidosis and alkalosis, hypo- and hyper- kalemia.
- Mineral (calcium, phosphate, parathyroid hormone, vitamin D) and Bone (renal osteodystrophy) Disorders (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 glomerulonephritides: 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 calculi, Diagnosis and management of ureteric calculi, Diagnosis and management of bladder calculi.

Textbooks:

Exam modalities: Oral

16 - Integrated Course of 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.
Textbooks:
Goldman’s Cecil medicine 24th edition
Harrison Principles of Internal Medicine 18 edition

Exam modalities:
Written (solution of clinical case)

17 - Integrated Course of PATHOLOGICAL ANATOMY and Associations with Clinical Anatomy (I+II)

Main teaching objectives:
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.

Heart and vessels
Atherosclerosis, Aneurysms and dissections, Vasculidities, Myocardial hypertrophy and adverse cardiac remodeling
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, hemorrhage and infarction, Emphisema, chronic obstructive pulmonary disease, Pneumothorax, 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

---

**18 - Integrated Course of APPLIED PATHOLOGY III**

**Main teaching objectives:**
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.
Analyze symptoms, signs, and investigations in orderly diagnostic algorithms.
Comprehend the differences, similarities, and interplay between functional and organic gastrointestinal diseases.
Comprehend the reciprocal interaction between environment, psychological status, and gastrointestinal function and diseases.
Deal with patients’ suffering for chronic gastrointestinal diseases.
At the end of the teaching program the student will be able to
Integrate the etiological and pathophysiological mechanisms of pancreatic diseases with their clinical presentation
Integrate the etiological and pathophysiological mechanisms of biliary tract diseases with their clinical presentation
Analyze symptoms, signs, investigations and natural history in acute and chronic hepatitis with mentions on interventions
Describe the etiology and pathophysiological mechanisms of liver cirrhosis and its complications, with indications on diagnostic algorithms, prevention and therapies
Describe the diagnostic algorithms of liver masses with indications on the staging/treatment strategies for patients with hepatocellular carcinoma and cholangiocarcinoma

Topics of Formal Teaching

Altered Deglutition and esophageal diseases:
Dysphagia, Gastroesophageal Reflux Disease, Motor Alterations, Achalasia
diagnostic and therapeutic aspects of Endocrine Diseases.

Knowledge (Gastroenterology)

Gastroduodenal Diseases
Helicobacter pylori infection, Acute and Chronic gastritis and gastropathies, Peptic ulcer, Gastric tumors

Intestinal Diseases
Maldigestion and malabsorptionm, Celiac Disease, Inflammatory Bowel Diseases, Diverticular Disease, Rectocolonic tumors

Functional Gastrointestinal Diseases
Dyspepsia, Irritable Bowel Syndrome, Constipation, Diarrhea

Anorectal Diseases
Fecal Incontinence
Acute and chronic pancreatitis. Pancreatic cancer
Acute and chronic hepatitis
Liver cirrhosis and its complications
Non malignant biliary tract diseases
Hepatocellular carcinoma and other liver masses
Liver transplantation in the adult recipient
Emergencies in gastroenterology: digestive bleeding and intestinal occlusion

Knowledge (Endocrinology)

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-angiotensinII-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.
9. Electives (*ADE*)

### I YEAR - I SEMESTER

#### BIOLOGY AND GENETICS (I)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Battistelli</td>
<td>Seminar</td>
<td>From genetics to epigenetics: the world beyond Mendel’s laws</td>
<td>0,2</td>
<td>2</td>
</tr>
</tbody>
</table>

#### BASIC MEDICAL SCIENTIFIC METHODS (I)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Capocci</td>
<td>Seminar</td>
<td>History of Medicine (Visit to the Museum)</td>
<td>0,2</td>
<td>2</td>
</tr>
</tbody>
</table>

### I YEAR - II SEMESTER

#### BIOCHEMISTRY (I)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Perluigi</td>
<td>Seminar</td>
<td>Quantitative determination of protein content in milk</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>F. Malatesta</td>
<td>Seminar</td>
<td>Building molecular models at hand</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>D. De Biase</td>
<td>Seminar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Perluigi</td>
<td>Seminar</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### HISTOLOGY AND EMBRYOLOGY

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Adamo</td>
<td>Seminar</td>
<td>Tissue Engineering</td>
<td>0,5</td>
<td>5</td>
</tr>
</tbody>
</table>

#### BASIC MEDICAL SCIENTIFIC METHODS (II)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Cattaruzza</td>
<td>Monographic Course</td>
<td>Tobacco</td>
<td>0,5</td>
<td>5</td>
</tr>
</tbody>
</table>

### II YEAR - I SEMESTER

#### HUMAN ANATOMY (II)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Nottola</td>
<td>Seminar</td>
<td>Ultrastructural Anatomy of Gametes in Assisted Reproduction: From Oocyte to Blastocyst</td>
<td>0,2</td>
<td>2</td>
</tr>
</tbody>
</table>

#### HUMAN PHYSIOLOGY (I)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Limatola</td>
<td>Internship</td>
<td>Laboratory</td>
<td>1,0</td>
<td>30</td>
</tr>
<tr>
<td>S. Sensi</td>
<td>Seminar</td>
<td>Fighting Alzheimer’s disease, A tale of mice and humans</td>
<td>0,25</td>
<td></td>
</tr>
</tbody>
</table>
## II YEAR - II SEMESTER

