

Program: Chemistry (15025012071P6)

Course: TECHNIQUES FOR CHARACTERIZATION OF INORGANIC COMPOUNDS

Code: PPGQU0050

Workload: 60 hours

Credits: 04

Syllabus:

Synthesis, Treatment, and Application of Inorganic Compounds; Introduction to Techniques for Characterization of Inorganic Compounds; Introduction to X-ray Diffraction Technique; Thermal Analysis TG/DSC; Application of Energy Dispersive Spectroscopy; Introduction to Scanning Electron Microscopy; Application on Electrochemical Techniques; Spectroscopy in the Ultraviolet-Visible Region, Introduction to Infrared and Raman Spectroscopy.

Bibliography:

NAKAMOTO, K. Infrared and Raman Spectra of Inorganic and Coordination Compounds, 5th ed. John Wiley & Sons, 1987.

DRAGO, R.S. Physical Methods for Chemistry, 2nd ed. Saunders College Publishing, 1992.

EBSWORTH, E.A.V.; RANKIN, D.W.H.; and CRADOCK, S. Structural Methods in Inorganic Chemistry, 2nd ed. Blackwell Scientific, 1991.

Recent articles from indexed journals.

WENDLANDT, W.W. Thermal Analysis, 3rd ed., New York, John Wiley & Sons, 1986.

MOTHE, C. G.; AZEVEDO, A. D. Análise Térmica de Materiais, São Paulo: Artliber, 2009.

BAKAC, A. (editor) Physical Inorganic Chemistry: Principles, Methods, and Models, New Jersey: John Wiley & Sons, 2010.

HAINES, P. J. Principles of Thermal Analysis and Calorimetry, Cambridge: The Royal Society of Chemistry RSC, 2002.

IGGO, J. A. NMR Spectroscopy in Inorganic Chemistry, Oxford: Oxford University Press, 1999.

FACKLER JR, J.P. AND FALVELLO, L.R. (editors) Techniques in Inorganic Chemistry, Boca Raton: CRC Press, 2011.

LEVER, A. B. P. Inorganic Electronic Spectroscopy, 2nd ed. Amsterdam: Elsevier, 1984; 2nd repr. 1997.

SALA, O. Fundamentos da Espectroscopia Raman e no Infravermelho, 2nd ed. Editora Unesp. 2012.

MESSLER, G.L., FISCHER, P.J., TARR, D.A. Química Inorgânica, São Paulo: Pearson, 2014.