
COURSE: DRUG ANALYSIS II

ACADEMIC YEAR: 2018-2019

TYPE OF EDUCATIONAL ACTIVITY: : characterizing

TEACHER: Saturnino Carmela

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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 course will provide students with chemical and chemical-physical methodologies suitable for the recognition of the Italian official Pharmacopoeia.*
 - *The student will demonstrate the acquired knowledge through practices that have the aim to see applied the basic and advanced concepts of qualitative chemical analysis, both through chemical reactions and chemical-physical structural studies. At the end of each topic, the acquired knowledge will be evaluated through the tests carried out.*
 - The student will be able to evaluate the correct methodologies to the recognition of the functional groups of drugs and the characterization of their final structure.
 - The student will demonstrate a good chemical-pharmaceutical language
 - The student will be able to update her knowledge by consulting specific publications of methodologies and technologies of pharmaceutical chemistry.
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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. Sodium, Boron; Silicon; Antimony; Arsenic; Bismuth; Aluminum; Lead; Chrome; Iron; Cobalt; Nickel; Copper; Silver; Mercury;

Unit 2 (18h) Introduction to Laboratory Techniques, Separation Techniques for Homogeneous 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 Ammonium.

Unit 5 (38 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 FUI.

Amine and amino acids: Hinsberg's Wise; Diazocouplation assay; Colorimetric assays; Urea and Thiourea Derivatives; FeCl₃ assay; Wise with Fehling; 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.
The final grade is expressed in thirtieths and will be given by the mean of the evaluations of written test

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 :	18/2/2019;	04/03/2019;	19/06/2019;
03/07/2019;04/09/2019;02/10/2019;03/12/2019					

SEMINARS BY EXTERNAL EXPERTS YES NO

FURTHER INFORMATION

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