

Physical Chemistry

content

Physical Chemistry 1 (BSC)

Thermodynamics

Terms

The thermodynamic system

First law of thermodynamics

Work, heat, internal energy, enthalpy

Ideal gas

Reversible changes

The standard state

Heat of reaction

The second law of thermodynamics

Entropy

The direction of processes

Helmholtz free energy

Gibbs free energy

The third law of thermodynamics

The pressure-temperature phase diagram

The chemical potential

Phase equilibrium

Principle of corresponding states

Solutions

Mixing

Partial molar quantities

Ideal and real mixtures

Thermodynamical functions of mixtures

Vapour-liquid equilibria

Solid-liquid equilibria

Colligative properties

Vapour pressure lowering

Boiling point elevation

Freezing point depression

Osmotic pressure

Temperature dependence of the equilibrium constant

Further semesters

Physical Chemistry 2 (BSC)

Transport phenomena

Electrochemistry

Reaction kinetics

Electrochemical rate processes

Physical Chemistry 3 (MSC)

Structural chemistry

Interactions of atoms, molecules with particles and external fields

Structure and properties of atoms

Structure and properties of molecules

The structure and properties of atomic and molecular ensembles