



## CALL FOR APPLICATIONS FOR HONORS TRACKS 2024/2025

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## **Art. 1 Purpose and Objectives**

1. Humanitas University offers its students the opportunity to acquire additional knowledge, skills, and competences in a chosen area to interested and motivated students by activating a program of “Honors Tracks” (HTs). The tracks chosen to be activated are based on the specialist medical areas (residencies and centers) of the University and associated hospitals as well as on topics of special relevance to global health issues, primary care and family medicine.
2. An additional purpose of HTs is to support students in making a more informed choice concerning their residency school after graduation by helping them to understand their aptitude for a specific specialty area.
3. In activating the HTs, Humanitas University also takes into account the fact that access to postgraduate programs in many countries begins with an initial evaluation of a young doctor’s curriculum vitae, therefore, making the acquisition of additional credits a valuable asset in the selection process.

## **Art. 2 Honors Tracks and number of places available**

1. HTs are organized according to the topic/area. They may include intensive periods from June to September, from January to February and/ or activities during the first and second semester.
2. Tracks are intended for students from the third year onward, as determined specifically by each track.
3. Depending on the track, the type of activities may include seminars, simulation, outpatient activities, ward activities, operating room activities, multidisciplinary meetings, clinical case discussions, journal clubs and activity in the labs.
4. HTs are designed to provide 10 CFU/ECTS that are recorded in the diploma supplement as a part of the student’s learning pathway. To obtain these extra credits, students of HTs need to pass a final exam related to the track and to complete all exams of the Degree programme in Medicine and Surgery or Medtec.

For the academic year 2024/25 Humanitas University will activate the following Honors Tracks:

- Honors Track in Oncology (Oncotrack) (Annex A);
- Honors Track in Orthopedics (Orthotrack) (Annex B);
- Honors Track in Emergency and Intensive Care Medicine (Annex C);

- Honors Track in Allergy and Clinical Immunology (Immunotrack) (Annex D);
- Honors Track in Surgery (Surgerytrack) (Annex E);
- Honors Track in Global And Occupational Health (GOH) (Annex F).
- Honors Track in Pathology (Annex G)
- Honors Track in Infectious Diseases And Clinical Microbiology (IDi-Me) (Annex H)
- Honors Track in Ophtalmology (Annex I)
- Honors Track in Internal Medicine (Annex L)

Honors Tracks are activated with a minimum number of students, defined per track (see Annexes).

### **Art. 3 Eligibility requirements**

Only candidates meeting the following requirements will be considered for the selection:

- Being enrolled for the first time in the **4th year of the Degree program in Medicine and Surgery or Medtec; for IDi-Me track Medtec students must be enrolled in the 5<sup>th</sup> year.**
- Having completed all the exams of the study plan up to the semester prior to the application (i.e. 1<sup>st</sup> semester 2024-2025);
- Having attended all the OSCE exams according to your study plan.
- Having obtained a positive evaluation in the professionalizing activities up to the previous semester related to the application (minimum score allowed is 1 for medical students);
- Having obtained a weighted average grade of at least 25/30 even in the professionalizing activities;

### **Art.4 Selection criteria**

#### MEDICAL STUDENTS

Students will also be selected with the aim of ensuring a multicultural and international environment within each track. To this purpose, and considering the student population of the medical school cohorts, a quota of 1/3 will be assigned to international students (not holding Italian citizenship).

After the selection, two ranking lists will be generated for each track, a ranking for the Italian students and one for the international students.

Medical school	PLACES	EU	Non EU
EMERGENCY	5	3	2
ONCO	8	5	3
ORTHO	8	5	3
SURGERY	8	5	3
IMMUNO	3	2	1
GOH	4	3	1
PATHOLOGY	4	3	1
IDi-Me	3	2	1
OPHTALMOLOGY	3	2	1
INTERNAL MEDICINE	3	2	1
<b>TOTAL NUMBER</b>	<b>49</b>	<b>32</b>	<b>17</b>

### ***MEDTEC STUDENTS***

*The places available for Medtec students are as follows. One ranking list will be defined for Medtec students.*

Medtec school	PLACES
EMERGENCY	3
ONCO	4
ORTHO	4
SURGERY	4
IMMUNO	1
GOH	2
PATHOLOGY	3
IDi-Me	1
OPHTALMOLOGY	2
INTERNAL MEDICINE	1
<b>TOTAL NUMBER</b>	<b>25</b>

### **Art. 5 Ranking and Allocation Criteria**

Humanitas University will publish the rankings on 27 March 2025 on the LMS page.

*The ranking lists will be generated assessing a score for the eligibility requirements as reported in Table 1.*

**Table 1**

Eligibility requirements	Score Calculation
Weighted average of grades	$[(\text{Avg. grade} - 25)/(30 - 25)] * 50$
Average grade of professionalizing activity	$[(\text{Avg. grade} - 25)/(30 - 25)] * 50$

***The highest achievable score is 100 points.***

If applicants achieve the same final score, the higher weighted average of grades will prevail. In case of a further equal score, priority will be given to the student who has participated in fewer extracurricular activities (such as travel grants, Erasmus, Virgilio program). In case of a further equal score, priority will be given to the younger student.

The ranking process prioritizes candidates' expressed preferences over their obtained scores.

Based on this principle, separate rankings are created for each Honors Track, arranged in descending order of scores. Additionally, for the Medicine degree program, specific quotas will be allocated to European and non-European students to promote international diversity.

Candidates who qualify for the enrollment in the track they selected as their **first preference** are admitted immediately, depending on the available places in each Honors Track.

Once the ranking for first preferences is exhausted, admission is extended to candidates who listed the Track as their **second preference**. In other words, if a student's first choice is not available because the places have already been filled, he/she has to wait until students lower in the ranking match their first choice.

