



Dr. E. P. Scarlett High School Chemistry 20



Course	
Pre-Requisite	Minimum 50% in Science 10 Mathematics 10C is strongly recommended
Textbook	Nelson Chemistry
Supplies	Binder, loose-leaf paper, scientific calculator, pens, pencil, eraser

Teacher(s)	E-mail	Room
Mr. Michaud	jrmichaud@cbe.ab.ca	155
Mrs. Young	adyoung@cbe.ab.ca	161
Mrs. Micic	mlmicic@cbe.ab.ca	154

TEACHER COMMUNICATION: Teachers will respond to e-mail within two business days.
E-mail is the best way to contact teachers.

COURSE DESCRIPTION (weightings are approximate):

- 1. Science 10 Chemistry Review (7.8%)**
 - classifying matter
 - elements and compounds
 - chemical nomenclature
- 2. Chemistry Basics: Diversity of Matter and Chemical Bonding (15.6%) (Chapters 1 & 3)**
 - bonding theory
 - ionic bonding
 - molecular (covalent) bonding
 - metallic and network covalent bonding
 - intermolecular bonding (London forces, dipole-dipole bonding, and hydrogen bonding)
 - predicting theoretical boiling points
- 3. Quantitative Relationships in Chemical Change (15.6%) (Chapter 2, 7.1 & 7.2, 8.3)**
 - chemical reactions (classification and balancing)
 - chemical amount: the mole concept
 - mass/mole conversions
 - gravimetric stoichiometry
- 4. Solution Chemistry (15.6%) (Chapters 5, 7.1, 7.4)**
 - the nature of solutions
 - electrolytes: dissociation and ionization
 - concentration and dilution
 - qualitative analysis
 - solution stoichiometry
- 5. Acids and Bases (7.8%) (Chapters 6, 7.1, 8.4)**
 - acid and base theories
 - indicators, and pH
 - acid and base strengths

d. titrations and acid/base stoichiometry

6. Gases (7.8%) (Chapters 4, 7.3)

- a. empirical properties of gases
- b. explaining the properties of gases (kinetic molecular theory)
- c. gas laws
- d. gases and the mole
- e. gas stoichiometry

LEARNER OUTCOMES:

- **Attitudes** - Students will be encouraged to develop attitudes that support the responsible acquisition of application of scientific and technological knowledge to the mutual benefit of self, society and the environment.
- **Knowledge** - Students will construct knowledge and understandings of concepts in life science, and apply these understandings to interpret, integrate and extend their knowledge
- **Science, Technology and Society (STS)** - Students will develop an understanding of the nature of science and technology, the relationships between science and technology and the social and environmental contexts of science and technology
- **Skills** - Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively and for making informed decisions.
- Alberta Learning: <https://www.alberta.ca/programs-of-study.aspx>

EXTRA SUPPORT:

- Students should make use of class time to ask for help
- Teachers are available in their classrooms at 8:30am (Mon – Thurs) for extra help
- **Science help room is available 8 – 8:30 (Mon – Thurs).**
- If additional support is still needed, students should make appointments with teachers.

LEARNER ASSESSMENT:

- Learning is a process. Teachers will use a variety of instructional tools and assessment to help students understand the Program of Study outcomes.
- Formative assessment informs instruction and provides guidance to students about how to improve.
- Summative assessment (such as quizzes and/or unit exams) will be used to verify that students have learned the intended outcomes. As a result, summative assessments will represent a greater portion of the students' overall grade
- Teachers will post grades in Powerschool which is available for students and parents to view

Evaluation:

	Unit	Weighting*	Chapters
1	Science 10 Chemistry Review	7.8	
2	Diversity of Matter and Chemical Bonding	15.6	1, 3
3	Quantitative Relationships in Chemical Change	15.6	2, 7.1, 7.2, 8.3
4	Solution Chemistry	15.6	5, 7.1, 7.4
5	Acids and Bases	7.8	6, 7.1, 8.4
6	Gases	7.8	4, 7.3
	Final Exam	30	All of the above

*Weightings are approximate

Coursework will be weighted in the following manner within each unit:

- Assignments, Laboratory Reports, Projects, Quizzes 40%
- Unit Exams 60%

CLASS EXPECTATIONS:

- Regular attendance and a readiness to actively engage with the course content
- This is an in-person course. D2L is used for online support. Students should check D2L often for instructions and resources.
- Understanding that learning is a process which builds on prior knowledge, as a result effective study habits are required.
- When learning complex ideas, sustained motivation and cognitive engagement are required to maintain considerable mental effort. As a result, cell phone use should be minimal and appropriate for the school environment
- Academic Integrity – a commitment to the regular and honest completion of work (ie. no cheating or copying from peers or the internet). Students and parents are required to be familiar with academic integrity policies found on the school website (<https://school.cbe.ab.ca/school/DrEPScarlett/teaching-learning/program-approach/academic-integrity/Pages/default.aspx>).
- Students are required to complete all assessments, even when absent.
- Reasons for unavoidable absences should be communicated to teachers. It is the student's responsibility to arrange with their teacher, to make up missed assessments.

SAFETY:

- Students will follow all Laboratory Safety rules each time they are in a science classroom
- Laboratory safety rules are posted in classrooms and in D2L shells
- Students will complete a Laboratory Safety course in D2L prior to conducting any labs.

LABORTORY OPPORTUNITIES:

- Students will have the opportunity to participate in the following labs:
 - Chemical Bonding: models
 - Reaction types
 - Gravimetric Stoichiometry

- Solubility
 - Qualitative Analysis/Sequential Qualitative Analysis
 - Solution Preparation and Dilution
 - Acid-Base Titration
 - Molar Mass of Butane
 - Determination of the Ideal Gas Constant
- Additional labs may be included if resources and time allow

POSSIBLE ADDITIONAL RESOURCES:

To supplement the course material, some appropriate and supplemental videos/movies may be shown in class, including (but not limited to): Hunting the Elements, Crash Course Chemistry Videos, PhET Simulations, TED Talks, and youtube videos.

