High School
Chemistry 30 (5 credit)
Instructor:
September ➔ January

The new chemistry course is based on four foundations

1. Attitude: Students will develop a responsible and technologically knowledgeable attitude to science as it relates to self, society and the environment
2. Knowledge: Students will develop knowledge and understanding of concepts as they apply to self, society and the environment
3. STS: Students will develop an understanding of the relationships between, science, technology, social and environmental contexts of life.
4. Skills: Students must develop skill in problem solving and communication and demonstrate this by working collaboratively and making informed decisions.

How the course will unfold:

1. ***Review of Chemistry 20*.** This will include nomenclature, balancing equations, stoichiometry, gas laws, bonding, acids, oxidation reduction. (5 days)

2. ***Thermochemical change*** – enthalpy, Δ H, energy diagrams, energy diagrams, catalysts, fuels and energy efficiency
    - Derive and interpret energy changes in chemical reaction
    - Explain and communicate energy changes in chemical reactions

3. ***Electrochemical change*** – oxidation, reduction, disproportionation, voltaic cells, electrolytic cells, Faraday's law, corrosion
    - Explain the nature of oxidation reduction reactions
    - Apply principles of oxidation reduction to electrochemical cells

4. ***Chemical change of Organic Compounds*** – organic compounds, structural formulas, structural isomers, aliphatics, aromatics, functional groups, esterification, combustion, polymerization, addition, substitution, elimination
    - Explore organic compounds as a common form of matter
    - Describe chemical reactions of organic compounds

5. ***Chemical Equilibrium Focusing on Acid Base Systems* –** chemical equilibrium, LeChatelier's principle, equilibrium constants, acid-base equilibrium, Bronsted-Lowry, titration curves, conjugate pairs, amphiprotic substances, buffers, indicators
    - Explain that there is a balance of opposing reactions in chemical equilibrium systems
    - Determine quantitative relationships in simple equilibrium systems.

EVALUATION

FINAL GRADE IS 50% SCHOOL BASED AND 50% DIPLOMA EXAM

School Mark:

Tests and quizzes…….. 75%
Labs & assignments…….. 25%
Total…….. 100%

The diploma exam will be written on _____ Numerical response & multiple choice section @ _____ **Please note that these dates are set by Alberta Learning and students MUST write on the scheduled day. The school has no authority to change the dates.**

General Expectations:

Attendance: Get a buddy in this class so that in the rare case that you miss a day they can keep you caught up.

Assignments: Assignments are due on designated dates at the beginning of class. If they come in after that, they are LATE. A mark of **zero** will be assigned for all LATE work.

- The zero can be removed if you complete an optional assignment. There will be a minimum of TWO optional assignments given over the semester.
- If you have no zeroes or incompletes in the assignment category or the test category at the end of the year, you can drop any mark in that section.
- If you have no zeros but still want to do the optional assignment(s), you can use this mark to drop your lowest mark in the category.
- I reward a strong work ethic …. Turning work in before the due date will earn you a 5% bonus for that assignment or lab. ☺

Lates

- It is expected that you will be at your desk and ready to work by the second bell. You will need your calculator and data book every day.
- If you come in late, please gently remind me to check that I have changed the attendance. Otherwise you will be getting an auto-dialer message!!

Absences:

- You are expected to take an active part in your schooling. For this reason, **you are responsible** for finding out about missed assignments.
- Please have a 'buddy' pick up assignments for you or look in the 'bins' at the back of the room. I will put all extra assignments there
- If you are late or absent when the feedback on assignments is given, then check the smart board pages. If you are still unsure, make time to see me outside of class time for more clarification.

Extra help:

I am routinely at school by 8:00 am. I also am prepared to help students over the noon hour. I expect you to come for extra help if you are struggling with or need clarification of any aspects of the course. Incomplete work is NOT acceptable!

I expect you to do your very BEST in this course.