To avoid the risk of being placed in a less preferred Track, candidates are encouraged to choose only those Honors Track they are truly interested in.

This process is then repeated for second-preference candidates.

### **Withdrawal and Waitlist Process**

Candidates who wish **to decline** their enrollment despite qualifying must notify their decision by emailing [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu) between 27 March 2025 and 30 March 2025.

Failure to enroll in the Honors Track listed as the first preference will result in exclusion from all rankings, including any second-preference choices.

Any unfilled spots will be reassigned starting from 31 March 2025. Candidates admitted through the **waitlist process** will receive an email and must confirm or decline their enrollment within 48 hours.

This process will continue until all available spots are filled.

Candidates who do not meet the specified deadlines will be considered as having withdrawn and will forfeit their right to enroll.

Main dates

Registration opening	13/03/2025
Registration deadline	17/03/2025 at 12:00 am
Ranking publication	27/03/2025
Opening of the waitlist process	31/03/2025

### **Art. 6 Rules of attendance**

Track duration may vary according to the specific programmes. To proceed from one section of the track to the next, students must have attended at least 90% of the activities and passed an intermediate evaluation related to professionalism and knowledge. Acquisition of the 10 credits is subject to a final evaluation and attainment of the degree title in Medicine and Surgery and Medtec.

## **Annex A HONORS TRACK IN ONCOLOGY**

Rimassa Lorenza, Scorsetti Marta

### **Purpose and objectives**

The purpose of the track is to provide students with an in-depth knowledge of the diagnostic and therapeutic approach to the most relevant solid tumors. The track also aims at helping students to discover their aptitude for oncology and related fields of interest.

### **Organization**

The track will be organized as follows:

- Intensive period one: 2 weeks during the summer of the fourth year (23-27 June and 8-12 September 2025).
- One weekly activity over the two semesters of the fifth year.
- Intensive period two: 1 week during the winter of the fifth year (January 2026).

At the end of the track, students will have acquired 10 formative credits (10 CFU/ECTS) that will be certified on the Diploma Supplement.

### **Type of activities**

During the intensive periods students will be exposed to different areas of the Cancer Center participating in the following type of activities:

- Seminars
- Clinical case discussions
- Multidisciplinary meetings
- Journal clubs
- Outpatient clinics
- In-patient clinics
- Simulation labs.

During the 1st and 2nd semesters of the fifth year, students will be asked to participate in weekly 1-hour meetings/journal clubs. Students must attend at least 10 of these events.

During the Honors Track, students must fill in a daily diary of the activities including reflections, questions, and take-home messages. At the end of each intensive period the students must ensure that their diary is signed by their tutor and delivered to the coordinator of the Honors Track.

### **Assistance and guidance for students**

Each student selected for this Honors Track will be entrusted to a tutor in Medical Oncology and one in Radiotherapy for assistance and guidance during the activities.

The contact email for administrative issues is [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

- General overview of Medical Oncology and Radiotherapy: illustrate the clinical approach to cancer patients, the importance of the multidisciplinary approach, and of personalized medicine.
- Breast, lung, colon, and prostate cancer: the big killers. Describe the clinical presentation, radiological, pathological aspects, and treatment. Discuss clinical trials and published papers.
- Difficult communication and conversations: discuss the importance of the psycho-oncologist in the patient journey from diagnosis to treatment and prognosis.
- From theory to clinical practice: from basic clinical activities of the Cancer Center to advanced clinical activities, including discussion of complex cases, management of emergencies in oncology, and diagnostic/therapeutic procedures (e.g. biopsy, thoracentesis, paracentesis).

#### *Application of knowledge and understanding*

By the end of the course the student will be able to:

- Describe the pathognomonic signs and symptoms of the most relevant solid tumors, including breast, lung, colorectal and prostate cancer.
- Produce a differential diagnosis according to identified signs and symptoms; choose the correct diagnostic imaging work-up and bioptic procedures in order to obtain the proper diagnosis.
- Illustrate the main oncologic and radiotherapy treatments for each discussed tumor, from the mechanisms of action to the different therapeutic aims.

- Learn how to communicate with an oncologic patient, with a particular focus on difficult situations including disease progression and poor prognosis.

### **Assessment**

At the end of the first and second intensive period students will be evaluated on:

Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion...)

- Knowledge acquired: discussion of clinical cases
- Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

### **Activation of the Track**

This Honors Track will be activated with a minimum number of 5 students. A maximum of 12 students will be selected per edition.



## **Annex B HONORS TRACK IN ORTHOPAEDICS**

Di Matteo Berardo, Loppini Mattia

### **Purpose and objectives**

Knowledge acquired during the Honors Track in Orthopaedics is essential to gain an overview of orthopaedic practice, understand the differences among orthopaedic sub-specialties, and provide a solid basis to aspire to residency programs in any of these sub-specialties. The course should help the students to understand their aptitude for surgical practice and their main field of interest among different orthopaedic fields.

### **Organization**

The track will be organized as follows:

1. Intensive period one: 2 weeks during the summer of the fourth year, as follows: September 1<sup>st</sup>-September 12<sup>th</sup> 2025.
2. One monthly activity over the two semesters of the fifth year
3. Intensive period two: 1 week during the winter of the fifth year
4. Intensive period three: 2 weeks during the summer of the fifth year

Each year, the students must rotate in different orthopaedic sub-specialties, attend in-class lectures, attend simulation activities.

### **Types of activities**

During the intensive periods students will be exposed to the different surgical areas participating in the following type of activities:

- Operating theatre
- Seminars
- Clinical case discussions
- Simulation.

In total, the student is required to carry out a five-week surgical clinical rotation made available by the University. Students will be exposed to the following surgical areas: Hip Surgery, Knee Surgery, Hand Surgery, Shoulder and Elbow Surgery, Trauma Surgery.

