

# IB Chemistry - Higher Level

11<sup>th</sup> Grade IB [5 periods per week]

Ms. Angela Campbell

## Course Description

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IB Chemistry is a lab-based course of instruction designed to prepare students for the introductory level of chemistry at a university. The higher level of the course is intended for students who wish to pursue advanced studies in science, such as chemical engineering, medicine, or a degree in chemistry. The topics covered are the same as the ones in the standard level core, with particular concepts covered in more depth in each topic. The core topics include:

Stoichiometry	Energetics/Thermochemistry	Organic Chemistry
Atomic Structure	Chemical Kinetics	Measurement and Data
Periodicity	Equilibrium	Processing
Chemical Bonding and Structure	Acids and Bases	
	Redox Processes	

Plus one optional topic (one of Energy, Biochemistry, Materials, or Medicinal Chemistry).

The first 9 topics are covered in year 1. Year 2 covers the rest, including an Internal Assessment which is an investigation that is designed and conducted by the individual student.

Skills emphasized (from the Chemistry Guide):

"It is important that students are involved in an inquiry-based practical programme that allows for the development of scientific inquiry. It is not enough for students just to be able to follow directions and to simply replicate a given experimental procedure; they must be provided with the opportunity for genuine inquiry. Developing scientific inquiry skills will give students the ability to construct an explanation based on reliable evidence and logical reasoning. Once developed, these higher order thinking skills will enable students to be lifelong learners and scientifically literate." (page 23)

## Timeline

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As noted above, the first 9 topics are covered in units lasting 3-4 weeks each during the first year. The other three topics and the internal assessment are completed in the second year, with several months remaining for review and practice before the IB exam. Each unit includes laboratory investigations that are required by the IB and that are designed to enhance the understanding of the topic as well as build lab skills.