Chemistry

What is Chemistry?

Chemistry is the study of matter, its properties, how and why substances combine or separate to form other substances and their interactions with energy. Chemistry is everywhere; food, fuel, clothes, construction material, medicines, the atmosphere and gadgets are fundamentally chemical in nature. Chemistry is called the “central science” as it connects other sciences to each other. Chemistry is involved in every human activity, from growing and cooking food to cleaning homes and bodies to launching a space shuttle. Chemistry is one of the physical sciences that help describe and explain the world and traditionally, branches into analytical, physical, organic, inorganic and ultimately, biochemistry, the chemistry of life. As a central science, arguably, chemistry links to various other sub-branches, including material, metallurgical, polymer, nuclear, medicinal and even forensic chemistry.

What skills would I develop as a learner?

In the pursuit of gaining competence in chemistry, the learner develops impeccable skills of designing, conducting and interpreting scientific research, conducting statistical analyses, applying scientific methodology to problem-solving, communicate findings using models, charts, graphs, multimedia and, eventually, communicate research findings in chemistry, using scientific writing. In addition, the learner develops a critical awareness of effective collaboration and communication, learning to appreciate scientific study and creativity within a global context, through stimulating and challenging opportunities.

Are there any differences between SL and HL?

The Standard Level (SL) course ensures that students are adequately exposed to the discipline that they might otherwise opt out of, and the Higher Level (HL) courses allow students with a deep interest in chemistry, to spend more time with the discipline, by exploring options in addition to the SL core curriculum. The chemistry SL course is recommended a minimum of 150 hours and chemistry HL course is recommended a minimum of 240 hours of instructional time.

What are the key features of the DP chemistry curriculum?

The DP chemistry curriculum covers the breadth of the main branches of chemistry viz. analytical, physical, organic and inorganic chemistry and also includes material, medicinal and biochemistry as options in HL. Chemistry students at SL and HL undertake a common core syllabus but students at HL are required to study the options and some topics as well as some additional topics as the curriculum delves in depth here. An exemplar topic under HL would be stereoisomerism. The distinction between SL and HL is one of breadth and depth.

How does assessment look like, in Chemistry?

In DP chemistry, students are assessed both externally and internally. Chemistry students at SL and HL undertake a common internal assessment (IA) scheme. In this scheme, practical approaches to the course delivery are emphasised through interdisciplinary projects, along with short-term and long-term experiments and investigations. Internal assessment is assessed through a single individual investigation. Student work is internally assessed by the teacher and externally moderated by the IB. The external assessment of chemistry consists of three written papers which include multiple-choice, short-answer and extended-response questions. The weighting is 80 percent for the external assessment and 20 percent for the Internal assessment.

How will the DP Chemistry course help me later, in career and life?

The DP chemistry course prepares students both professionally and academically, creating the ground by fostering attitudes and qualities of the mind to allow students to become lifelong learners. The course eliminates the academic versus practical divide plaguing most other courses. Chemistry is an all-embracing subject and students who go on to pursue a college course in chemistry have an incredible range of career options, from from pharmacology, food chemistry, environmental chemistry, chemical engineering, agricultural chemistry to research and education.

Source: www.ibo.org