During the clinical rotations, the student will be supervised by a tutor and will be required to fill in a

weekly diary on a daily basis, including reflections, questions, and take-home messages.

At the end of this period the students must ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Assistance and guidance for students**

Each student selected for this Honors Track will be entrusted to a tutor for each intensive period for assistance and guidance during the activities.

The contact email for administrative issues is [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge:

- Main features of the surgical theatre (open versus arthroscopic surgery set-up)
- Most-frequently used equipment and devices of the surgical theatre and of their basic functioning
- Protocols for the perioperative management of orthopaedic patients
- Risks of the surgical context (infection, physical, and chemical agents)
- Quality and medical-legal principles in orthopaedics
- Basic surgical skills in different orthopaedic sub-specializations
- Principles of management of basic traumas in an ER setting, including closed reduction and plaster positioning.

#### *Application of knowledge and understanding*

By the end of the course the student will be able to:

- Prepare a sterile surgical field, including hand washing, dressing, and draping.
- Perform surgical sutures and wound dressing.
- Identify different surgical tools and choose the most adequate one for basic procedures.
- Perform basic movements during a minimally invasive procedure (arthroscopy and, if available, robotic procedures).
- Perform some surgery-related invasive maneuvers, i.e. intra-articular injections, braces, plasters and simple wound sutures.

- Interpret the commonest imaging modalities in orthopedic patients.

### **Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion)
- Knowledge acquired: discussion of clinical cases.

Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

### **Activation of the Path**

This Honors Track will be activated with a minimum number of 6 students. A maximum of 12 students will be selected per edition.

## **Annex C HONORS TRACK IN EMERGENCY AND INTENSIVE CARE MEDICINE**

Furlan Raffaello, Greco Massimiliano

### **Purpose and objectives**

Knowledge acquired during the Honors Track in **Emergency and Intensive Care Medicine (EICMe)** is essential to gain an overview of emergency practice, understand the differences between the specialties of Emergency Medicine and Intensive Care Medicine, and provide a solid bases for an aspiring future resident in both Emergency Medicine and Intensive Care Medicine. The course should help the students to understand their attitude for clinical emergencies management.

### **Prerequisite for application**

Students are required to have completed the 4<sup>th</sup> year exams and practical activities.

### **Organization**

The track will be organized as follows:

- **ED (Emergency Department)-Emergency Medicine:** 4 weeks, 6 hours/day per 5 days/week+ 2 night-shifts, as follows: July 24<sup>th</sup> – August 4<sup>th</sup>; August 28<sup>th</sup> – September 8<sup>th</sup> 2023
- **July-August (5<sup>th</sup>year) in Intensive Care :** 4 weeks, 6 hours/day per 5 days/week+ 2 night-shifts

### **Types of activities**

During each period students will be exposed to the ordinary ward clinical activities.

In addition, during the last four semester of Humanitas Medical School they will attend different lectures and more specific practical activities as follows:

- Students will be partially embedded into the induction program for Residents attending the 2<sup>nd</sup> year of the Intensive Care Medicine Residency program
- Students will be partially embedded into the induction program for Residents attending the 1<sup>st</sup> year of the Emergency Medicine Residency program
- Emergency medicine procedures in the Simulation Centre, as follows:
  - BLS/D
  - Mask ventilation

- Laryngeal mask positioning
- Radial artery positioning using the Seldinger technique.

In total, the student is required to carry out a ten-week clinical rotation made available by the University. During the clinical rotations, the student will be supervised by a tutor and will be required to fill in a weekly diary on a daily basis, including reflections, questions, and take-home messages.

At the end of this period students must ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Facilities**

The EICMe Honors track will take place in the following Hospitals facilities:

- Humanitas Rozzano
- Gavazzeni Bergamo
- Hospital Mater Domini Castellanza (VA)

### **Assistance and guidance for students**

Each student selected for the *EICMe* will be entrusted to a tutor for assistance and guidance during the activities. The contact email for administrative issues is [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the track the student will acquire adequate knowledge about:

- Main features and organization of the ED - Emergency Medicine and Intensive Care Medicine wards (e.g., architectural, functional, ...).
- Basic functioning of the most-frequently used equipment and devices in the aforementioned wards
- Clinical Protocols of critical patients followed in the aforementioned wards.
- Principles of management of medical emergencies in the ED and in the Intensive Care Unit.

#### *Activities for application of knowledge and understanding*

By the end of the *ED and Emergency Medicine* track the student will be able to:

- Perform standalone readings of at least 5 normal and 11 pathological ECG, signed by their tutor

- Perform standalone readings of 5 normal and 11 abnormal chest x-Ray, signed by their tutor
  - Obtain 10 standalone arterial sampling for blood gas evaluation, interpret results and clinical implications under the supervision of their tutor.
  - The student will be fully acquainted with the risk management and procedures of the ED.

By the end of the *Intensive Care Medicine* track the student will be able to:

- Understand the different etiology and pathophysiology of various types of shock and prepare a case report to be discussed with their tutor.
- Address the non-invasive ventilation principles by following one cPAP and one NIV clinical case
- Take part in an inpatient emergency management
- Interpret the Early Warning Score (EWS) parameters
- Take part in an intubation manoeuvre and discuss intubation indications with their tutor.
- Take part in a central venous catheter (CVC) placement and be aware of the indication for CVC setting.
- Obtain 10 standalone arterial sampling for blood gas evaluation, interpret results and clinical implications under the supervision of their tutor.
- Perform standalone readings of 1 normal and 3 abnormal chest CT scan, signed by their tutor
- The student will be fully acquainted with risk management, procedures and organization of the Intensive Care ward.

### **Assessment**

At the end of the track, the student will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion...)
- Knowledge acquired: discussion of clinical cases

### **Activation of the Path**

The EICMe will be activated with a minimum number of 4 students/year. A maximum of 8 students will be selected per edition.

