



PROGRAMS AND BIBLIOGRAPHY

Subject	
Code	Name
QF331	Physical Chemistry

Vector
OF:S-5 T:004 P:000 L:000 O:000 D:000 HS:004 SL:004 C:004 AV:N EX:S FM:75%

Pre requirement
MA111 QG101/MA111 QG104/MA111 QG108/MS220 QG101/MS220 QG104/ MS220 QG108/MS380 QG101/MS380 QG104/ MS380 QG108

Summary
Real gases, Gibbs free energy, physical and chemical equilibria, phase diagrams, chemical kinetics.

Program
I. The behavior of real gases. II. Entropy, reversibility and irreversibility. III. Relationships between entropy, Gibbs free energy and Helmholtz free energy. IV. Thermodynamic relations in equilibrium systems. V. Reaction thermodynamic standard functions. VI. Thermo-chemistry, enthalpy, and the variation of enthalpy with temperature. VII. The chemical potential and activities. VIII. Physical transformations of pure substances. IX. Simple mixtures, thermodynamics of simple mixtures, ideal and non-ideal solutions. X. Phase diagrams for one and two-components, the phase rule. XI. Chemical equilibrium. XII. Reaction rates, rate constants, reaction order and molecularity. XIII. Integrated laws of reaction rates. XIV. Reaction rates and temperature.

Bibliography
1. <i>Physical Chemistry</i> , I. Levine. 2. <i>Physical Chemistry</i> , P. W. Atkins 3. <i>Termodinâmica Química</i> , Aécio Pereira chagas, Ed. Unicamp, 1999

Evaluation criteria
Critérios de avaliação definidos pelo Professor, com base no disposto na Seção I – Normas Gerais, Capítulo V – Da Avaliação do Aluno na Disciplina, do Regimento Geral de Graduação. Frequência: 75 % (* O abono de faltas será considerado dentro do previsto no capítulo VI, seção X, artigo 72 do Regimento Geral de Graduação)