



Course Name: Grade 12, College Preparation, SCH 4CI

Teacher Name: Mr. Arthur

Course Description

This course enables students to develop an understanding of chemistry through the study of matter and qualitative analysis, organic, electrochemistry, chemical calculations, and chemistry as it relates to the quality of the environment. Students will use a variety of laboratory techniques, develop skills in data collection and scientific analysis, and communicate scientific information using appropriate terminology. Emphasis will be placed on the role of chemistry in daily life and the effects of technological applications and processes on society and the environment. (Ministry of Education, 2008)

Units of Study

1. Matter and Qualitative Analysis	(21 days)	February 3 – March 3
2. Quantities in Chemistry – Chemical Calculations	(20 days)	March 4 – April 8
3. Organic Chemistry	(18 days)	April 9 – May 6
4. Chemistry in the Environment	(14 days)	May 7 – May 27
5. Electrochemistry	(13 days)	May 28 – June 12
6. Exam Review	(3 days)	June 15 – June 17

Critical Elements

Students will demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating), as well as identify, and describe a variety of careers and scientists related to the fields of science. **[labs and projects]**

Matter and Qualitative Analysis: Students must be able to evaluate the effects of chemical substances on the environment, and analyse practical applications of qualitative analysis of matter; investigate matter, using various methods of qualitative analysis; demonstrate an understanding of the basic principles of qualitative analysis of matter **[lab, assignment, test]**

Quantities in Chemistry: Students must be able to analyse processes in the home, the workplace, or the environmental sector that use chemical quantities and calculations, and assess the importance of accuracy in chemical calculations; investigate chemical compounds and chemical reactions using appropriate techniques of quantitative analysis, and solve related problems; demonstrate an understanding of the mole concept and its quantitative relationships in chemical reactions. **[labs, assignments, test]**

Organic Chemistry: Students must be able to evaluate the impact on society, human health, and the environment of products made using organic compounds; investigate the physical and chemical properties of organic compounds, and analyse some common organic chemical reactions; demonstrate an understanding of the structure and the physical and chemical properties of organic compounds. **[lab, assignment, test]**

Chemistry in the Environment: Students must be able to evaluate the importance of government regulations, scientific analyses, and individual actions in improving air and water quality, and propose a personal plan of action to support these efforts; investigate chemical reactions, using appropriate techniques of quantitative analysis; demonstrate an understanding of chemical reactions that occur in the environment as a result of both natural processes and human activities. **[lab, assignment, test]**

Electrochemistry: Students must be able to analyse technological applications or processes relating to oxidation-reduction reactions, and assess their impact on the environment; investigate the oxidation-reduction reaction that occurs in a galvanic cell; demonstrate an understanding of the concepts of oxidation and reduction, and the principles of oxidation-reduction reactions. **[lab, assignment, test]**

Course Evaluation

Student work will be evaluated formatively and summatively, using a balance of the Ministry's four achievement chart categories: knowledge & understanding, thinking & inquiry, application, and communication.

FORMATIVE: designed to give multiple opportunities for students to make improvements to their work: e.g. teacher-student conferences, peer conferencing, homework, exemplars, question and answer sessions, review games / worksheets, quizzes

SUMMATIVE: designed to make judgments on final achievements of performance based on observations, conversations and student performance. e.g. lab reports, assignments, tests and exam.

Learning of course content occurs by the completion of ALL formative pieces. Feedback in the form of teacher and peer feedback will be given on the formative pieces. Students are to use this feedback to improve their understanding and make corrections. The summative pieces are the overall pieces that represent what has been learned in the unit. It is crucial that students complete the formative pieces in order to learn from their mistakes. Developing and improving time management skills will be extremely important throughout the course.

*During the semester, unit tests will be marked and corrected in class. It is the student's responsibility to make the proper corrections at this time. **Some parts of the test will be retained to maintain academic integrity from semester to semester.** A final summative (exam) outline will be provided and practice questions for the summative will also be provided. Students/parents will be able to view the tests with their teacher at any time during the semester.*

Throughout the course, teachers will gather evidence of student learning of the **Critical Elements** through observations, conversations, and student-produced work.