## **Annex D HONORS TRACK IN ALLERGY AND CLINICAL IMMUNOLOGY (IMMUNOTRACK)**

Hefler Enrico Marco, Selmi Carlo Francesco

### **Purpose and objectives**

The knowledge acquired during the Honors Track in Allergy and Clinical Immunology is intended to allow the students to understand how the major allergic and immuno-rheumatological diseases are diagnosed and managed and to provide tools for continuous scientific update through the literature. The course should help the students understand their vocation towards the practice of allergy and clinical immunology.

This track is addressed only to Medical students (not MEDTEC students).

### **Organization**

The track will be organized as follows:

- Intensive period #1: 2 weeks during the summer of the fourth year (in the Allergy Unit and Rheumatology Unit). As follows: July 21<sup>st</sup> to August 1<sup>st</sup> 2025
- One monthly lecture/seminar on trending topics over the two semesters of the fifth year
- One bimonthly assignment for independent student work and subsequent evaluation during the two semesters of the fifth year
- Two activities at the Simulation Center during the two semesters of the fifth year
- Participation at two scientific events (one about Allergy, and one about Rheumatology) during the two semesters of the fifth year
- Intensive period #2: 2 weeks during the summer of the fifth year (at the Allergy Unit and Rheumatology Unit) July 20<sup>th</sup>-31<sup>st</sup>, 2026

Each year, the students will be required to attend all proposed clinical activities, in-class lectures/seminars/journal clubs/scientific events, and attend simulation activities.

### **Types of activities**

During the intensive periods students will participate in Allergy and Clinical Immunology/Rheumatology activities:

- Outpatient clinics

- Seminars/Lectures
- Journal Clubs
- Scientific events
- Simulation

In total, the student is required to carry out a four-week clinical rotation at the Allergy and the Clinical Immunology/Rheumatology units made available by the University. During the clinical rotations, the student will be supervised by a tutor and will complete a weekly diary on a daily basis, including reflections, questions, and take-home messages. At the end of this period the students will ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Assistance and guidance for students**

Each student selected for this Honors Track will be assigned to a tutor for each intensive period for assistance and guidance during the activities. The contact email for administrative issues is [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge:

- Diagnostic procedures and guidelines for allergic and clinical immunological/rheumatological diseases.
- Phenotypic characterization and treatment of main allergic and clinical immunological/rheumatological diseases.
- Novel therapeutic approaches to allergic and clinical immunological/rheumatological diseases.
- Principles of management of allergic and immunological/rheumatological emergencies.
- Multidisciplinary approach to the main allergological and immunological/rheumatological diseases.
- Principles of clinical trials participation in allergy, clinical immunology and rheumatology
- Principles of translational clinical and research in allergy, clinical immunology and rheumatology

#### *Application of knowledge and understanding*

By the end of the course the student will be able to:



- Identify the clinical features of the main allergic and clinical immunological/rheumatological diseases.
- Understand and critically evaluate the phenotypic characterization of the main allergic and clinical immunological/rheumatological diseases.
- Perform and interpret the main diagnostics tests in allergy, clinical immunology and rheumatology
- Understand the process to decide the most suitable treatment (including biological and other innovative drugs) for each single patient affected by main allergic and clinical immunological/rheumatological diseases.
- Actively collaborate in clinical trials.
- Actively participate in clinical and translational research projects.
- Write and critically revise scientific articles.

### **Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion, and critical interaction with physicians and scientists;
- Knowledge acquired: discussion of clinical cases;

Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

### **Activation of the Path**

This Honors Track will be activated with a minimum number of 2 students. A maximum of 4 Medical students will be selected per edition.

## **Annex E HONORS TRACK IN SURGERY**

Civilini Efrem, Viganò Luca

### **Purpose and objectives**

Knowledge acquired during the Honors Track in Surgery is essential to gain an overview of surgical practice, understand the differences among surgical specialties, and provide a solid bases for aspiring future residents in in any surgical specialty. The course should help the students to understand their aptitude for surgical practice and the main field of interest among different surgical specialties.

### **Organization**

The track will be organized as follows:

- Intensive periods: 2 weeks during the summer of the fourth year: September 1<sup>st</sup>-12<sup>th</sup>, 2025
- One monthly activity over the two semesters of the fifth year: Saturday mornings, 9 AM - 1 PM, from October 2025 to May 2026
- Intensive period two: 1 week during the winter of the fifth year End of January/February 2026 (according to the exam calendar)
- Intensive period three: 2 weeks during the summer of the fifth year: July 2026.

Each year, the students must rotate in different surgical areas, attend frontal lectures, attend simulation activities.

### **Types of activities**

During the intensive periods students will be exposed to the different surgical areas participating in the following type of activities:

- Operating theatre
- Seminars
- Clinical case discussions
- Simulation.

In total, the student is required to carry out a five-week surgical clinical rotation made available by the University. Students will be exposed to the following surgical areas: General surgery, Cardiovascular surgery, Thoracic surgery, Urology, Otorhinolaryngology, and Neurosurgery

During the clinical rotations, the student will be supervised by a tutor and will be required to fill in a weekly diary on a daily basis including reflections, questions, and take-home messages.

At the end of this period the students must ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Assistance and guidance for students**

Each student selected for this Honors Track will be entrusted to a tutor for each intensive period for assistance and guidance during the activities.

The contact email for administrative issues is [honorstracks@hunimed.eu](mailto:honorstracks@hunimed.eu)

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge:

- Main features of the surgical theatre (e.g., architectural, functional,...).
- Most-frequently used equipment and devices of the surgical theatre and of their basic functioning.
- Protocols for the perioperative management of surgical patients.
- Risks of the surgical context (infectious, physical, and chemical agents).
- Quality and medical-legal principles in surgery.
- Basic surgical skills in different surgical specializations.
- Principles of management of surgical emergencies.

