## INDIVIDUAL TRAINING PLAN

## TRASLATIONAL SPECIALISTIC MEDICINE "G.B. MORGAGNI"

# Requirements for the Individual Training Plan

The Ph.D. Students during the three years program must attend both in-depth disciplinary courses proposed by each curricula and cross-curricular training activities and soft skills courses as follow:

1<sup>st</sup> year

- Biomedical statistic and epidemiology course
- How to write an application grant course
- How to write a research protocol course (theoretical-practical course)
- Seminars specific for each curriculum (required 75% of attendance)

2<sup>nd</sup> year

- Thematic advanced course in epidemiology and biostatistics
- Ph.D. research day
- Seminars specific for each curriculum (required 75% of attendance)

3<sup>rd</sup> year

- Thematic advanced course in epidemiology and biostatistics
- Ph.D. research and thesis day
- Seminars specific for each curriculum (required 75% of attendance)

In-depth disciplinary courses for each curriculum:

## **Biostatistics and Clinic Epidemiology**

Three e-learning courses among:

- Machine learning in the clinical research
- Advanced biostatistics
- Methodology of clinical research
- Good clinical practice in clinical research

## **Clinical and Traslational Neurosciences**

• Neuromuscolar diseases

## **Cardiovascular Sciences**

Four courses among:

- Pathology of cardiovascular diseases
- Physiopathology of cardiovascular diseases
- Paediatric cardiology
- Arrhythmology
- History of medicine and anthropology

## **Endocrine and Metabolic Sciences**

1<sup>st</sup> year: Physiopathology of vascular diseases in diabetes

## **Thoracic and Pulmonary Sciences**

1<sup>st</sup> year: Physiopathology and clinic of pulmonary diseases

2<sup>nd</sup> year: Pathology of pulmonary diseases

Objectives of the Individual Training Plan	The main objective of the course is to form top-level scientists in the biomedical disciplines and offers a wide range of facilities to perform research in clinical and experimental medicine from basic science to clinics with particular emphasis on translational medicine. At the end of their research program the Ph.D. Students acquire specific knowledge concerning basic sciences and molecular medicine, technical laboratory skills, and a research method in Medicine and Surgery to be applied in the prevention, diagnosis and therapy of human diseases. Using a multidisciplinary approach to biomedical sciences, competences in epidemiology, genetics, biology and molecular pathology, regenerative medicine, physiopathology, diagnostics and therapy are integrated. Specific emphasis will be given to biostatistics and methodology on big data handling and machine learning to run an excellent research project and how to apply to competitive research grant. Ph.D. Students will choose their specific research field of interest under the supervision of a faculty member of the Ph.D. course.
Training Plan	Ph.D. student must attend compulsory and optional courses and educational activities offered in each curricula or as cross-curricular training activities/courses.
1) Definition of course	A course is defined as a programmed series of lessons on specific topic for at least 8 hours held by one or more teachers.
2) Definition of seminar	A seminar is design as an activity of at least 2 hours coordinated by a faculty member of the Ph.D. board with possibly one external expert in the field.
Training Plan activities	
a) Compulsory course	The Ph.D. students must attend all the compulsory disciplinary and cross-curricular training activities/courses as assigned for each year. The final assessment will be obtained by certificate of attendance which will be part of the annual and final report.
b) Sectorial/specific	The Ph.D. students must attend all the compulsory disciplinary
course c) Soft skills courses	courses and can freely attend the optional activities.  The Ph.D. students must attend the soft skills compulsory or optional courses organized by the University or by other Ph.D. courses.
d) Seminars	The Ph.D. students must attend at least to 75% of the seminars organized each year of their Ph.D. program.
e) Group activities	Biostatistics and Clinical Epidemiology and Thoracic and Pulmonary Sciences organized journal club or dedicated group activities.
f) Schools	The Ph.D. students must attend the winter school.
g) Other training activities	The Ph.D. students are invited to take part to any other optional activities organized by the Ph.D. Course or by other Ph.D. Courses.

h) Participation to	The Ph.D. students must attend at least to three meeting during
conferences	their Ph.D. program possibly one international. If not otherwise
	specified by each curricula the Ph.D. students must present one
	abstract in three national or international meetings.
i) Other	During the Ph.D. program the Ph.D. students can attend as auditor to two ethical committee meeting (CESC) for human and animal.