

# IB Chemistry (SL)

Course Outline

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## IB Chemistry (SL)

The IB Diploma Programme chemistry standard level course combines academic study with the acquisition of practical and investigational skills through the experimental approach. Students examine the chemical principles that form the basis of physical and biological systems through the core content (listed below) and develop their skills designing experiments, analyzing data, and drawing conclusions from experimental data.

### Course Topics Overview

We will follow the IB suggested curriculum for standard level chemistry, which is broken down into hours dedicated to the following areas:

**Core 95 hours.**

### Year 1 Topics. (Term 1 and 3)

Topic 11: Measurement and data processing	7.5
11.1 Uncertainties and errors in measurement and results	
11.2 Graphical techniques	
Topic 1: Stoichiometric relationships	13.5
1.1 Introduction to the particulate nature of matter and chemical change	
1.2 The mole concept	
1.3 Reacting masses and volumes	
Topic 2: Atomic structure	6
2.1 The nuclear atom	
2.2 Electron configuration	
Topic 3: Periodicity	6
3.1 Periodic table	
3.2 Periodic trends	

Topic 4: Chemical bonding and structure	13.5
4.1 Ionic bonding and structure	
4.2 Covalent bonding	
4.3 Covalent structures	
4.4 Intermolecular forces	
4.5 Metallic bonding	
Topic 5: Energetics/thermochemistry	9
5.1 Measuring energy changes	
5.2 Hess's Law	
5.3 Bond enthalpies	
Topic 6: Chemical kinetics	7
6.1 Collision theory and rates of reaction	
Topic 10: Organic chemistry	11
10.1 Fundamentals of organic chemistry	
10.2 Functional group chemistry	
11.3 Spectroscopic identification of organic compounds	2.5

## **Year 2 - Topics**

Topic 7: Equilibrium	4.5
7.1 Equilibrium	
Topic 8: Acids and bases	6.5
8.1 Theories of acids and bases	
8.2 Properties of acids and bases	
8.3 The pH scale	
8.4 Strong and weak acids and bases	
8.5 Acid deposition	
Topic 9: Redox processes	8
9.1 Oxidation and reduction	
9.2 Electrochemical cells	
Option (15 hours) - Biochemistry	15
<b><u>Practical Work</u></b> (40 hours) Throughout Year 1 & 2	
Lab investigations	20
Group IV project	10
Internal assessment	10

Total = 150 hours.

## **Materials**

Textbook: Pearson Baccalaureate Standard Level Chemistry by Brown & Ford

Supplies you will need: Scientific calculator, three ring binder (1-inch), paper, section dividers, close-toed shoes, hair tie (if applicable).

Bring your book, binder, calculator, and pen/pencil to class every day.

Assessment:

Labs: Experimentation is a part of all of the sciences, and chemistry is no different. There will be at least one lab per chapter, and attendance on lab days is extremely important.

Quizzes & Tests: Each topic will be assessed a test and typically one or more quizzes. Most quizzes will be announced beforehand and consist of a few questions from the preceding day's lesson/homework, though some will be unannounced. Test dates will be posted on google classroom as well as being announced in class. Tests will cover notes, labs, and any assigned readings.

Internal Assessment (IA): All IB chemistry students must complete a self-designed experiment and in-depth lab report on a topic. This project will be completed over a 2-3 week period and is graded by myself, then sent off to be graded by an IB moderator. The IA is will account for approximately 20% of your course grade you receive from IB. The IA is a course requirement.

Midterm & Final Exams

There will be a cumulative exam at the end of term 1 and Term 3 .

Mark Breakdown: For predicted grade.

Labs	20%
Quiz	10%
Tests	30%
Term Exams	<u>40%</u>
	100%

IB Assessment:

IA	20%
Paper 1	20%
Paper 2	40%
Paper 3	<u>20%</u>
	100%

**Attendance:** When absent it is the student's responsibility to make up the missed work.

**To find out what was missed:**

1. Contact a friend that is in your class

2. See Google classroom

<https://classroom.google.com/c/MTU1MzAyNDE4NDk0?cjc=uhnib4i>

3. See me at break/lunch the next day you are back

**Classroom Expectations:**

- Come prepared to class (binder, paper, pencil, eraser, calculator, textbook).
- Be on time, IN YOUR DESK when the bell rings
- USE of ELECTRONIC DEVICES will be Teacher Choice.
- No food in the Science room. Drinks are allowed but no sharing.
- Contribute to a positive learning environment by respecting classmates and allowing the teacher to teach.
- Take responsibility for YOUR learning.