#### *Application of knowledge and understanding*

By the end of the course the student will be able to:

- Prepare a sterile surgical field, including hand washing, dressing, and draping.
- Perform surgical sutures and wound dressing.
- Identify different surgical tools and choose the most adequate one for basic procedures.
- Perform basic movements during a minimally invasive procedure (laparoscopic and, if available, robotic procedures).
- Perform basic explorative ultrasound.

- Perform some surgery-related invasive maneuvers, i.e., nasogastric tube and urinary catheter positioning, and vascular accesses.
- Interpret the commonest imaging modalities in surgical patients.

### **Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion...)
- Knowledge acquired: discussion of clinical cases

Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

### **Activation of the Path**

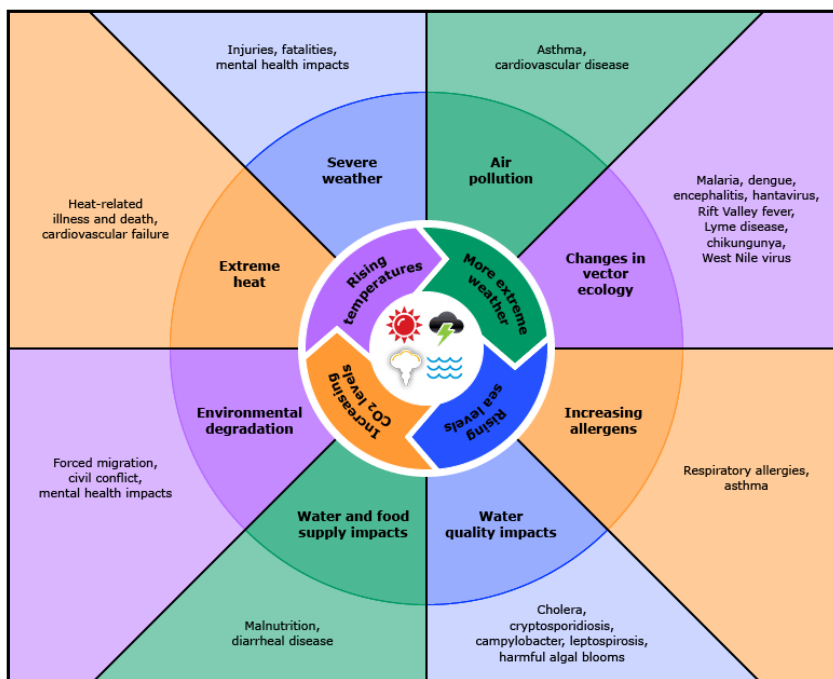
This Honors Track will be activated with a minimum number of 6 students. A maximum of 12 students will be selected per edition.

# Annex F HONORS TRACK IN GLOBAL AND OCCUPATIONAL HEALTH (GOH)

Barbic Franca, Riboli Elio, Stranges Saverio

## Purpose and objectives

Global Health is a rapidly evolving interdisciplinary field based on systems science approaches to study, research and practice applied to health and disease conditions in a global perspective. The current pandemic as well as the increasing interest for the potential consequences of climate changes in different parts of the globe, have further emphasized the interconnected nature of our societies and the need to focus on social and environmental determinants of health. These aspects are crucial to understand and tackle the complex issues we face as physicians, scientists, health professionals and citizens in our modern societies. In this context, also the role of occupational health is changing and is becoming strictly related to the other disciplines.



The Figure 1: relationships between changes in global climate and risk for global health.

The new generation of physicians will have to embrace global perspectives in their clinical routine, hence there is a need to incorporate global and environmental, including occupational health contents in the medical training at all stages, from the undergraduate years to the residency programs. Emerging global health issues such as the current pandemic and **Climate Change** are likely to cause long-term

health implications to individuals, workers, and communities, which will warrant novel approaches and a wider set of skills in the next generations of physicians and health professionals. Future physicians will deal with heterogeneous groups of patients, with diverse ethnic and social backgrounds, which will require greater knowledge on the above issues. In addition, the concept of **One Health** focusing on the interplay between human and animal health as well as on the influence of the physical and social environment on health outcomes is becoming a critical pillar in the field of Global Health.

The proposed Honors Track (HT) aims to provide students with an overview of the global epidemiology, including occupational epidemiology, preventive options, public health policies for some of the major infectious and chronic non-communicable diseases that are the leading causes of death and disability in Italy and globally. Students will learn measures of disease burden applied at the individual and population levels, including cost of illness, years of life lost due to mortality, and health adjusted life years. The effects of social, environmental and occupational determinants of health are emphasized. Key methodological considerations for the execution or interpretation of studies of each disease will be highlighted. The Honors track will be entirely organized based on a **case-based methodology**, with the selection of global health cases which will be discussed with the instructors at the onset of the program.

Target: 6 students who have completed the courses of the 4<sup>th</sup> Year of Medical School or MEDTEC at Humanitas University, Pieve Emanuele, Milan, Italy. The HT will end by the end of September 2024.

### **Organization**

The track will be organized as follows:

5. Workshop (June 17<sup>th</sup>: 2.00-4.00 pm; June 24<sup>th</sup>: 2.00-4.00 pm;) to meet the selected students, introduce the contents and structure of the HT.
6. Intensive period of formal training focusing on case-based learning #1:2 days in September TBD.
7. Bimonthly lecture/seminar (2 hours) during the two semesters of the fifth year.
8. Monthly discussion on the progression of the work on the individual case chosen by the student.
9. Participation in one scientific event in the area of Global Health, Environmental Health, Occupational and Public Health during the two semesters of the fifth year. Namely the two

suggested conferences will be: the European Public Health Annual Conference and the International Congress on Occupational Health.

