



# Course Description

International Baccalaureate

## Course Information

Name	Level (SL/ HL)	Both Years Mandatory (HL only)	Frequency (Years/ Dates)
CHEMISTRY IB SL	SL	No	11 <sup>th</sup> /12th grade: M-F

## General Information

### Description

Chemistry IB SL (Chem IB SL) is a one year course that will prepare students for the SL IB exam in Chemistry.

Credit: 10 credits UC/CSU Category: d-Lab Science

Prerequisite: Advanced (Enhanced) Chemistry , Algebra 2.

Chem IB SL is comprised of 8 units that covers the 11 topics of the IB Chemistry SL curriculum. Core units studied include Stoichiometric Relationships and the Kinetic Theory of Matter, Atomic Structure & Periodicity, Chemical Bonding, Energetics & Thermochemistry, Equilibrium Systems, Redox Processes, and Organic Chemistry. The content of the course is college level; however, in recognition that we are teaching a high school audience, a fair focus is devoted to metacognition and self-awareness.

### Expectations and Goals

What to expect : Reading notes, lab design and evaluation, technical writing, new exam preparation strategies

Chemistry specific study skills including but not limited to excel data processing/management, experimental design and evaluation, proper use of scientific tools, evaluating accuracy and precision, reading from freshman college level texts, time management, work life balance, professional collaboration and empathetic communication, technical writing, selective independent learning, nature of science and international mindedness.

## Learning Outcomes

- Collegiate level technical writing ability
- Comfortability reading college level texts
- Familiarity with concepts presented in a college general chemistry series

- Preparedness for IB Chemistry SL Exam
- Experience planning, conducting, analyzing, evaluating and communicating independent research
- Understanding of individual learning style

## Materials

Refer to individual course syllabi for teacher organizational guidelines.

## Required Text

**School Provided**

## Course Outline

Unit	Topic
<b>Unit 1:</b> Stoichiometric Relationships & the Kinetic Theory of Matter	<u>Topic 1:</u> Stoichiometric relationships <u>Topic 11:</u> Measurement & data processing
<b>Unit 2:</b> Atomic Structure & Periodicity	<u>Topic 2:</u> Atomic Structure <u>Topic 3:</u> Periodicity
<b>Unit 3:</b> Chemical Bonding	<u>Topic 4:</u> Chemical bonding and structure
<b>Unit 4:</b> Energetics & Thermochemistry	<u>Topic 5:</u> Energetics / Thermochemistry
<b>Unit 5:</b> Equilibrium Systems	<u>Topic 7:</u> Equilibrium <u>Topic 8:</u> Acids and Bases
<b>Unit 6:</b> Kinetics & Chemical Reaction Mechanisms	<u>Topic 6:</u> Chemical Kinetics
<b>Unit 7:</b> Redox Processes	<u>Topic 9:</u> Redox Processes
<b>Unit 8:</b> Organic Chemistry	<u>Topic 10:</u> Organic Chemistry

## Types of Assessments

Assessments are of the form: Unit Exams, Experimental Design Proposal, Data Analysis, Experiment Evaluation, Drawing Quizzes, and an Internal Assessment (6-12 pg. technical write up of their independent research project)

## Additional Information and Resources

[IB Chemistry Guide](#)

**IB study resources:**

IB Chemistry Web: [IB Chemistry Web](#)

Youtube Andrew Weng: [IB Chemistry](#).

Youtube Channel RadioChemistry: [Chemistry](#).

Paul Andersen: [Bozemanscience.com](#)

Kahn Academy: Science > [Chemistry Library](#).