
COURSE: DRUG ANALYSIS II

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: : characterizing

TEACHER: Saturnino Carmela

e-mail: : carmela.saturnino@unibas.it

website:

phone:

mobile (optional): **3204228510**

Language: **ITALIAN**

ECTS: **12** (5 lessons and
7 tutorials/practice)n. of hours: **124** (40
lessons and **84**
tutorials/practice)Campus: **Potenza**Dept./School: **Department of
Sciences**Program: **Pharmacy (LM-13)**Semester: **II**
(from 5 March 2018 to
31 June 2018)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The aim is to apply the basic and advanced concepts of qualitative chemical analysis both by chemical reactions and by chemical-physical structural studies..

PRE-REQUIREMENTS

: Knowledge of general and inorganic chemistry and of organic chemistry.

SYLLABUS

Unit 1 (18h): safety rules, periodic table, introduction of metals and metalloids. Natrium, Boron; Silicon; Antimony; Arsenic; Bismuth; Aluminum; Lead; Chrome; Iron; Cobalt; Nickel; Copper; Silver; Mercury;

Unit 2 (18h) Introduction to Laboratory Techniques, Separation Techniques for Homogenous Systems (Extraction, Distillation, Chromatography, Electrophoresis) and Heterogeneous (Filtration, Centrifugation) Crystallization

Unit 3 (20 h) Solubility of Salt, Qualitative Analysis of Anions and Cations, General Diagnosis of a Drug: Organoleptic Examination, Purity test, Separation and Purification, Solubility Test, pH Determination, Melting Point Determination, IR, UV, NMR, MS, Rotary Power

Unit 4 (30 h) Organic, Inorganic and Mixture Compounds, Recognition of Carbonate, Acetates, Borate or Boric Acid, Silver, Iron (2,3), Copper and Cadmium, Wax to the Flame, Test of Mercury, and Salt of Ammonus.

Unit 5 (34 h) Organic Analysis, Lassaigne's essay Carbosilic Acids: Chlorides of acids; amides; Anilides; Para Bromo Anilides

Phenols: Lieberman's Wise (or Indofenol) Phtaline Formation; Wise with 2,4 Dinitrophenyl Ether, Recognition of the Aldehyde Function; Of the double bond. Qualitative determination of the main inorganic, organic and organ-mineral drugs reported in the FUJ.

Amine and amino acids: Hinsberg's Wise; Diazocopulation assay; Colorimetric assays; Urea and Tiourea Derivatives; FeCl₃ assay; Wise with Felhing; Reaction with Ninhydrin; Formation of Aldehydes, Halogenated Groups: Berlstein Wise; Eosin's essay, Double bond: Wise with Bromo Staudinger method Carbonyl Compounds: Wt 2.4 dinitrophenylhydrazine; Fehling's essay; Tollens' essay

TEACHING METHODS Theoretical and practical lessons in classroom and in the laboratory

EVALUATION METHODS Verification of learning will take place through at least 2 written tests that consist of administering a questionnaire with open-ended questions. The questionnaires must be completed within a maximum of 1 hour. The questions will have as subjects the course program.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- ALL THE TEACHING MATERIAL WILL BE ANNOUNCED ON THE FIRST DAY OF THE COURSE.
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INTERACTION WITH STUDENTS

Contacts will be constantly maintained through telematic platforms

EXAMINATION SESSIONS (FORECAST)¹: 19/02/2018, 12/03/2018, 21/05/2018, 18/06/2018, 02/07/2018, 08/10/2018, 19/11/2018

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

SEMINARS BY EXTERNAL EXPERTS YES NO

FURTHER INFORMATION