10. Intensive period #2 abroad: 4 weeks during the summer of the fifth year to be spent in one of the suggested academic institutions, including the Western University in London, Ontario, Canada, Affiliate Joint Clinical Research Centre in Kampala (<https://jcrc.org.ug/>)

Each year, the students will be required to attend all proposed activities, frontal lectures/seminars/journal clubs/scientific events.

### **Possible Hubs at Western University and Uganda:**

At Western University, London, Ontario Canada:

1. Epidemiology and Biostatistics Department
2. Africa Institute (<https://www.uwo.ca/africainstitute/index.html>)
3. Climate Change, Sustainable Livelihoods and Health, (<https://nest.uwo.ca/climatecentre/>).
4. Affiliate Joint Clinical Research Centre in Kampala (<https://jcrc.org.ug/>)
5. Biomedical frugal innovation centre

### **Types of activities**

During the intensive periods students will participate to the following activities:

- Case-based learning and student-led small team discussions (entire program)
- Workshop
- Intensive periods on site (1 week) and abroad (3 weeks)
- Seminars/Lectures
- Journal Clubs
- Scientific events

During this intensive program, the student will be supervised by a tutor and will complete a weekly diary including reflections, questions, and take-home messages.

### **Assistance and guidance for students**

Each student selected for the Honors Track in **GOH** will be assigned to a tutor for each intensive period for assistance and guidance during the activities. The contact email for administrative issues is

## **Learning objectives**

### *Knowledge and understanding*

By the end of the course the student will acquire the following set of skills and knowledge:

- Describe the epidemiological characteristics and relative impact of major infectious and chronic non-communicable diseases including the emerging occupational diseases, both nationally and globally and their relationship with the broader social and environmental context.
- Explain approaches to the prevention and control of these diseases from a public health perspective, including health promotion programs both in community settings and workplace.
- Identify methodological challenges associated with epidemiological studies of each condition.

### *Application of knowledge and understanding*

By the end of the course the student will be able to:

- Identify the clinical and public health relevance and application of global health cases, including the role of the environmental characteristics and occupational exposures to the potential field of specialization.
- Writing a final thesis based on the selected case, which may include publication of scientific articles.

## **Assessment**

At the end of each semester students will be evaluated based on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion, and critical interaction with peers and instructors.
- Knowledge acquired: discussion on cases and results of the independent student work.

## **Activation of the Path**

The (HT-GOH) will be activated with a minimum number of 3 students. The maximum number of students selected is 6 per edition.



## **Annex G HONORS TRACK IN PATHOLOGY**

Uccella Silvia, Salvatore Lorenzo Renne

### **Purpose and objectives**

The Honors Track in Pathology is aimed to give students an overview of the multifaceted world of a Pathology Department transcending the boundaries of traditional coursework, offering an exploration of pathology from both clinical and research point of view. The student will understand how the pathologist integrate the disparate pieces of the puzzle – clinical information, macroscopic, microscopic, and molecular analyses – to render a meaningful pathological diagnosis for the patients. In addition, students will understand the opportunities of translational research starting from tissue samples. This Honor Track will provide a solid base for both future residents in Pathology and for students who want to approach any other specialty, being aware of the implications of a pathological report and of the key role of the pathologist in the multidisciplinary management of the patient

### **Organization**

The track will be organized as follows:

- Initial intensive period: 2 weeks during the summer of the fourth year: August 25<sup>th</sup> - September 5<sup>th</sup> 2025
- One monthly activity over the two semesters of the fifth year
- Middle intensive period: 1 week during the winter of the fifth year
- Final intensive period: 2 weeks during the summer of the fifth year.

Each year, the students must rotate in different subspecialties of Pathology, attend frontal lectures, attend autoptic activity and intraoperative examinations (frozen sections).

### **Types of activities**

During the intensive periods students will be exposed to the different surgical areas participating in the following type of activities:

- Diagnostic activity with examination of glass/digital slides (histology and cytology)
- Macroscopical examination and autopsies

- Molecular pathology and laboratory of Precision Medicine
- Seminars and clinical cases discussion
- Participation to multidisciplinary tumor boards (MTB)

In total, the student is required to carry out a five-week rotation in the Pathology Dept. Students will be exposed to the following pathology subspecialties: breast pathology, endocrine pathology, uropathology, digestive pathology, hematopathology, liver pathology, pathology of soft tissues and bone, dermatopathology, pulmonary pathology, autoptic pathology, cytopathology. In addition, a rotation in the Precision Medicine lab will be available.

During the rotations, the student will be supervised by a tutor and will be required to fill in a weekly diary on a daily basis including reflections, questions, and take-home messages.

At the end of this period the students must ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Assistance and guidance for students**

Each student selected for the HTS will be entrusted to a tutor for each intensive period for assistance and guidance during the activities.

The contact email for administrative issues is [honortracks@hunimed.eu](mailto:honortracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge:

- Knowing methods and technologies for pathological examination of specimens.
- Being aware of the role of the pathologist in the MTB.
- Learning the basic macroscopic and microscopic features of neoplastic and non-neoplastic disease
- Learning how to interpret a pathological report
- Understanding the indication of intraoperative examinations and autopsy
- Understanding the role of immunohistochemistry for diagnostic, predictive, and prognostic purposes
- Understanding the role of molecular

#### *Application of knowledge and understanding*

By the end of the course the student will be able to:

- Autonomously recognize basic histological patterns (normal Vs neoplastic; inflammatory infiltrate)
- Autonomously recognize macroscopic features of tumors
- Interpret clinico-pathological correlations at autopsy
- Conceive a clinico-pathological research study

#### **Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion...)
- Knowledge acquired: discussion of clinical cases

Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

#### **Activation of the Path**

This Honors Track will be activated with a minimum number of 1 student. A maximum of 7 students will be selected per edition.

