**CHEMISTRY 504**

**Course Content:**

This course explains key topics in chemistry:

|  |  |  |
| --- | --- | --- |
| **Term 1 (approx. 16 classes-missed 1st 9 day cycle)** | **Term 2 (approx. 17 classes)** | **Term 3 (approx. 26 classes)** |
| Chemistry concepts from SE402 course | Energy transfer | Measuring reaction rate |
| Chemical Properties of gases | Enthalpy Change | Collision Theory |
| Physical properties of gases | Graphical Representation of Enthalpy Change | Factors that affect reaction rates |
| Gas Laws | Molar Heat of Reaction | Qualitative aspect of chemical equilibrium |
| Labs | Hess's Law | Quantitative aspect of chemical equilibrium |
|   | Labs | Labs |
|   | Midyear Exam | June Exams (theory & lab) |

**Text: Quantum Chemistry,** by I. Couture, M Lacombe-Harbey and G. Levasseur-Thériault.

**Evaluation:** Students will be evaluated on their ability to demonstrate these two competencies:

**40% Practical -** Competency 1 (C1): Problem solving through **experimentation.**

Uses scientific methodology, problem solving and vocabulary.

**60% Theory -** Competency 2 (C2): **Analysis.** Analyzing phenomena and applying it.

Uses the concepts, models and laws of science appropriately.

Applies these concepts in a relevant and correct manner.

**Final Mark Weightings \*\*PLEASE NOTE THIS BREAKDOWN IS SUBJECT TO CHANGE IF CLASSES ARE MOVED ONLINE\*\***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Each term** |   |   | Term 1 | Term 2 | Term 3 | June Exams | TOTAL |
| **Practical (C1) 40%** | **Theory (C2) 60%** |   | Term Mark | Term Mark | Term Mark | Lab Exam 16% |   |
| Lab work & Assignments 40% | Tests 45% |   | 20%  | 20% | 20% |  Final Exam 24% |   |
|   | Assignments/Quizzes 15% |   |   |   |   | TOTAL 40%  | 100% |

**Exams**:

Term 2 Midterm Theory Exam during the week of **February 1st.**

Term 3 Final  Board wide exam 40 % of the C2 mark (60x0.4=24%).

 Lab Exam accounts for 40% of the C1 mark (40x0.4=16%).

**Final Exam Distribution and Weighting of the Questions** (2019)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  2019 | Gases | Thermo- dynamics | Reaction rates | Chemical Equilibrium |
| Multiple choice | 4 | 4 | 3 | 4 |
| Constructed response | 3 | 3 | 1 | 3 |
| % | 28% | 28% | 16% | 28% |