OTTAWA CATHOLIC SCHOOL BOARD	**Grade 12 Chemistry SCH4U**	Inspired Education. Inspiring Students.

Teacher:

Prerequisite Course: Chemistry, Grade 11, University Preparation

Description and Overall Expectations: This course enables students to deepen their understanding of chemistry. Students will further develop their problem-solving and investigation skills by investigating chemical processes, and will refine their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in everyday life and on the impact of chemical technology on the environment.

Scientific Investigation (inquiry & research) and Career Exploration: demonstrate scientific investigation skills in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating); identify and describe careers and Canadian contributions related to this field of science.

Organic Chemistry: assess the social and environmental impact of organic compounds used in everyday life, and propose a plan to reduce the use of harmful compounds; investigate organic compounds and organic chemical reactions, and use various methods to represent the compounds; demonstrate an understanding of the structure, properties, and chemical behaviour of compounds within each class of organic compounds.

Structure and Properties of Matter: assess the benefits to society and evaluate the environmental impact of products and technologies that apply principles related to the structure and properties of matter; investigate the molecular shapes and physical properties of various types of matter; demonstrate an understanding of atomic structure and chemical bonding, and how they relate to the physical properties of ionic, molecular, covalent network, and metallic substances.

Energy Changes and Rates of Reaction: analyse technologies and chemical processes that are based on energy changes, and evaluate them in terms of their efficiency and their effects on the environment; investigate and analyse energy changes and rates of reaction in physical and chemical processes, and solve related problems; demonstrate an understanding of energy changes and rates of reaction.

Chemical Systems and Equilibrium: analyse chemical equilibrium processes, and assess their impact on biological, biochemical, and technological systems; investigate the qualitative and quantitative nature of chemical systems at equilibrium, and solve related problems; demonstrate an understanding of the concept of dynamic equilibrium and the variables that cause shifts in the equilibrium of chemical systems.

Electrochemistry: analyse technologies and processes relating to electrochemistry, and their implications for society, health and safety, and the environment; investigate oxidation-reduction reactions using a galvanic cell, and analyse electrochemical reactions in qualitative and quantitative terms; demonstrate an understanding of the principles of oxidation-reduction reactions and the many practical applications of electrochemistry.

Course Resources: Key resource(s) along with supplementary resources / digital tools and sites / passwords; include replacement cost for resources if lost/damaged.

Catholic Graduate Expectations: Our goal for all students is to experience an education based on our Catholic Graduate Expectations. **(**http://www.iceont.ca**)** We work in community to develop graduates that are:

- Discerning Believers Formed in the Catholic Faith Community
- Effective Communicators
- Reflective and Creative Thinkers
- Self-Directed, Responsible, Life-Long Learners
- Collaborative Contributors
- Caring Family Members
- Responsible Citizens

Assessment, Evaluation and Reporting: The primary purpose of assessment and evaluation is to improve student learning. Students will understand what is expected of them, using learning goals, and success criteria, based on the overall expectations. Feedback (self, peer, teacher) supports learning, and plays a critical role in academic achievement and success.

The development of learning skills and work habits is a key indicator of future success. The following learning skills and work habits will be developed, assessed, and reported during this course:

1.	Responsibility	fulfills responsibilities and commitments *(e.g. accepts and acts on feedback)*
2.	Organization	manages time to complete tasks and achieve goals *(e.g. meets goals, on time)*
3.	Independent work	uses class time appropriately to complete tasks *(e.g. monitors own learning)*
4.	Collaboration	works with others, promotes critical thinking *(e.g. provides feedback to peers)*
5.	Initiative	demonstrates curiosity and an interest in learning *(e.g. sets high goals)*
6.	Self-Regulation	sets goals, monitors progress towards achieving goals *(e.g. sets, reflects goals)*

Group work supports collaboration, an important 21st century skill. This will be assessed only as a learning skill. Homework may also be assessed as a learning skill. Evaluation completed in class will be based only on individual student work. Regular attendance is important to support group work, various forms of feedback, and to allow students to demonstrate evidence of their learning. Students are responsible for providing evidence of their own learning (with references where required), in class, within given timelines. Next steps in response to academic integrity issues, such as lack of work completion, plagiarism, or other forms of cheating, range from providing alternate opportunities, to a deduction of marks.

The achievement chart identifies four levels, based on achievement of the overall expectations:

Level 1	achievement falls below the provincial standard	(50-59%)
Level 2	achievement approaches the provincial standard	(60-69%)
Level 3	achievement is at the provincial standard	(70-79%)
Level 4	achievement surpasses the provincial standard	(80-100%)

The report card grade will be based on evidence of student performance, including observations, conversations and student products. Consideration will be given to more recent evidence (skill development) and the most consistent level of achievement.

Mark Breakdown:

Term Work (70%) will include a variety of assessment tasks designed to demonstrate students' development in their knowledge and understanding, thinking and inquiry, communication and application, of all overall expectations.

Summative evaluation (30%) takes place towards the end of the semester, is completed in class, and provides the final opportunity for students to demonstrate what they know, and the skills they have learned, based on the overall expectations. In Chemistry SCH4U, the summative evaluation will consist of a rich summative assessment task (10%) and a final exam (20%).

Awarding of Course Credit: Students who demonstrate evidence of achievement of overall expectations, ***and*** earn a mark of 50% or greater, will earn one credit for the course with the following exception:

Students who do not complete their summative evaluation (exam and/or end of year summative task) will not earn their credit regardless of their mark.

<u>Student and Parent/Guardian Acknowledgement</u>

We have read the above course outline and are aware of the student responsibilities to attend class on a regular basis and to provide evidence of learning within the established timelines.

Student's Name (print): _____ Student's Signature: _____

Parent/Guardian Name (print):_____ Parent/Guardian Signature: _____