## **Annex H HONORS TRACK IN INFECTIOUS DISEASES and CLINICAL MICROBIOLOGY (IDi-Me)**

### **Antibiotics are not for all (infections)**

Cento Valeria, Bartoletti Michele

#### **Purpose and objectives**

Infectious diseases were the most common cause of death until the 20th century, when life expectancy strongly increased reflecting progress in controlling infectious diseases through antimicrobial drugs. Since their discovery, antibiotics have proven to be the most effective intervention in human medicine. Countless human lives have been saved by their broad availability. Sadly, the overuse and misuse of this precious resource have brought us to a global crisis of antimicrobial resistance. The importance of reducing overuse and misuse of antibiotics by promoting prudent use is one fundamental component of this solution - the concept of antimicrobial stewardship.

Knowledge acquired during the Honors Track in Infectious Diseases and Clinical Microbiology (IDi-Me) is essential to gain an on-field preparation on infection diagnosis, antibiotic prescribing practices, understand the role of diagnostic and antimicrobial stewardships, and provide a solid bases for aspiring future residents in Clinical Microbiology or Infectious Diseases. The course should help the students to understand their aptitude for managing infective patients using innovative diagnostic tools and antimicrobial stewardship across different settings and patient populations, with a collaborative and cross-disciplinary approach that will guide them from principles to bedside, passing through the laboratory.

#### **Organization**

The track is addressed to 4<sup>th</sup> year Medical students, while **Medtec students must be enrolled in the 5<sup>th</sup> year**. The track is organized as follows:

- Intensive period #1: 3 weeks of medical practice in Infectious Disease Unit during the summer of the fourth year for medical students and of the fifth year for MEDTEC students to be selected with the tutor from July 1-31<sup>st</sup>, 2025;
- Intensive period #2: 2 weeks of laboratory practice during the winter break of the fifth year for medical students and of the sixth year for MEDTEC students
- One monthly lecture/seminar on hot topics over the two semesters of the fifth year for medical students and of the sixth year for MEDTEC students
- Participation at two scientific events during the two semesters of the fifth year for medical students and of the sixth year for MEDTEC students

- One assignment at the end of the Track (May)
- Each year, the students can attend various clinical activities, in-class lectures/seminars/journal clubs/scientific events, and simulation activities.

### **Types of activities**

During the intensive periods, students will participate in IDi-Me activities:

- Clinical activity in Infectious Disease Ward
- Clinical activity (consultancies) in different hospital wards
- Microbiology laboratory
- Outpatient clinics
- Seminars/Lectures
- Journal Clubs
- Scientific events
- Simulation

In total, the student is required to carry out a three-week clinical practice with Infectious Diseases specialists and a two-week laboratory practice in the Microbiology Laboratory. During the rotations and laboratory practice the student will be supervised by a tutor and will complete a weekly diary on a daily basis including reflections, questions, and take-home messages. At the end of this period the students will ensure that the diary is signed by their tutor and delivered to the coordinators of the track.

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge:

- Gold standard diagnostic approaches and treatment guidelines for infectious diseases, including their limitations.
- Novel therapeutic approaches and protocols, including newly available drugs.
- Current practice of antibiotic prescribing in both hospital and outpatient settings.
- Laboratory assessment of bacterial drug resistance by both phenotypic and genotypic approaches.
- Principles of management of hospital-acquired infections, including implant-associated infections (i.e. prosthetic joint infections, etc.) and infections in immune-compromised patients
- Principles of management of clinical emergencies (i.e. sepsis).
- Multidisciplinary approach to infection by multidrug resistant pathogens, with particular focus on fragile patients.

- Principles of clinical trials participation in Clinical Microbiology and Infectious Diseases.
- Principles of translational clinical and research in Clinical Microbiology and Infectious Diseases.

*Application of knowledge and understanding*

By the end of the course the student will be able to:

- Identify the clinical features of the main infectious caused by bacterial and fungal pathogens.
- Perform, understand and critically evaluate the phenotypic and genotypic characterization of drug resistance.
- Understand the process to decide the most suitable treatment (including innovative drugs) or treatment protocol for each single patient, focusing on an optimized antibiotic prescribing practice.
- Actively collaborate in clinical trials.
- Actively participate in clinical and translational research projects.
- Critically revise scientific articles.

**Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion, and critical interaction with biologists, laboratory technicians, physicians and scientists;
- Knowledge acquired: discussion of clinical cases;
- Progression from the first intensive period to the rest of the track will be based on successfully passing the first evaluation.

**Activation of the Track**

The IDi-Me track will be activated with a minimum number of 2 students, maximum 4.

## **Annex H HONORS TRACK IN OPHTHALMOLOGY**

Mario Romano, Andrea Govetto

### **Purpose and Objectives**

The Honor Track in Ophthalmology aims to equip students with a strong foundation in clinical skills, research and professional leadership. It encourages a deep commitment to patient care, innovation and ethical practice, setting students on a path toward excellent in their future careers as ophthalmologists. Through this selective and comprehensive program, students can build the competencies necessary to become impactful clinicians, researchers and advocates for eye health. The objectives of this program are:

- Enhance clinical proficiency
  - o Provide in depth exposure to advanced diagnostic techniques, medical and surgical management of ocular diseases, and patient-centered care
  - o Develop hands-on experience through additional clinical rotation, shadowing and simulation labs
- Foster research experience
  - o Support students in undertaking research projects, thereby enhancing their academic and research credentials
  - o Encourage original thinking and innovation in addressing current challenges in ophthalmology
- Expand knowledge in subspecialties of ophthalmology
  - o Connect students with mentors and specialists in these areas to support tailored learning and career exploration
- Prepare for competitive residency
  - o Through clinical and academic training, ensure that students are well-prepared for ophthalmology residency programs, strengthening their applications with a robust portfolio of accomplishments
- Encourage lifelong learning and curiosity
  - o Promote the importance of staying current with medical advancements, particularly in a field where technological progress rapidly influences and therapeutic options

### **Organization**

The track will be structured as follows:

- Intensive Period One: 2 weeks during the summer of the fourth year (last week of July, first week of August) - Vitreo-retinal diseases, **Bergamo: July 28<sup>th</sup> – August 8<sup>th</sup> 2025**
- Intensive Period Two: 2 weeks during the summer of the fourth year (last week of August, first week of September) - Vitreo-retinal diseases, **Bergamo: August 25<sup>th</sup>- September 5<sup>th</sup> 2025**
- Intensive Period Three: 1 week during the spring of the fifth year - Refractive and cataract surgery, Milano.

