



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Scienze di Laboratorio

2324-2-I0302D008-I0302D029M

Aims

Student's Skills:

- To recognise the role, limits and aims of laboratory analysis, variability causes and errors
- To describe instrument calibration, exam validation and quality controls execution
- To describe the plasma proteins study and diagnostic immunometry and enzymology
- To define the role of diagnostic tests in diabetes, in cardiovascular, thyroid, hepatic diseases,
- To define the role of biochemical tumor markers
- To describe Pregnancy and kidney lab monitoring
- To describe electrolytes, acid-base balance study
- To describe Urine exam, proteinuria and CSF tests

Contents

The goal of the course is to provide the knowledge about roles, limits and aims of laboratory tests, Good Laboratory Practise, variability and errors, quality control. Fundamentals of protein study and diagnostic enzymology and immunometry. Lab tests for the study of diabetes, cardiovascular, thyroid pathologies, hepatic, pregnancy, kidney physio-pathology, hydro electrolytic and acid-base balance. CSF and urine exam. Tumor markers

Detailed program

- Lab tests: which, how and when.
- Good Laboratory Practice, variability and errors.

- Instrument calibration, exam validation and Quality Control execution
- Exam interpretation, reference range, Reference Change Value, cutoffs.
- Diagnostic enzymology and immunometry
- Diabetes, Obesity e Cardio-vascular risk monitoring.
- AMI diagnostics.
- Thyroid, plasmatic protein, electrolytes, acid-base balance study.
- Kidney physio-pathology.
- Creatinine and GFR.
- Urine exam and proteinuria.
- CSF tests.
- Hepatic Diagnostics.
- Pregnancy lab monitoring.
- Tumor markers

Prerequisites

Objectives of the course of Clinical Biochemical Analysis (these are the courses indicated in Regolamento)

Teaching form

lectures and exercises

Textbook and teaching resource

Spandrio L. Biochimica Clinica Ed Sorbona.

Henry JB, et al. Clinical diagnosis and management by laboratory methods. Saunders Elsevier.
Prencipe L. Approccio alla Chimica Clinica.

Teachers will provide educational material

Semester

First semester

Assessment method

Oral on topics covered in lectures. Examination topics include all the program covered in lectures. Each student is interviewed individually, with a minimum of 4 questions, some of which are about subject knowledge and others about reasoning. Assessment takes into account how well the student focuses the theme of

the question, without dispersive digressions, giving the right context to the topic, and the level of confidence in exposition.

Office hours

By appointment

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
