

Level of Instruction: Senior High

Curriculum Overview:

Chemistry 3202 is an academic Pan-Canadian science course that aims to develop scientific literacy. Scientific literacy is an evolving combination of the science related attitudes, skills, and knowledge students need to develop inquiry, problem-solving, and decision-making abilities; to become lifelong learners; and to maintain a sense of wonder about the world around them.

NOTES: Chemistry 2202 is a pre-requisite for Chemistry 3202.

Authorized Learning Resource:

Chemistry (McGraw-Hill Ryerson)

<http://www.mcgrawhill.ca/school/learningcentres/course/view.php?id=9780070938533/newfoundland+edition/default.php>

Unit Plan:

Chemistry 3202 is composed of four units that contain core labs and core STSE sections (Science, Technology, Society, and the Environment). All schools are expected to complete these core areas and adhere to the sequence of units outlined below.

Unit 1: Equilibrium

Core Lab #1: *Studying Reaction Rate*

Core Lab #2: *Perturbing Equilibrium*

Core STSE #1: *Smog, Catalytic Converters and You*

Unit 2: Acids & Bases in Chemical Changes

Core Lab #3: *The Concentration of Acetic Acid in Vinegar*

Core Lab #4: *K_a of Acetic Acid*

Core STSE #2: *Acids around Us*

Unit 3: Thermochemistry

Core Lab #5: *The Heat of Combustion of a Candle*

Core Lab #6: *Hess's Law and the Enthalpy of Combustion of Magnesium*

Core STSE #3: *What Fuels You?*

Unit 4: Electrochemical Changes

Core Lab #7: *Measuring Cell Potentials of Galvanic Cells*

Core Lab #8: *Electroplating*

Core STSE #4: *From Mineral to Metal: Metallurgy and Electrolytic Refining*

Assessment:

Assessment in this course is governed by the *Assessment and Evaluation Policy* of the Eastern School District. This policy is located at <http://www.esdnl.ca/about/policies/esd/IL.pdf>. The regulations are located at

<http://www.esdnl.ca/aboutesd/policies/regulations.jsp?cat=I&code=IL>

Assessment is intended to inform instruction, provide feedback to students, and meet the needs of diverse learners. It is used for the purposes of grading, certifying, and promoting students. All assessments should be outcome-based and designed to test students' basic knowledge of content, their understanding and ability to apply content, and ability to synthesize and problem solve. Assessments should provide equal opportunity for all students according to their abilities, needs, and interests. As a result, teachers make adaptations to accommodate the diverse range of learners in their classes.

Assessment and Evaluation Plan for Chemistry 3202:

Evaluation is the process of analysing, reflecting upon, and summarizing assessment information, and making judgments or decisions based upon the information gathered. All schools are expected to adhere to the evaluation scheme below for Chemistry 3202.

Tests/Quizzes	20%
Performance Assessment	15%
Midyear Examination	15%
Public Examination	50%

Note: Students should be provided with all appropriate data sheets and periodic table for testing. These are located at <http://www.ed.gov.nl.ca/edu/k12/pub/courses/chem3202.htm>.

Note: All evidence of learning shall be considered when determining a student's final grade. Averaging shall not be used as a sole indicator of a student's level of attainment of the course outcomes.

Midyear Examination:

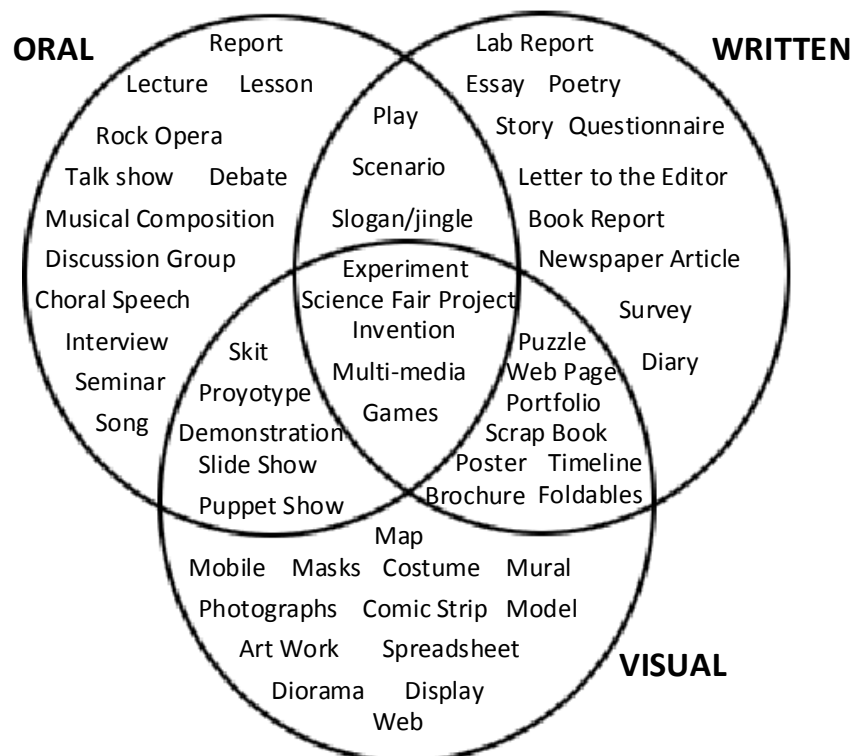
The mid-year examination tests all course outcomes to that point. It will include selected response (multiple-choice) and constructed response items. The examination is designed to be completed in a 2- hour time period.

Final Examination:

The final provincial (public) examination in Chemistry 3202 is composed of two parts and is designed to be completed in a 3 hour time period. Part I contains 50 selected response questions (multiple choice) that measure students' achievement at all levels of cognitive learning. Part II contains constructed response questions that measure students' achievement only at the higher levels of cognitive learning. The examination contains 15-20% of core labs and STSE content.

Performance Assessment:

Performance assessments should emphasize project-based learning and require students to show what they can do by using a wide variety of activities that permit students to have their learning styles addressed. Performance assessment should also include student self-assessment. Some suggestions are included in the diagram below.



Source: K. O'Connor, *The Mindful School: How to Grade for Learning* (Skylight Publications, 1999)

Rubrics are used to inform and measure learning during performance assessments. A rubric defines the expectations to achieve at a certain level. It also provides information about how well students performed an activity, and it provides a clear indication of what students need to accomplish in the future to better their performance. Links to samples of rubrics for different types of performance assessments can be found on <http://www.esdnl.ca/programs/rubricresources/>. The Assessment tab of the Teacher Resource contains rubrics and checklists.

Resource Links:

Department of Education Curriculum Guide for Chemistry 3202

<http://www.ed.gov.nl.ca/edu/k12/curriculum/documents/science/highschool.html#chem3202>

Science Resources and Support Documents - Senior High

<http://www.ed.gov.nl.ca/edu/k12/curriculum/documents/science/highschool.html>