Seventy percent (70%) of the final mark will come from term work, and thirty percent (30%) will come from final evaluations.

Part One - Term Work: 70%

Category	Assessment Style	Examples		% Of Semester
Knowledge/ Understanding	Tests	knowledge of facts, terms, laws, theories, concepts, principles, application of knowledge and skills		25%
Inquiry/ Communication/ Making Connections	Labs/Assignments	scientific inquiry skills, lab skills, use of tools equipment, use of scientific terminology, lab reports, use of information technology		30% Labs 15% Assignments
Total				70%
Matter and Qualitative Analysis	Quantities in Chemistry	Organic Chemistry	Chemistry in the Environment	Electrochemistry
10%	20%	20%	15%	5%

Part Two - Final Assessment: 30%

Category	Assessment Style	Percentage
Knowledge/Understanding	Written Exam	30%
Making Connections Inquiry/Communication	(may have a lab exam component)	
Total		100%

Late and Missed Assignments, Cheating, Plagiarism

See the link as per Bluevale's School wide Policy.

<http://bci.wrdsb.ca/academics/>

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

The following scoring system is used for Learning Skills:

E=Excellent; G=Good; S=Satisfactory; N=Needs Improvement



Course Specific Information

Classroom Procedures:

1. Be prepared! Come to class with all necessary equipment – notebook pen, pencil, ruler, calculator, etc...
2. Be courteous. **You are NOT talking when:**
 - The teacher is talking
 - Another student is speaking to the teacher/class
3. **Raise your hand** if you have a question, and wait until you are called upon to reply.
4. Ask for extra help whenever you need it.
5. **Be nice to each other!! (Please, Thank you and Excuse me)**
6. **All portable electronic** devices (cell phones, iPods etc.) are to be turned off upon entry into the science classroom and are to be put away out of sight during the class.

For your benefit a website has been set up to provide you with skeleton notes. Please use this website as an aid to facilitate your learning and help you complete the critical elements required to obtain the credit.

The address for the website is: <http://arthurscience.weebly.com/>

Textbook: Chemistry 12 College Preparation (Nelson 2004)

Notebook:

Each student is advised to have a notebook used to keep notes and handouts organized and accessible. Notebooks are expected to be kept up-to-date and in neat condition and may be evaluated.

Teacher's email: **steven_arthur@wrdsb.ca**

LEARNING EXPECTATIONS:

*** All tests **WILL BE WRITTEN** and all labs **COMPLETED**. Students validly absent on the assigned test dates **MUST:**

- 1) inform the teacher prior to absence when possible.
- 2) be prepared to write (outside of class time) on the first day of their return to school.

*** Labs/Assignments are due at the **BEGINNING OF CLASS**. Formal labs may involve a lab quiz. Missed labs (or absence when lab is due) must still be handed in within an acceptable time frame but a numerical mark may or may not be given. Once marked assessment items have been **RETURNED** to the class, students who have not handed it in will have lost that opportunity to demonstrate their understanding and professional discretion will be used.

*** Students are responsible for **ALL** work missed or handed in during an absence.

*** PLEASE, PLEASE, PLEASE do at least a little bit of chemistry each day. Although it may be tempting to focus only on what is coming next for assessment, by trying a few questions (if that is all you have time for) will allow your brain to be subconsciously working on learning the concept even if you are concentrating on a different subject.

*** TRY, TRY, TRY to self-assess your **learning goals daily**. This is for two reasons: 1) By self-assessing your understanding, daily, you will know when you may be struggling with a concept and need to get **extra-help**. 2) When you go to study for your unit test, you will have a good idea of what concepts you know well and which ones may need **extra review**.

CHEM BUDDY:

Your Chem Buddy is someone in class who will serve to: 1) pick up extra sheets when you are away; 2) tell you about due dates; 3) help you by peer conferencing with lab reports; 4) be a person to do group study with, etc, etc

CHEM BUDDY 1: _____ CHEM BUDDY 2: _____

CELL # _____ CELL # _____

E-MAIL _____ E-MAIL _____

**** If you are having any difficulties make sure to talk to me **AHEAD OF TIME**. There is very little I can do after the fact ****