
COURSE: General and inorganic chemistry

ACADEMIC YEAR: 2016/2017

TYPE OF EDUCATIONAL ACTIVITY: Affine

TEACHER: Prof. Alfonso Bavoso

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Language: ITALIAN

ECTS: 10**n. of hours:** 80**Campus:** Potenza
Dept.: Scienze
Program: FARMACIA (LM-13)**Semester:** I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Knowledge and skills provided:

Understanding the fundamental aspects of atomic and molecular structure.

Understanding the relationships between the structural characteristics of elements and compounds and their chemical properties.

Understanding the properties of solutions. Chemical equilibrium study.

Skills to solve basic chemical problems.

PRE-REQUIREMENTS

SYLLABUS

A) Introductory topics (15 hours)

A.1 MATTER ITS PROPERTIES AND MEASURE - A.2 ATOMS AND ATOMIC THEORY

- A.3 CHEMICALS COMPOUNDS - A.4 CHEMICAL REACTIONS - A.5 GAS - A.6 LIQUID AND SOLID

B) Atomic and Molecular Structure (20 hours)

B.1 ATOMIC STRUCTURE - B.2 THE PERIODIC TABLE AND SOME PERIODIC PROPERTIES

- B.3 THE CHEMICAL BOND - B.4 MOLECULAR STRUCTURE AND GEOMETRY

C) Solutions and chemical equilibrium (25 hours)

C.1 PROPERTIES OF SOLUTIONS - C.2 CHEMICAL EQUILIBRIUM

C.3 ACID-BASE EQUILIBRIUM C.4 APPLICATION OF EQUILIBRIUM TO WATER SOLUTIONS

D) Additional topics (20 hours)

D.1 CHEMICAL KINETICS - D.2 NOTES ON THERMOCHEMISTRY, SPONTANEOUS PROCESSES, ENTROPY, FREE ENERGY -

D.3 ELECTROCHEMISTRY - D.4 NOTES ON CHEMISTRY OF SOME ELEMENTS

TEACHING METHODSTheoretical lessons, Classroom tutorials.

EVALUATION METHODSOral examination with stoichiometry problems.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Zumdhal - CHIMICA- Zanichelli ed.

Petrucchi, Harwood, Herring- Chimica generale- Piccin ed.

Bertini, Mani, Luchinat – Stechiometria – Zanichelli ed.

INTERACTION WITH STUDENTS

At the beginning of the course, objectives, program and test procedures are explained. The key reference texts are indicated and mode of students receiving is illustrated . A list of students who intend to take the course is compiled. Office hours for students: From Monday through Friday by appointment via e-mail. Support is also provided by electronic mail.

EXAMINATION SESSIONS (FORECAST)¹

09/01/2017, 03/03/2017, 05/05/2017, 03/07/2017, 11/09/2017, 06/11/2017

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.