
COURSE: DRUG ANALYSIS I

ACADEMIC YEAR: 2019-2020

TYPE OF EDUCATIONAL ACTIVITY: : characterizing

TEACHER: Dott. Michele Manfra

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website:

phone: **0971205039**mobile (optional):

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 02 March 2020
to 31 may 20 June
2020)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES**Knowledge and understanding:**

Provide the student with theoretical and practical principles of quantitative analytical chemistry

Applying knowledge and understanding:

Acquisition of analysis techniques applied to drugs, with particular reference to the techniques described in the Official Pharmacopoeia(FUI).

Making judgments:

Capacity of choosing the optimal method and processing of the experimental data

PRE-REQUIREMENTS**CHEMISTRY, ANALYTICAL CHEMISTRY, ORGANIC CHEMISTRY**

SYLLABUS

Analytical objectives, or: what analytical chemists do. Basic tools and operations of analytical chemistry. Data handling and spreadsheets in analytical chemistry. Good laboratory practice: quality assurance of analytical measurements. Stoichiometric calculations: the workhorse of the analyst. General concepts of chemical equilibrium. Acid–Base equilibria. Acid–Base titrations. Complexometric reactions and titrations. Gravimetric analysis and precipitation equilibria. Precipitation reactions and titrations. Electrochemical cells and electrode potentials. Potentiometric electrodes and potentiometry. Redox and potentiometric titrations

TEACHING METHODS**Lectures – Lab activities**

EVALUATION METHODSTEST/ Laboratory Practice Test

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

1) J) E. Abignente, D. Melisi, M.G. Rimoli, Principi di Analisi Quantitativa dei Medicinali,

Loghia, Napoli.

2) D. A. Skoog, D. H. West, Fundamentals of analytical chemistry, Saunders College

Publishing, VI Ed., 1992.

3) G. C. Porretta, Analisi quantitativa di composti farmaceutici, CISU, Roma.

4) J. M. Kolkthoff, E. B. Sandekll, *Analisi chimica quantitativa*, Piccin, Padova, 1974.

5) S. Salerno, *Esercizi risolti di Analisi dei medicinali II*, Ed. Servizio Editoriale

Universitario di Pisa, 2008.

6) *Farmacopea Ufficiale X ed XI Ed*

Teacher's course slides

Given the large number of students, in order to promote better learning, both numerical and theoretical application to laboratory exercises are provided, and each year a tutor is requested as a teaching support for supplementary activities.

INTERACTION WITH STUDENTS

The teacher holds weekly office hours according to calendar, or at other times upon previous email appointment.

EXAMINATION SESSIONS (FORECAST)¹

13/01/2020; 3/02/2020; 9/03/2020; 15/06/2020; 13/07/2020; 14/09/2020; 12/10/2020; 9/11/2020; 14/12/2020

SEMINARS BY EXTERNAL EXPERTS YES NOx

FURTHER INFORMATION

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