

## CLINICAL PATHOPHYSIOLOGY (OTU211)

### 1. language

Italian.

### 2. course contents

Coordinator: Prof. ZOLLINO MARCELLA

Year Course: 2

Semester: 1

UFC: 4

Modules and lecturers:

- ANATOMIA PATOLOGICA (OTU04B) - 1 ufc - ssd MED/08

Prof. Gian Franco Zannoni

- GENETICA (OTU00B) - 1 ufc - ssd MED/03

Prof. Marcella Zollino

- MICROBIOLOGIA (OTU02B) - 1 ufc - ssd MED/07

Prof. Tiziana D'Inzeo

- PATOLOGIA CLINICA (IMMUNOEMATOLOGICA) (OTU01B) - 1 ufc - ssd MED/05

Prof. Carlo Provenzano

### 3. BIBLIOGRAPHY

Microbiologia: Principi di Microbiologia Clinica. Eudes Lanciotti (casa editrice ambrosiana)

Bibliografia integrata a cura della Biblioteca

Patologia Clinica: materiale fornito dal docente/ material provided by the teacher

Anatomia Patologica: materiale fornito dal docente/ material provided by the teacher

Genetica: Capitoli 2, 5, 6, 15, 17, 32, 33 del testo "Genetica Umana e Medica" Neri, Genuardi, Edra (V Edizione) e materiale fornito dal docente/and material provided by the teacher

*Alternatively, other free choice books with the topics of the course covered in an exhaustive manner.*

### 4. LEARNING OBJECTIVES

*The training objectives are to promote understanding of the topics expressed in the educational program, through lectures based on direct examples of pathology, so that the notions can be applied in clinical practice.*

*Through questions posed during lectures, autonomy of judgment will be favored in characterizing the nature of the problem at the patient's bed or in ambulatory and day hospital regimes, and in coordinating the interventions of appropriate specialists. Through simulations of clinical situations in the classroom, the ability to communicate both with the patient and with other specialists will be assessed, according to a multidisciplinary model of care. Learning skills will be assessed with ongoing tests, outside the official exam sessions.*

### 5. prerequisites

*The required prerequisites include basic knowledge of elements of infectious disease, general hemato-chemical parameters and genetics, according to high school programs.*

## 6. TEACHING METHODS

*Teaching methods are lectures in which the scientific/theoretical bases of the program topics are accompanied by simulations of real situations in clinical practice: students are asked about the framing of the problem, especially if in the context of an urgent situation, and the possible approaches for its solution, with particular regard to multidisciplinary specialist interventions. During these simulations, the ability to communicate with the patient and with colleagues will be assessed and whether the concepts have been assimilated will be verified, creating critical awareness*

*Exercise exercises on the topics covered during the lectures will be provided in itinere.*

## 7. OTHER INFORMATIONS

*Interactive dialogue between teacher and students will be encouraged, for the solution of critical issues that may have been determined during the lessons.*

## 8. METHODS FOR VERIFYING LEARNING AND FOR EVALUATION

*Verification of learning will be an official exam at the end of the integrated course. The exam will consist of a written test and a possible oral test. The written test includes both multiple choice questions and open questions that require a short compilation. The oral exam is not mandatory, but will be performed on request by the student or by the teacher.*

*The grade of the exam will be expressed out of thirty. There is no penalty for wrong answers. The written test is passed if a minimum score of 18/30 is achieved for each individual discipline in the integrated course. It is possible to access the oral test if the written test has been passed with a minimum grade of 18/30. The oral test can modify the result of the written test for a maximum of 6 points, both positively and negatively.*

*The final grade of the test, written only or written and oral, will largely be the result of the average of the results obtained in the various disciplines of the integrated course. However, the overall trend of performance will be taken into account, if towards high values, for a possible change in the sense of improvement of the final grade.*

*The questions of the written test will be arranged in relation to the possibility of demonstrating both knowledge of the scientific topics, as well as the ability of critical and autonomous judgment, including the ability to solve problems. The open questions will also have the purpose of verifying communication skills.*

*The maximum final mark of 30/30 cum laude can be achieved if an evaluation of at least 24/30 is reached in the written test, and if the integration with the oral test allows students to reach an evaluation of at least 30/30. The assignment of honors will be up the decision of the commission. The partial results of one discipline can only be kept valid until the next date of the same session, in summer or in autumn.*

## 9. program

### **Module 1 Microbiology**

- *General bacteriology: organization and structure of the bacterial cell, bacterial division and growth, sporogenesis, bacterial metabolism and genetics, pathogenicity of bacteria.*
- *Special bacteriology: resident microbial flora of the genitourinary system, Escherichia coli, Streptococcus agalactiae, Listeria monocytogenes, gonococcus, mycoplasmas, Chlamydia trachomatis, Treponema pallidum.*
- *Principles of antibiotic therapy.*

- *Fungi and protozoa: general characteristics. Candida albicans, trichomonas vaginalis, toxoplasma gondii*
- *Virology: general information on viruses, HIV, HPV, HSV, VZV, CMV, EBV, RUBEOVIRUS, PARVOVIRUS, hepatitis virus.*
- *Principles of microbiological diagnostics*

## **Module 2. Clinical pathology**

- *Hematological diagnostics, including iron metabolism.*
- *Coagulation process: generalities, main alterations and diagnostics*
- *Diagnosis of the pathophysiology of plasma proteins.*
- *Normal blood-group systems and main variants: maternal-fetal immunization and isoimmunisation*
- *Blood donation and therapy with blood components.*

## **Module 3. Pathology**

- *General aspects*
- *Main pathologies of the genital tract*
- *Pathology of the uterine cervix*
- *Pathology of the endometrium*
- *Pathology of the ovary*

## **Module 4. Genetics**

- *Definition of: allele, locus, incomplete penetrance, variable expressivity, polymorphism, pathogenic genomic variant*
- *Mendelian inheritance: autosomal-dominant, autosomal-recessive and X-linked*
- *Genomic imprinting. Prader-Willi / Angelman syndrome. Beckwith-Wiedemann syndrome*
- *Conditions with chromosome abnormalities. Types of chromosomal anomalies: quantitative, structural, uniparental dysomy. Down syndrome. Patau syndrome. Edwards syndrome*
- *Gene structure and molecular types of mutations.*
- *Fragile X syndrome: phenotypes associated with premutation and full gene mutation.*
- *Prenatal diagnosis of genetic diseases*