

212026 – ELECTROCHEMICAL METHODS OF ANALYSIS

CREDITS: 04 (four) – 60 hours/class

CONTENT:

Study of different electroanalytical methods, demonstrating their potential as the analysis technique for different analytes. Theoretical and practical aspects of each technique mentioned in the program. The use of flow injection analysis systems associated with electroanalytical detection methods will be introduced.

SYLLABUS:

1. Voltammetric and amperometric methods.
2. Potentiometric methods.
3. Selective electrodes and biosensors.
4. Microelectrodes and modified electrodes.
5. Electroanalytical methods coupled to flow systems.

BIBLIOGRAPHY:

1. BARD, A.J.; FAULKNER, L.R. *Electrochemical Methods: fundamentals and applications*. John Wiley & Sons, 2001.
2. BRETT, M.A.C.; BRETT, A.M.O. *Electrochemistry: principles, methods and applications*. Oxford, New York: Oxford University Press, 1993.
3. HEYROWSKY, J.; KUTA, J. *Principles of Polarography*. Academic Press, 1966.
4. RILEY, T.; TOMLINSON, C.; JAMES, A.M. *Principles of Electroanalytical Methods: analytical chemistry by open learning*. John Wiley & Sons, 1987.