Students will rotate through different ophthalmic subspecialties, attend in-class lectures, and participate in simulation activities each year.

- Subspecialties:
  - Vitreo-retina
  - Refractive disorders
  - Cataract surgery

Moreover through the year students will be asked to attend and prepare:

- Monthly seminar series
- Grand rounds participation
- Guest speaker events

Students are expected to present one or two cases annually, focusing on diagnosis, treatment and clinical-decision making

### **Types of Activities**

During the intensive periods, students will gain exposure to various areas of ophthalmology through activities such as:

- Observations in the operating room
- Clinical case discussions
- Simulation training

Over the course of the program, students will complete a five-week clinical rotation provided by the University. Areas covered will include:

- Cataract Surgery
- Retina
- Cornea

### **Learning Objectives**

#### Knowledge and Understanding:

By the end of the course, students will gain an understanding of:

- Key components of the surgical theatre for ophthalmology, including microscope setup.
- Common equipment and devices used in ophthalmic surgery and their basic functions.
- Protocols for perioperative management of ophthalmic patients.
- Risks associated with ophthalmic surgery (e.g., infection, laser safety).
- Basic principles of ophthalmic quality and medico-legal considerations.



- Essential surgical skills within different ophthalmic subspecialties.
- Management of common ocular emergencies, such as globe injuries and chemical burns.

Application of Knowledge and Understanding Upon course completion, students will be able to:

- Set up and maintain a sterile surgical field specific to ophthalmic procedures.
- Perform basic ocular wound care.
- Identify ophthalmic surgical instruments and select appropriate tools for common procedures.
- Demonstrate basic maneuvers in minimally invasive ophthalmic surgeries, such as phacoemulsification and laser procedures.
- Interpret standard imaging modalities used in ophthalmology, such as OCT and fundus photography.

### **Assessment**

Students will receive regular evaluations from mentors.

At the end of the first intensive period, students will be evaluated on:

- Professionalism: including attendance and punctuality.
- Knowledge Acquired: through discussions of clinical cases.

At the end of the program a final presentation will be organized:

- Presentation of a capstone project – a detailed case study or their research findings, to a panel of faculty members

Progression in the track is contingent upon successfully passing the first evaluation.

### **Activation of the Track**

The Honors Track in Ophthalmology (HTO) will be activated with a minimum number of 2 students, and maximum of 5 places.

## **HONORS TRACK IN INTERNAL MEDICINE**

Ana Lleo De Nalda, Vincenzo Ronca

### **Purpose and objectives**

This program introduces students interested in Internal Medicine or Internal Medicine subspecialties to educational opportunities and early clinical experiences. Core rotations during this Honors Track include inpatient general medical wards, inpatient subspecialty wards, emergency medicine, and medical consultation.

The purpose of this program is to introduce the students in the evaluation, diagnosis, management, and treatment of acute and chronic medical problems encountered in Internal Medicine. Clinical experiences are intended to assist the student's transition from didactic to integrated clinical evaluation, decision-making, and management of patients with comorbidities and acute medical problems.

### **Organization**

The program includes 2 week-rotations in internal medicine medical wards and inpatient subspecialty wards for a total of 60h, including: clinical Cardiology ward (Heart Failure Unit), Internal Medicine and Hepatology, Nephrology, and Pulmonology. Journal Clubs and discussion of clinical cases will be organized.

The track will be organized as follows:

- Summer break IV-V anno (2 weeks: 60h) dates to be defined with the tutor
- Winter break V anno (1 week: 30h)
- Summer break V-VI anno (2 weeks: 60h)
- Winter VI anno (Emergency Room: 4 shifts)
- Journal club (2) e clinical cases (2)
- Multidisciplinary tumor board (total number: 3)

### **Types of activities**

During the monthly activities students will be exposed to:

- Seminars
- Simulation

In total, the student is required to carry out a #week traineeship made available by the University.

During the clinical rotations, the student will be supervised by a tutor and will be required to fill in a weekly diary daily including reflections, questions, and take-home messages.

At the end of this period the students must ensure that the diary is signed by their tutor and delivered to the coordinator of the track.

### **Assistance and guidance for students**

Each student selected for the HTS will be entrusted to a tutor for each intensive period for assistance and guidance during the activities.

The contact email for administrative issues is [honortracks@hunimed.eu](mailto:honortracks@hunimed.eu).

### **Learning objectives**

#### *Knowledge and understanding*

By the end of the course the student will acquire the following knowledge: acquire certain technical and interpretation skills that are commonly employed in medical care. Students are required to participate in and observe procedures under adequate supervision.

#### *Application of knowledge and understanding*

By the end of the course the student will be able to: record and interpret an EKG, interpret a chest X-ray, interpret a complete blood count Interpret common chemistry measurements, interpret results of a urinalysis, interpret arterial blood gas measurements, interpret serum electrolyte measurements.

### **Assessment**

At the end of the first intensive period students will be evaluated on:

- Professionalism: overall professional behaviour during the period considering attendance, readiness, punctuality, diary completion)
- Knowledge acquired:

### **Activation of the Path**

The HTS will be activated with a minimum number of 1 students. The maximum number of students selected is 4 per edition.