

UC Davis Chem 110C Physical Chemistry III

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This text was compiled on 03/05/2025

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Licensing

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Unit I: Thermodynamics

UC Davis Chemistry Chemistry 110C

Physical Chemistry III: Thermodynamics, Equilibria and Kinetics

Chem 110A • Chem 110B • Chem 110C • **Agenda** • Homework • Worksheet Activities

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Unit II: Phase Equilibria

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Physical Chemistry III: Thermodynamics, Equilibria and Kinetics

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Phase equilibrium is the state of balance between multiple phases of a system. It a dynamic process that occurs when the transfer of matter or thermal energy from one phase to another phase is equal to the reverse direction rates.

[23: Phase Equilibria](#)

[24: Liquid-Liquid Solutions](#)

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23: Phase Equilibria

Phase equilibria is the term used to describe with two or more phases co-exist (in equilibrium). The stability of phases can be predicted by the chemical potential, in that the most stable form of the substance will have the minimum chemical potential at the given temperature and pressure. A key tool in exploring phase equilibria is a phase diagram which is used to show conditions (pressure, temperature, volume, etc.) at which thermodynamically distinct phases (such as solid, liquid or gaseous states) occur and coexist at equilibrium.

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Unit III: Chemical Equilibria

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Physical Chemistry III: Thermodynamics, Equilibria and Kinetics

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Chemical equilibrium is the state in which both reactants and products are present in concentrations which have no further tendency to change with time. Usually, this state results when the forward reaction proceeds at the same rate as the reverse reaction.

[26A: Thermodynamic Description of Chemical Equilibria](#)

[26B: Statistic Description of Chemical Equilibria](#)

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26A: Thermodynamic Description of Chemical Equilibria

Topic hierarchy

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26B: Statistic Description of Chemical Equilibria

Topic hierarchy

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Chemical reaction kinetics deals with the rates of chemical processes.

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[29: Chemical Kinetics II: Reaction Mechanisms](#)

[30: Gas-Phase Reaction Dynamics](#)

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