DIPARTIMENTO DI SCIENZE

COURSE**:** LABORATORY MEDICINE	
ACADEMIC YEAR: **2019-2020**	
TYPE OF EDUCATIONAL ACTIVITY: Free choice (optional)	
TEACHER: Prof. Giuseppe TERRAZZANO	
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Language: italian	

ECTS: 2 (lessons e tutorials/practice)	n. of hours: 16 (lessons e tutorials/practice)	Campus: **Potenza** Dept./School: **Dipartimento di Scienze** Program: **Biotchnologies LM9**	Semester: II (date) from 02/03/2019 to 31/05/2020-

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course of Laboratory Medicine is a teaching course whose purpose is to transfer the knowledge on the main diagnostic laboratory tests and on biological, molecular and physiopathological bases, with particular regard to diagnostic techniques of immunology Cellular and molecular. With reference to the system of descriptors of academic qualifications adopted at European level (Dublin descriptors) and reported in the Unified University Form (Boxes A4.b.2 and A4.c) for the three-year degree course LM-9 of the 'University of Basilicata, the teaching of general pathology will allow the acquisition of specific knowledge and skills, the learning result of which is reported in points below.

- A) The main knowledge provided will be:
- - the main classes and types of laboratory diagnostic tests and their critical correlation with cellular, molecular and physiopathological events induced by pathological determinism;
- - The correct interpretation of the tests in screening, diagnosis, staging and phases of disease;
- - The main cellular and molecular techniques for evaluating the immune response during the disease.
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- B) The student's main skills, applicable to acquired knowledge, will be:
- - The analysis and the evaluation of the pathophysiologic processes by means of laboratory examinations;
- - Appropriate knowledge of medical terminology related to Laboratory Medicine Examinations;
- - The interpretation of immune response tests and its involvement in inflammatory, immunomediated-mechanisms and hypersensitivity, autoimmune and tumor diseases.

PRE-REQUIREMENTS

Knowledge about the structure of molecules, cells and cellular substrate.

Knowledge of the basic elements of the cellular, organ, apparatus and systems of the animal and man's anatomy and physiology.

Knowledge about the main etiopathogenetic mechanisms of the disease

SYLLABUS

• The course will be divided into the following three thematic-didactic modules developed through frontal lessons (see detailed course program):

1)the main classes and types of laboratory diagnostic tests and their critical correlation with cellular, molecular and pathophysiological events induced by pathological determinism (3 hours of frontal lessons); 2. Interpretation of tests in screening, diagnosis and disease stages (3 hours of frontal lesson); 3. The main cellular and molecular techniques of diagnostic evaluation of the immune response in inflammatory, immunomediated mechanisms and hypersensitivity, autoimmune and tumor diseases (10 hours of frontal lesson).

DETAILED PLAN:

• FIRST MODULE - The main classes and types of laboratory diagnostic tests and their critical correlation with molecular and pathophysiological events induced by pathological determinism, with particular reference to immunological diagnostic techniques:

• SECOND MODULE - Laboratory Examinations: Definition, Type and Mode. Interpretation of laboratory tests in diagnostics and staging of diseases (in particular for aspects of the involvement of the immune response in disease determinism and immunopoietic pathophysiology);

• THIRD MODULE - The main cellular and molecular techniques of diagnostic evaluation of the immune response during illness. The phenotyping of the immune system. Populations, Types and Subtypes and related functions and pathological and pathophysiological involvement. Molecules involved in inflammatory determinism, immunomedial responses and hypersensitivity, autoimmunity and tumors. Flow Cytometry.

Cell proliferation test (incorporation of thymidine trizate, markers for proliferation immunofluorescence). Antigenic response test for evaluation of tolerance, hypersensitivity and autoimmunity. Test for cellular precursors. Leukocyte oxidative burst test.

TEACHING METHODS

The course includes 16 hours of didactic activity, organized in frontal lessons.

EVALUATION METHODS

Final oral examination to ascertain the acquisition by the students of the knowledge and skills described in the "Educational objectives and expected learning outcomes". Final oral exam to verify the student acquisition of the knowledge and skills described in the section "LEARNING OBJECTIVES AND LEARNING OUTCOMES". Specifically, the final exam will be aimed to verifying the acquisition of knowledge and skills on:

- the main classes and types of laboratory diagnostic tests and their critical correlation with cellular,

molecular and physiopathological events induced by pathological determinism;

- The correct interpretation of the tests in screening, diagnosis, staging and phases of disease;
- The main cellular and molecular techniques for evaluating the immune response during the disease;
- - Appropriate knowledge of medical terminology related to Laboratory Medicine Examinations;
- - The interpretation of immune response tests and its involvement in inflammatory, immunomediated-mechanisms and hypersensitivity, autoimmune and tumor diseases.

The final evaluation will be expressed by a vote (30/30).

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

L. Sacchetti, P. Cavalcanti, G. Fortunato, L. Pastore, F. Rossano, D. Salvatore e F. Scopacasa: Medicina di Laboratorio e Diagnostica Genetica. Idelson- Gnocchi Editori
G. Federici, P. Cipriani, C. Cortese, A. Fusco, P. Ialongo e C. Milani, Medicina di Laboratorio. 3a Edizione, McGraw-Hill;
L. Spandrio: Biochimica Clinica Speciale. Piccin Editore;
W.J. Marshall e S.K. Bangert: Biochimica in Medicina Clinica. Mc Graw-Hill;
B. Barbiroli, F. Filadoro, C. Franzini, L. Sacchetti, e F. Salvatore: Medicina di Laboratorio. UTET;

INTERACTION WITH STUDENTS

At the beginning of the course, after describing the objectives, the detailed program and the Learning method, the teacher will indicate the reference texts and the availability of teaching materials (lessons, lecture notes, scientific articles, the course program , etc.). In this regard, during the course, the teacher will share with students, in electronic format (pdf sheet), each lesson took place on an appropriate web platform. The hours reserved for the interaction with student will be from 11.30 am to 01.30 pm on Wednesday and from 02.00 pm to 03.00 pm on Thursday. In addition, the teacher will be available for contact with the students, through the use of email or phone

EXAMINATION SESSIONS (FORECAST)[1]

02/2020, 04/2020, 05/2020, 07/2020, 09/2020, 11/2020,

SEMINARS BY EXTERNAL EXPERTS YES □ NO X

FURTHER INFORMATION

[1]Subject to possible changes: check the web site of the Teacher or the Department/School for updates.