

Program: Chemistry (15025012071P6)

Course: ADVANCED PHYSICAL CHEMISTRY

Code: PPGQU0040

Workload: 90 hours

Credits: 06

Syllabus:

Laws of Thermodynamics; Thermodynamics Potentials; Chemical Equilibrium, Configurations and Statistical Weights; Partition Functions; Canonical Ensemble; Other Ensembles; Boltzmann, Fermi-Dirac, and Bose-Einstein Statistics, Treatment of Ideal Gases and Chemical Equilibrium through Statistical Thermodynamics.

Bibliography:

KONDEPUDI, D., Introduction to Modern Thermodynamics, Wiley, 2008.

LEVINE, I. N., Physical Chemistry, McGraw-Hill, New York, 5th edition, 2001.

CALLEN, H. B., Thermodynamics and an Introduction to Thermostatistics, 2nd Ed., John Wiley & Sons, 1985.

KONDEPUDI, D.; PRIGOGINE, I., Modern Thermodynamics: From Heat Engines to Dissipative Structures, Wiley, New York, 1998.

MORTIMER, R.G., Physical Chemistry, 3rd Ed., Academic Press, 2008.

MCQUARRIE, D. A., Statistical Mechanics, University Science Books, California, 2000.

ATKINS, P.W., Physical Chemistry, 5th Ed., Oxford University Press, 1994.