

CHEM 110C: PHYSICAL CHEMISTRY III



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UC Davis Chem 110C Physical Chemistry III

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TABLE OF CONTENTS

Licensing

Unit I: Thermodynamics

- 19: The First Law of Thermodynamics
- 20: Entropy and The Second Law of Thermodynamics
- 21: Entropy & the Third Law of Thermodynamics
- 22: Helmholtz and Gibbs Energies

Unit II: Phase Equilibria

- 23: Phase Equilibria
- 24: Liquid-Liquid Solutions
- 25: Solid-Liquid Solutions

Unit III: Chemical Equilibria

- 26A: Thermodynamic Description of Chemical Equilibria
- 26B: Statistic Description of Chemical Equilibria

Unit IV: Kinetics

- 28: Chemical Kinetics I : Rate Laws
- 29: Chemical Kinetics II: Reaction Mechanisms
- 30: Gas-Phase Reaction Dynamics

Index

Glossary

Detailed Licensing

Licensing

A detailed breakdown of this resource's licensing can be found in [Back Matter/Detailed Licensing](#).

SECTION OVERVIEW

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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19: The First Law of Thermodynamics

20: Entropy and The Second Law of Thermodynamics

21: Entropy & the Third Law of Thermodynamics

22: Helmholtz and Gibbs Energies

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CHAPTER OVERVIEW

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CHAPTER OVERVIEW

20: Entropy and The Second Law of Thermodynamics

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CHAPTER OVERVIEW

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CHAPTER OVERVIEW

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SECTION OVERVIEW

Unit II: Phase Equilibria

UC Davis Chemistry Chemistry 110C

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](#)

[25: Solid-Liquid Solutions](#)

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CHAPTER OVERVIEW

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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CHAPTER OVERVIEW

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CHAPTER OVERVIEW

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SECTION OVERVIEW

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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CHAPTER OVERVIEW

26A: Thermodynamic Description of Chemical Equilibria

Topic hierarchy

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CHAPTER OVERVIEW

26B: Statistic Description of Chemical Equilibria

Topic hierarchy

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SECTION OVERVIEW

Unit IV: Kinetics

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Physical Chemistry III: Thermodynamics, Equilibria and Kinetics

[Chem 110A](#) • [Chem 110B](#) • [Chem 110C](#) • **[Agenda](#)** • **[Homework](#)** • **[Worksheet Activities](#)**

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Chemical reaction kinetics deals with the rates of chemical processes.

[28: Chemical Kinetics I : Rate Laws](#)

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

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

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CHAPTER OVERVIEW

28: Chemical Kinetics I : Rate Laws

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CHAPTER OVERVIEW

29: Chemical Kinetics II: Reaction Mechanisms

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CHAPTER OVERVIEW

30: Gas-Phase Reaction Dynamics

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Index

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 - [TitlePage - Undeclared](#)
 - [InfoPage - Undeclared](#)
 - [Table of Contents - Undeclared](#)
 - [Licensing - Undeclared](#)
 - [Unit I: Thermodynamics - CC BY-NC-SA 4.0](#)
 - [19: The First Law of Thermodynamics - CC BY-NC-SA 4.0](#)
 - [20: Entropy and The Second Law of Thermodynamics - CC BY-NC-SA 4.0](#)
 - [21: Entropy & the Third Law of Thermodynamics - CC BY-NC-SA 4.0](#)
 - [22: Helmholtz and Gibbs Energies - CC BY-NC-SA 4.0](#)
 - [Unit II: Phase Equilibria - CC BY-NC-SA 4.0](#)
 - [23: Phase Equilibria - CC BY-NC-SA 4.0](#)
 - [24: Liquid-Liquid Solutions - CC BY-NC-SA 4.0](#)
 - [25: Solid-Liquid Solutions - CC BY-NC-SA 4.0](#)
 - [Unit III: Chemical Equilibria - CC BY-NC-SA 4.0](#)
 - [26A: Thermodynamic Description of Chemical Equilibria - CC BY-NC-SA 4.0](#)
 - [26B: Statistic Description of Chemical Equilibria - CC BY-NC-SA 4.0](#)
 - [Unit IV: Kinetics - CC BY-NC-SA 4.0](#)
 - [28: Chemical Kinetics I : Rate Laws - CC BY-NC-SA 4.0](#)
 - [29: Chemical Kinetics II: Reaction Mechanisms - CC BY-NC-SA 4.0](#)
 - [30: Gas-Phase Reaction Dynamics - CC BY-NC-SA 4.0](#)
 - [Back Matter - CC BY-NC-SA 4.0](#)
 - [Index - Undeclared](#)
 - [Glossary - Undeclared](#)
 - [Detailed Licensing - Undeclared](#)