### 15. THROMBOSIS AND HEMOSTASIS

Level II

**Department of Experimental and Clinical Medicine (DMSC)**

#### Course coordinator
Domenico Prisco

#### Executive Committee
Domenico Prisco  
Maria Boddi  
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Rossella Marcucci  
Alessandro Maria Vannucchi

#### Contact person for information regarding teaching organization, class schedule, course content
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#### Practical-professional profile of the course and industry sector of reference
The course provides participants with high-profile scientific and professional training and updates on molecular biology, epidemiology, laboratory and instrumental diagnostics, and pharmacology of thromboembolic and hemorrhagic diseases.

Specifically, the course trains experts who will be able to find employment in the management of complex laboratory methods for the diagnosis and therapy of thromboembolic and hemorrhagic diseases (for use in analytical and research laboratories); consultants for the development and testing of new antithrombotic and hemostatic drugs (for use in pharmaceutical industries producing drugs for the prevention and treatment of thrombotic and hemorrhagic diseases and blood products); clinical consultant for complex facilities dedicated to the diagnosis and therapy of atherothrombotic, thromboembolic and hemorrhagic diseases (thrombosis centers, specialized units with cardiovascular focus, hemostasis centers, hemophilia centers).

To this end, the educational activities will be divided into face-to-face lectures (45 CFU), internship (7 CFU), and final examination (8CFU).

Lectures will include 5 modules: Pathophysiology and diagnostics, pharmacology, and therapy; Hemorrhagic diseases; Venous thromboembolism; Atherothrombosis and cardioembolism; Thrombosis and hemostasis in specialty settings.

At the end of the course, learners will have acquired the following knowledge and skills: clinical, molecular, laboratory diagnostics, clinical pharmacology, and therapy of atherothrombotic, thromboembolic, and hemorrhagic diseases.

#### Access prerequisites
Master's degree obtained in accordance with the system under Ministerial Decree No. 270/2004 (or specialist degree under Ministerial Decree No. 509/1999 equated under I.D. July 9, 2009) in one of the following classes:
- LM-6 Biology;
- LM-7 Agricultural Biotechnology;
- LM-8 Industrial Biotechnology;
- LM-9 Medical, Veterinary, and Pharmaceutical Biotechnology;
- LM-21 Biomedical Engineering;
- LM-54 Chemical Sciences;
- LM-61 Human Nutrition Sciences;
- LM-70 Food Science and Technology;
- LM-SNT/1 Class of master’s degrees in nursing and midwifery;
- LM-SNT/2 Class of master’s degrees in the rehabilitation health professions;
- LM-SNT/3 Class of master’s degrees in the technical health professions;
- LM-SNT/4 Class of master’s degrees in the prevention health professions;
Single-cycle degree obtained according to the system under Ministerial Decree No. 270/2004 (or specialist degree under Ministerial Decree No. 509/1999 equated under I.D. July 9, 2009) in one of the following classes:
- LM-13 Pharmacy and Industrial Pharmacy
- LM-41 Medicine and Surgery
- LM-46 Dentistry and dental prosthetics

Degree awarded according to a system prior to Ministerial Decree No. 509/1999 in
- Pharmaceutical Biotechnology
- Biotechnology - Agricultural plant biotechnology curriculum
- Biotechnology - Agribusiness biotechnology curriculum
- Biotechnology - Medical biotechnology curriculum
- Biotechnology - Industrial biotechnology curriculum
- Biotechnologies
- Pharmaceutical chemistry and technologies
- Pharmacy
- Biomedical engineering
- Medical engineering
- Medicine and Surgery
- Biology
- Food sciences and technologies

Degree awarded according to a system prior to Ministerial Decree No. 509/1999 of closely related content, deemed suitable by the Executive Committee or a Commission specifically appointed by it.

<table>
<thead>
<tr>
<th>How the admission procedure takes place</th>
<th>Selection by academic qualifications</th>
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</thead>
<tbody>
<tr>
<td>Duration</td>
<td>12 months</td>
</tr>
<tr>
<td>Teaching methods</td>
<td>In-person classes</td>
</tr>
<tr>
<td>Language of instruction</td>
<td>Italian</td>
</tr>
<tr>
<td>Attendance requirements</td>
<td>75%</td>
</tr>
<tr>
<td>Location of the course</td>
<td>Department of Experimental and Clinical Medicine - Largo Brambilla 3, - 50134 Florence</td>
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<tr>
<td>Foreseen lecture schedule</td>
<td>Classes will be held in 3-day per month modules on Monday-Tuesday-Wednesday (9 a.m. to 6 p.m.) or Thursday-Friday (9 a.m. to 6 p.m.) Saturday (9 a.m. to 1 p.m.).</td>
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</tbody>
</table>
| Examinations procedures and schedule   | The assessment of educational activities consists of examinations with a grade expressed in thirtieths and possible mention of honors or with a pass/fail grade in some cases and communicated to the Functional Unit "Integrated Teaching with Regional Health Service and the School of Human Health Sciences" by the Master Coordinator. Students do an observational-only internship at the Careggi University Hospital (AOUC), Largo Brambilla 3, - 50134 Florence. This experience is aimed at developing theoretical knowledge and clinical and laboratory skills in the management of thrombotic and hemorrhagic diseases, during which they will work alongside mentors in activities related to:
  - hemostasis and thrombosis laboratory;
  - outpatient hemorrhagic and thrombotic diseases and vascular diagnostics.
  Depending on the evolution of the epidemiological emergence from Covid-19, the internship may be conducted in a distance mode or replaced by alternative activities. |
| Final examination                      | The final examination consists of the presentation of a paper. |

<table>
<thead>
<tr>
<th>Available places and enrolment fees</th>
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<tbody>
<tr>
<td>Minimum number</td>
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<tr>
<td>Maximum Number</td>
</tr>
<tr>
<td>Enrolment fee</td>
</tr>
</tbody>
</table>
Free-of-charge supernumerary places

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<tr>
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<tbody>
<tr>
<td>UNIFI employees</td>
<td>2</td>
</tr>
<tr>
<td>AOU Careggi Employees</td>
<td>2</td>
</tr>
<tr>
<td>AOU Meyer Employees</td>
<td>2</td>
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<tr>
<td>USL Toscana Centro Employees</td>
<td>2</td>
</tr>
<tr>
<td><strong>Single Modules</strong></td>
<td><strong>None planned</strong></td>
</tr>
</tbody>
</table>

Description of the activities and training objectives of the internship

During the observational-only internship, participants will work alongside mentors during various moments of activity related to:
- hemostasis and thrombosis laboratory;
- outpatient hemorrhagic and thrombotic diseases and vascular diagnostics.

Aims: To develop theoretical knowledge and clinical and laboratory skills in the management of thrombotic and hemorrhagic diseases.

Observational activity. 175 total hours of internship.

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1 This document is a translation of the form A.1 relating to the characteristics of the course attached to the Decree of the Deputy number 873 (record 158006) of 25th of July 2022, drafted in Italian and issued on the Master | Didattica | Università degli Studi di Firenze | UniFi and which therefore constitutes the only official document. This English translation cannot be used for legal purposes and has the sole purpose of supplying information in English on the content of the public notice.