**HUMAN ANATOMY (III)**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Gaudio</td>
<td>Seminar</td>
<td>In vivo imaging of the Human Central Nervous System</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>C. Catalano</td>
<td>Seminar</td>
<td>Living Anatomy: Retroperitoneum</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>E. Gaudio</td>
<td>Seminar</td>
<td>Living Anatomy: Access to the cranial cavity</td>
<td>0,2</td>
<td>2</td>
</tr>
</tbody>
</table>

**HUMAN PHYSIOLOGY (II)**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. Grassi</td>
<td>Seminar</td>
<td>Nicotine receptor and smoke addiction</td>
<td>0,1</td>
<td>1</td>
</tr>
</tbody>
</table>

**MICROBIOLOGY**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Antonelli</td>
<td>Seminar</td>
<td>Chronic hepatitis viruses: virological monitoring of the infection and of its treatment</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>G. Antonelli</td>
<td>Seminar</td>
<td>Human immunodeficiency virus: an update on etiopathogenesis</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>D. Modiano</td>
<td>Seminar</td>
<td>Genetics of susceptibility to Plasmodium falciparum malaria</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>A. Palamara</td>
<td>Seminar</td>
<td>Human Microbiota in health and disease</td>
<td>0,1</td>
<td>1</td>
</tr>
</tbody>
</table>

## III YEAR - I SEMESTER

**HUMAN PHYSIOLOGY (III)**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Ferraina</td>
<td>Seminar</td>
<td>Neurophysiology approaches to cognitive functions</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>S. Ferraina</td>
<td>Internship</td>
<td>Laboratory</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IMMUNOLOGY AND IMMUNOPATHOLOGY**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar</td>
<td>Seminar</td>
<td>Tumor immunotherapy</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>Seminar</td>
<td>Seminar</td>
<td>Immunotherapy of hematological malignancies</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>Seminar</td>
<td>Seminar</td>
<td>Osteoimmunology and immune-mediated diseases of the bone</td>
<td>0,2</td>
<td>2</td>
</tr>
<tr>
<td>Internship</td>
<td>Seminar</td>
<td>Laboratory</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### PATHOLOGY AND PATHOPHYSIOLOGY (I)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Felli</td>
<td>Seminar</td>
<td>Animal models of human disease</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>A. Campese</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### III YEAR - II SEMESTER

### PATHOLOGY AND PATHOPHYSIOLOGY (II)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Po</td>
<td>Seminar</td>
<td>Emerging research areas in cancer: microRNAs and the ubiquitin system</td>
<td>0.5</td>
<td>5</td>
</tr>
<tr>
<td>L. Di Marcotullio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Giannini</td>
<td>Seminar</td>
<td>New approaches in cancer therapy: target therapies</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>G. Canettieri</td>
<td>Seminar</td>
<td>Diagnosis and treatment of thyroid tumors: molecular approaches</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>P. Trimboi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Giannini</td>
<td>Internship</td>
<td>Molecular Oncology I</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>G. Canettieri</td>
<td>Internship</td>
<td>Molecular Oncology II</td>
<td>0.2</td>
<td>2</td>
</tr>
</tbody>
</table>

### IV YEAR – II SEMESTER

### APPLIED PATHOLOGY III

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Lezoche</td>
<td>Seminar</td>
<td>Multimodal and multidisciplinary treatment of rectal cancer</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>E. Lezoche</td>
<td>Seminar</td>
<td>Minimally invasive surgery of adrenals</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>E. Corrazzai</td>
<td>Seminar</td>
<td>Neurogastroenterology</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>E. Corrazzai</td>
<td>Seminar</td>
<td>Psyche, Environment, Food, Microbiome and Gastrointestinal Diseases</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>F. Lombardo</td>
<td>Seminar</td>
<td>Disorders of pubertal development</td>
<td>0.2</td>
<td>2</td>
</tr>
</tbody>
</table>

### I, II, III and IV YEAR

### ENGLISH CONFERENCES OF THE ACADEMIA MEDICA DI ROMA

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Type of Elective</th>
<th>Subject</th>
<th>Credits</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Filetto</td>
<td>Seminar</td>
<td>Various</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


10. 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:

<table>
<thead>
<tr>
<th>To be enrolled to…</th>
<th>it is mandatory to have passed…</th>
</tr>
</thead>
<tbody>
<tr>
<td>II year</td>
<td>2 exams of the first year</td>
</tr>
<tr>
<td>III year</td>
<td>All the exams of the first year</td>
</tr>
<tr>
<td>IV year</td>
<td>All the exams of the first and second year and 1 exam of the third year</td>
</tr>
<tr>
<td>V year</td>
<td>All the exams of the first, second and third year</td>
</tr>
<tr>
<td>VI year</td>
<td>All the exams of the first, second, third and fourth year and 2 exams of the fifth year *</td>
</tr>
</tbody>
</table>

* also the exam of Scientific English is counted here

Those 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

<table>
<thead>
<tr>
<th>To sit the exam of</th>
<th>it is mandatory to have passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry</td>
<td>Chemistry and Introduction to Biochemistry</td>
</tr>
<tr>
<td>Human Anatomy</td>
<td>Histology and Embryology</td>
</tr>
<tr>
<td>Human Physiology</td>
<td>Biology and Genetics</td>
</tr>
<tr>
<td>Pathology and Pathophysiology</td>
<td>Human Physiology</td>
</tr>
<tr>
<td>Applied Pathology (I, II + III), Pathological Anatomy</td>
<td>Pathology and Pathophysiology</td>
</tr>
</tbody>
</table>

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.
11. Legend and map of Policlinico Umberto I

1  Clinica Dermosfilopatica
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
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