

CHEM 1516 - General Chemistry 2

Summer 2026 Syllabus, Section 03, CRN 30271,

Credit hours: 3

Instructor

Dr. Brian D. Leskiw

Professional Qualifications:

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Blackboard message board.

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Course Description

1516. General Chemistry 2. A continuation of the study of the principles of chemistry, including solution properties; acids and bases; chemical equilibrium; thermodynamics; reaction kinetics; and electrochemistry. Intended for majors in the natural sciences and engineering. Three hours lecture. Prereq.: "C" or better in CHEM 1515 and "C" or better in CHEM 1515L. Coreq.: CHEM 1516L; CHEM 1516R if major or repeating CHEM 1516. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Chemistry, A Molecular Approach, 6th Edition	N. Tro	9780137832217

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	6/29	Chapter 12	Introduction, Intermolecular Forces, Heating Curve/Phase Diagrams	Suggested Exercises: 12:39,41,43,45,47,49,51,73,77,79
Wed	7/1	Chapter 13/14	Solids, Solutions, Solubility, Concentration, Colligative Properties	Suggested Exercises: 13:31,43,45; 14:31,33,45,57,69,71,77,79,83,87,93
Fri	7/3	No Class		
Mon	7/6	Chapter 16	Equilibrium, Equilibrium Expressions & Tables	Suggested Exercises: 16:21,29,31,35,37,39,41,45,49,55,57,61,69,71,73,75
Wed	7/8	Chapter 16	Reaction Quotient, Le Chatelier's Principle	
Fri	7/10		Exam 1: Chapters 12, 13, 14, 16	

Mon	7/13	Chapter 17	Acid/ Base, pH, Weak Acid/Base Equilibria, K_a , K_b	Suggested Exercises: 17:31,33,35,39,43,47,49,51,53,55,61,63,73,75,81,85,91,97
Wed	7/15	Chapter 17/18	Acid-Base Equilibria, Salts, Buffers	
Fri	7/17	Chapter 18	pH Curves, Solubility Equilibria, K_{sp}	Suggested Exercises: 18:27,29,33,37,41,47,51,55,67,75,91,93,95,97,101,105
Mon	7/20	Chapter 18	Common Ion Effect, Complexes	
Wed	7/22	Chapter 26	Coordination Compounds, Equilibria	Suggested Exercises: 26:17,21,27,73
Fri	7/24		Exam 2: Chapters 17, 18, 26	
Mon	7/27	Chapter 15	Chemical Kinetics, Order, Rate Constants	Suggested Exercises: 15:27,29,39,43,45,49,51,59,65,67,83
Wed	7/29	Chapter 15	Integrated Rate Laws, Half-life, Reaction Mechanism	
Fri	7/31	Chapter 15/19	Catalysis, Thermodynamics, Entropy	
Mon	8/3	Chapter 19	Spontaneity, Gibbs Free Energy	Suggested Exercises: 19:35,39,43,45,47,49,53,55,57,65,75
Wed	8/5	Chapter 20	Electrochemistry, Half Reactions, Red/Ox Agents	Suggested Exercises: 20:37,41,47,49,53,57,65,69,77
Fri	8/7		Exam 3: Chapters 15, 19, 20	
Mon	8/10	Chapter 20/21	Spontaneity, Cell Potentials, Nuclear Chemistry	Suggested Exercises: 21:31,35,47,49
Wed	8/12	Chapter 22	Organic Chemistry	Suggested Exercises: 22:33,35,43,45,53,55,57
Fri	8/14		Final Exam (Comprehensive)	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.