Chemistry Syllabus

Mrs. Cluck

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**Program Summary**

Students will engage in a variety of learning experiences using technology and traditional approaches: group work, partner collaboration, projects, hands-on activities, online research, and more. The teacher and students will work together to make each class productive, rigorous, and engaging.

**Course Description**

Chemistry involves studying the composition, properties, and reactions of substances. This course explores such concepts as structure and composition of matter, the behaviors of solids, liquids, and gasses, the periodic table and history, acid/base and oxidation/reduction reactions; and atomic structure. Chemical formulas and equations and nuclear reactions are also studied. Other topics include organic chemistry, thermodynamics, electrochemistry, macromolecules, kinetic theory, and nuclear chemistry.

**Required Text**

* Inspire Chemistry McGraw Hill

You will not have a book checked out to you. When the text is needed you may check out a book from me to borrow.

* There is also an online version of the text that you will have access to located on the classroom site.

**Required Materials**

* Pencil/Pen/ Highlighter
* Computer
* Library book
* Textbook (as needed)
* Paper/ Notebooks

**Participation Points**

I will give participation points (2) each day of class. These points will be given based on attendance, behavior, preparedness, participation and attitude. Loss of participation points will be due to failure to participate and a failure in any of the above mentioned categories.

**Absences:** If you miss a class due to an absence, you may make up those participation points. You must make them up within the week before the grade is posted on Friday. To make up participation points, come and check in with me to see what you missed or will be missing. You are responsible for finding out what you missed following an absence or before.

**Teacher absent**: It is your responsibility to check the classroom site for your assignment.

**Grades**

| **A** | 90-100 |
| --- | --- |
| **B** | 80-89 |
| **C** | 70-79 |
| **D** | 60-69 |
| **F** | 0-59 |

**Homework/Quizzes/Tests**

There will be a variety of different assignments, projects, and quizzes throughout the year. There will be a test after each chapter. The test format may have different styles to it like multiple choice, short answer, true or false, or essays.

**Late Work**

All work is due as assigned. Assignments not turned in on the due date may be turned in for up to half-credit on the class period following the due date. Thereafter, no credit will be given for assignments not turned in. \*Teacher discretion may be used

**Students will have one day for each day absent to make up their work.**

**Classroom Rules and Expectations**

* Respect yourself, others, and the classroom environment
* Come to class prepared and ready to learn
* Pay attention and be an active participant

**Student Handbook Policies**

1. **Cell Phones**

Students are required to store their device in their lockers/ bags. They will not be allowed in the classroom

1. **Cheating**

Cheating will not be tolerated in my classroom. If you are caught cheating you will receive a 0 for that assignment. Do you own work!

1. **Food/ Drink**

There will absolutely be no food or drink allowed in the classroom. Bottled water only.

1. **Other Policies**

Make sure to follow all school policies in your student handbook. These will be enforced through the year.

**Course Overview**

| **Unit** | **Topics Addressed** | **Standards** |
| --- | --- | --- |
| **Unit 1:** Central Science and Matter | 1. What is Chemistry  2. Standards of Measurements - SI units  3. Properties and changes in matter  4. Elements, compounds, and mixtures | HS-PS1-1  HS-PS1-3  HS-PS1-8  HS-PS2-6 |
| **Unit 2:** Atoms and the Arrangement of their Electrons | 1. Early ideas about atoms  2. Defining the atom and their models  3. Electron configurations | HS-PS1-1  HS-PS1-3  HS-PS1-2 |
| **Unit 3:** History of the Periodic Table and Periodic Law | 1. Development of the modern periodic table  2. Classification of elements  3. Periodic trends | HS-PS1-1  HS-PS1-2 |
| **Unit 4:** Chemical Bonding, Ionic, Covalent Compounds, and Molecular Geometry | 1. Ion formation  2. Ionic bonding and compounds  3. Names and formulas for ionic compounds  4. Covalent bonding and compounds  5. Names and formulas for covalent compounds  6. Molecular shapes | HS-PS1-1  HS-PS1-2  HS-PS1-4  HS-PS1-5  HS-PS1-6  HS-PS1-7 |
| **Unit 5**: Chemical Equations and Reactions, Activity Series | 1. Reactions and Equations  2. Classifying Chemical Reactions  3. Writing Chemical reactions and equations  4. Formulas, symbols, and Balancing | HS-PS1-1  HS-PS1-2  HS-PS1-4  HS-PS1-5  HS-PS1-6  HS-PS1-7 |
| **Unit 6:** Stoichiometry | 1. Measuring matter, mass, and mole  2. Defining stoichiometry  3. Calculations  4. Limiting reactants  5. Percent yield | HS-PS1-6  HS-PS1-7. |
| **Unit 7:** States of Matter and the Kinetic- Molecular Theory | 1. Gasses, liquids, and solids  2. Gas laws  3. Ideal Gas law  4. Gas stoichiometry  5. Calculations | HS-PS1-1  HS-PS1-2  HS-PS1-6  HS-PS1-7. |
| **Unit 8:** Solutions, Acids, and Bases | 1. Types of Mixtures  2. Solution Concentrations  3. Colligative Properties of solutions  4. Strengths of acids and bases  5. Hydrogen ions and pH and neutralization | HS-PS1-1  HS-PS1-2  HS-PS1-5 |
| **Unit 9:** Reaction Energy and Kinetics Chemical Equilibrium Redox Reactions | 1. Energy, heat, and thermochemical equations  2. Enthalpy changes  3. Factors affecting reaction rates  4. Dynamic balance  5. Factors affecting chemical equilibrium  6. Oxidation and reduction reactions | HS-PS1-4.  HS-PS3-2  HS-PS3-4. |
| **Unit 10:** Organic and Biological Chemistry | 1. Simple organic compounds- alkanes, alkenes, alkynes  2. Substituted hydrocarbons- alcohols, ether, and Amines  3. Biological compounds - proteins, carbohydrates, nucleic acids | HS-PS1-3  HS-PS1-1  HS-PS1-2  HS-PS1-6  HS-PS1-7. |

\*\*Syllabus is subject to change