Cameron Heights Collegiate Institute

301 Charles St. E., Kitchener, Ontario, N2G 2P8 (519) 578-8330 http://chc.wrdsb.ca

Course Outline: Science, Grade 12 IB Chemistry, SCH4UX

Semester: **2** **Feb 2020**	Block: **A**	Room: **C420**
Teacher: **Mrs. T. Epplett-Stuart**	Teacher Contact Information: **terra_epplett-stuart@wrdsb.ca** **519-578-8330**	Teacher Website: **http://teachers.wrdsb.ca/epplettstuart/grade-11-ib-chemistry/** Google Classroom: **https://classroom.google.com**

Course Description

This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals, bonding, reactions and quantitative relationships in those reactions as solids, solutions, and gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter.

Required Learning: Big Ideas

To earn this credit, students must demonstrate learning of the following big ideas:

Equilibrium (Chapter 7)

- Chemical and physical systems can undergo reversible reactions in certain conditions.
- Systems in chemical equilibrium can be modelled mathematically

Acids/Bases (Chapter 8)

- The definition of acids and bases has evolved over time in light of new interpretations and discoveries
- The pH scale is a logarithmic scale that monitors the hydrogen ion concentration
- Acids and bases can be described as strong or weak based on their reactivity and pH

Reduction and Oxidation (Chapter 9)

- Many chemical reactions can be expressed in terms of the transfer of electrons.
- Voltaic cells are based on the spontaneous transfer of electrons from one substance to another
- Electrolytic cells are the non-spontaneous (or forced) migration of electrons from one substance to another

Organic Chemistry (Chapter 10)

- Organic chemicals are classified on the basis of their structure.
- Organic chemicals can be altered in predictable ways into other organic chemicals.

Measurement: Analytical Chemistry (Chapter 11-section 3)

- The presence and structure of substances can be determined through a variety of analytical methods
- Many analytical methods are integrated to determine the structure of a material

Option B: Biochemistry

- Living organisms are capable of using and synthesizing a wide variety of organic molecules
- The structure of an organic molecule is linked to its function.

Post Exam Topics: Ontario Chemistry (continues to contributes to mark determination)

- Theories on atomic structure and bonding have evolved since the Bohr model of the atom
- Equilibrium problems can be solved using a variety of methods

Evidence of Learning includes:

Unit Tests (~5)	**Contributes to Predicted Grade within IB Range**
Assignments (~5)	
Internal Assessment Lab (PE,Ex,A,Ev,C)	
IB Exams (May)	**IB Level**

Course Evaluation

- Throughout the course, teachers will gather evidence of student learning through observations, conversations, and student-produced work.
- **IBO determines an overall level for a student based on the IB exams in May & the IA Lab. Each level has a range of pegged marks associated with it.**

IB Level 1	IB Level 2	IB Level 3	IB Level 4	IB Level 5	IB Level 6	IB Level 7
<50%	50-59%	60-71%	72-83%	84-92%	93-96%	97-100%

Learning Skills

The Learning Skills and Work Habits section of the provincial report card is an integral part of a student's learning. Students will be assessed in the following areas:

- Responsibility
- Independent Work
- Organization
- Initiative
- Collaboration
- Self-Regulation

The following scoring system is used for Learning Skills: E=Excellent; G=Good; S=Satisfactory; N=Needs Improvement

Course Materials

In order to be successful it is important to be organized and prepared for each class. You will be expected to have the following items with you in class each day:

- Pens, pencils, ruler and calculator (cell phones and other electronic devices are not permitted)
- Binder with plenty of lined paper, dividers (to separate units)
- Standard Level Chemistry (text) and IB Data Booklet

Sometimes internet access is required and although students have access to computers at the school, these resources are limited, so a laptop would be useful.

Absences

Absences must be validated and missed work completed outside of class time. If you miss a unit test or major lab for a valid reason, be prepared to complete it on the day you return. It is **your** responsibility to find out what you missed and catch up after being absent. If you know ahead of time about an absence make arrangements beforehand!

Extra help is available– your teachers are pleased to assist you! The Science Office is Room F434; please make arrangements with your subject teacher or visit peer tutoring in room A202 if extra help is needed.

For more information about the content of this course outline, please consult:

- Cameron Heights Collegiate Institute Website & appropriate Google Classroom
- WRDSB's Administrative Procedure 1660 (Assessment, Evaluation and Reporting)
- The appropriate CHCI teacher or administrator.