

212034 – SPECTROANALYTICAL METHODS

CREDITS: 04 (four) – 60 hours/class

CONTENT:

The course is offered to undergraduate chemistry students whose research is aimed at the study and development of biologically active compounds. The discipline emphasizes the interdependence of biology, medicine, pharmaceutical and chemical sciences in order to teach the concepts and techniques used in the rational development of new medications.

SYLLABUS:

1. Introduction to Atomic Spectrometry.
2. Atomic Spectrometry: absorption and emission phenomena.
3. Atomic absorption spectrometry with flame, electrothermal atomization, generation of cold vapor and generation of hydrides.
4. Atomic absorption spectrometry with continuous source.
5. Inductively coupled plasma with optical emission spectrometry source (ICP OES).
6. Inductively coupled plasma mass spectrometry (ICP-MS).

BIBLIOGRAPHY:

1. SKOOG, D.A.; LEARY, J.J. Principles of Instrumental Analysis. Saunders College Publishing, Orlando, Florida, 1992.
2. WELZ, B.; SPERLING, M. Atomic Absorption Spectrometry. 3.ed. Springer-Verlag, Germany, 1999.
3. MONTASER, D.W.; GOLIGHTLY, D.W. Inductively Coupled Plasmas in Analytical Atomic Emission Spectrometry, 2.ed, VCH Publishers, UK, 1992.
4. Publications in scientific journals of international circulation.