



GENERAL PATHOPHYSIOLOGY	
Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	MED/04 (GENERAL PATHOLOGY)
Department	DEPARTMENT OF MOLECULAR MEDICINE
Course	MEDICINE AND SURGERY (IN ENGLISH LANGUAGE) (ENGLISH LANGUAGE)
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	(01/03/2022 - 03/06/2022)
ECTS	2
Lesson hours	16 lesson hours
Language	English
Activity type	WRITTEN TEST
Teacher	GHERARDI ERMANNO (titolare) - 1 ECTS SCOTTI CLAUDIA - 1 ECTS
Prerequisites	Basics of chemistry, physics, biochemistry and physiology.
Learning outcomes	During the Pathophysiology course, students will interpret, considering certain types of alterations of integrated functions, physiological changes and adaptive responses of the body following exposure to perturbing agents.
Course contents	Topics: General pathophysiology  Homeostasis, functional insufficiency. Alterations in homeostasis of the following functions: psycho-neuro-endocrine-immunological, oxygenation, water and sodium, acid-base and potassium ion.  The General Pathophysiology module of the Harvey course originates

from its twin Golgi course counterpart, which has been taught for more than a decade by Prof. Vanio Vannini, my teacher and mentor. This course is largely built on all the teaching material he collected throughout his career and aims first of all at maintaining his vision of the subject.

#### Object of the course

In this course of General Pathophysiology, some of the most important integrated functions will be analysed. In each chapter, the function itself will be defined and its main regulatory mechanism will be revised. Alterations of the function determined by physiological and pathological conditions will be considered and the corresponding pathophysiological models will be discussed. Reference to the relevant experimental systems will, in fact, be an essential part of the course, as they have been essential to define, or to help define, the pathophysiological mechanisms involved ("how it works"). Reference to the clinics will be also made, as they are expected to be the final theatre where knowledge acquired through the course will be applied in everyday work: knowing how every function works, it should be easier to make sense of the complex reality a patient represents.

In this perspective, this pathophysiology course is meant to contribute a preliminary bridge between laboratory science and the clinics.

Particularly, it is studied to give the students the chance to start building relationships between most of the basic disciplines, on one side, and the clinical ones, on the other, where they will get accustomed with "reading" and treating the patient.

#### Structure of the course

The General Pathology consists of several blocks: some of them will include a single lecture, whereas some others will span several. The first block, Homeostasis, will deal with this basic concept and strictly related ones, which will recur during the course. In the following blocks, alterations of the major integrated functions will be discussed. A consistent structure will be maintained throughout each block: a definition of the function under consideration will be initially given, which will be followed by the list of the organs and systems involved in its regulation and performance, and by the main regulatory mechanisms. A discussion of the alterations of each function and of their clinical significance will be given. Clinical examples will be supplied and exercises will be proposed when considered useful for a better understanding of the key concepts.

Each block of lectures will include the discussion of the alterations of a specific function among the following:

Psycho-neuro-endocrine-immunology, Oxygenation, Water and sodium balance, including Oedema, Acid-base and potassium.

#### Teaching methods

The course is taught using lectures and tutorials. The preparation is completed, for students who wish so, through computer simulations of homeostatic alterations.

#### Recommened or required

Updated information is available in the course website.

**readings****Assessment methods**

The exam is written and is part of the General Pathology exam. Specifically, for the course of General Pathophysiology two questions will be asked, one in which a definition or description is required and one where the student is asked to perform an exercise.

Exam registration is online within the indicated deadline, as indicated in ESSE3; please note that no entries will be considered after the day indicated unless for website technical issues.

Registration requires cancellation in case the exam is not taken. This can occur through ESSE3.

**Further information**

La docente è disponibile a colloqui di chiarimento sul materiale del corso, per i quali si richiede appuntamento telefonico o via email.

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