

# CHEMISTRY

(Horticulture, 1<sup>st</sup> Year of study, 1<sup>st</sup>)

**Credits (ECTS): 4**

**Course category: Further study (mandatory)**

**Course holder:** PhD / Lecturer Tucaliuc Roxana Angela

**Objectives of the discipline:**

Accumulation of general chemistry knowledge and the ability to apply them in understanding the specialized disciplines

Acquiring of the methods, techniques, materials, substances and equipment necessary to perform specific analysis of the studied discipline.

**Contents (syllabus)**

Course 1 <sup>st</sup> Semester
1. INTRODUCTORY NOTIONS IN CHEMISTRY
2. THE PERIODIC SYSTEM The Atom The connection between the structure of the atom and the periodic system of the elements
3. GENERAL CHARACTERIZATION OF THE ELEMENTS OF THE MAIN AND SECONDARY GROUPS.
4. CHEMICAL COMPOUNDS AND CHEMICAL BOND Ionic bond Covalent bond Coordinative bond
5. CHEMICAL SOLUTIONS Definitions and classification of solutions Concentration of solutions
6. REACTIONS AND ANALYTICAL REAGENTS Classification of chemical reactions Analytical reactions in solution: a. Electron transfer reactions b. Proton transfer reactions: - Ionization reactions. Water ionization. Hydrogen exponent. - Neutralization reactions. Chemical indicators. - Hydrolysis reactions

Practical activity
1. Processing of labor protection norms and P.S.I. in the chemistry lab. Introduction to analytical chemistry Solutions concentrations
2. Volumetry by neutralization reactions
3. Volumetry by oxidation-reduction reactions: permanganometry
4. Iodometry
5. Complexometry.

6. Anorganic qualitative analysis.

Cation and anion identification

7. Knowledge verification test

### Bibliography

1. Tucaliuc R. - *Chimie generală*, Editura Ștef, Iași, **2024**.
2. Trofin A.- *Chimie anorganică și analitică*, Ed. StudIS, Iasi, **2021**.
3. Trofin A. – *Chimie generală*, Ed. StudIS, Iasi, **2018**.
4. Trincă L. C., Trofin A. - *Chimie*, Ed. Pim, Iași, **2014**.
5. Nenișescu D.C. - *Chimie generală*, Ed. Did. Ped. București, **1980**.
6. Mircea Stefanescu, Oana-Elena Stefanescu - *Chimie analitica instrumentală: principii, aplicatii, experimente. Volumul I și II*, Ed. Politehnică, **2016**.

### Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Final exam	Written / oral examination	60
Evaluation of the activity during the semester	Written and oral assessments during the semester	40

### Contact

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