

Program: Chemistry (15025012071P6)

Course: FUNDAMENTALS OF ADSORPTION AND CATALYSIS

Code: PPGQU0059

Workload: 60 hours

Credits: 06

Syllabus:

Adsorption processes; Adsorption Isotherms; Specific surface area of solids; Porosity; Physisorption, chemisorption, and biosorption; Catalysis; Homogenous and Heterogeneous catalysis; Solid catalysts; Methodology for monitoring catalytic reactions in the laboratory; Catalytic reactors; Industrial applications.

Bibliography:

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COONEY, D.O. Adsorption Design for Wastewater Treatment. Lewis Publishers, Boca Raton, 1999, p. 189.

ADAMSON, W. Physical Chemistry of Surfaces. John Wiley and Sons, New York, 1976.

CAMPBELL, M. Catalysis at Surfaces. Chapman and Hall, New York, 1988.

GASSES, R.P. An Introduction to Chemisorption and Catalysis by Metals. Oxford Science Publications, Oxford, 1987.

BOND, G.S. Heterogeneous Catalysis, Principles and Applications. Oxford Chemistry Series, Oxford, 1987.

GATES, B.C. Catalytic Chemistry. John Wiley and Sons, New York, 1992.

TWIGG, M.V. Catalysis Handbook. Wolfe Publishing, Cleveland, 1989.