

Name _____ Period _____ Date _____

Introduction:

Chemistry I is probably one of the most exciting and challenging courses you will take in your high school career. Knowledge in this field is essential to the understanding of the natural world. Chemistry is typically required for college degrees in various fields of science, engineering, mathematics, technology, education and those fields related to the human and animal body.

Chemistry I is a course based on the following core topics: properties and states of matter; atomic structure; bonding; chemical reactions; solution chemistry; behavior of gases, and organic chemistry. Students enrolled in Chemistry I compare, contrast, and synthesize useful models of the structure and properties of matter and the mechanisms of its interactions. Instruction will focus on developing student understanding that scientific knowledge is gained from observation of natural phenomena and experimentation by designing and conducting investigations guided by theory and by evaluating and communicating the results of those investigations according to accepted procedures.

Instructor: Andrew J. Moad, PhD	Course Materials: Binder, computer, scientific calculator, notebook, & pen/pencil
Email: andrew.moad@evsck12.com	Website: drmoad.weebly.com

Rules and Expectations:

Preparedness	<ul style="list-style-type: none"> - Be in the classroom before the bell rings with necessary materials - Once you enter the classroom, sit in your seat and begin the bell work - Use rest room outside of class time
Respect	<ul style="list-style-type: none"> - Listen and follow directions. - Keep your cellphone in your pocket or locker - Remain quiet and listen while the teacher is talking
Integrity	<ul style="list-style-type: none"> - Take responsibility to learn the material and show what you know. - Expect the enforcement of all school rules
Determination	<ul style="list-style-type: none"> - Always be attentive and productive. - Use time wisely
Engagement	<ul style="list-style-type: none"> - Participate by taking notes, asking and answering questions, joining activities, and completing assignments - Remain seated until the bell rings

Phones and Other Personal Devices:

Phones, headphones and other personal devices should not be brought to class. These items will be collected by me and taken to the office.

Computer Rules and Expectations:

The computer is a useful and valuable tool in the classroom, if it is used correctly. Inappropriate use of the computer will lead to the student being referred to the dean or counselor for disciplinary action.

Appropriate use of computer: <ul style="list-style-type: none">- Checking grades- Accessing an online assignment- Conducting research on a scientific topic	Inappropriate use of computer: <ul style="list-style-type: none">- Checking email- Social media- Gaming
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Chemistry does pose a certain risk to electronic devices. Students should be very careful when using or placing electronics (Net Book, personal cell phone, etc...) near water, chemical substances, or heat sources. Students will be responsible for the safety of their electronic devices both in and out of the laboratory setting.

Grading:

Grading scale: <ul style="list-style-type: none">- A 90%- B 80%- C 70%- D 60%- F < 60%	Student Grade Components: <ul style="list-style-type: none">- Tests and Quizzes- Labs and Projects- Homework- Bell Work
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Weighted Grading scale:

Tests and Quizzes = 50%

Labs = 30%

Openers / Notebook / Homework = 20%

Late Work:

Students are expected to turn in assignments on time. However, late work will be accepted with a penalty. Late work will be assessed a 50% penalty, work over two weeks late will not be accepted. Students who have excused absences will be allowed an extended time period to turn in missing work with no penalty equal to the time the student was absent.

Final Exams:

The final exam will be 20 percent of the of the semester grade. Final exams are cumulative meaning anything covered in the course may appear on the final exam. (First semester material makes up 10% of second semester final)

Semester 1 Course Outline:

Week	Topic	State Standards	Labs/Projects
1-3	Expectations of instructor Laboratory equipment Density Conversations Matter	C.1.1, C.1.2, C.1.3, C.1.7, C.6.1,C.6.2	Lab equipment project Density lab Thickness of Al Foil Observations of CuCl_2 and Al
4-5	Atomic structures History of the atom Gram mole conversions Isotopes	C.2.1, C.2.2, C.2.3, C.2.4	M&M isotope lab Endothermic/ exothermic lab
6-7	Electrons Quantum mechanics	C.2.5, C.2.6	Flame test lab Spectroscope lab
8-9	History of the periodic table Elemental families Periodic trends Ions (cations/anions)	C.2.1,C.2.5, C.4.6	Periodic trends Elements brochure/ presentation
10-12	Ionic compounds (fixed & variable charge) Covalent compounds Nomenclature	C.3.1, C.3.2, C.3.3, C.3.4, C.3.5	VSEPR Marshmallow lab Types of compounds ionic vs. covalent Formula of ionic compounds
13-14	Converting to moles Percent composition Determining empirical & molecular formulas	C.4.3, C.4.7	Formula of a hydrate Incredible Mole Lab
15-17	Balancing chemicals rxns Types of chemical rxns	C.1.2, C.1.3, C.1.6, C.4.1, C.4.2, C.4.5	Types of reactions Endothermic/Exothermic reaction
18	Finals		

Semester 2 Course Outline:

Week	Topic	State Standards	Labs/Projects
1-3	Stoichiometry Limiting reagents excess	C.4.4, C.6.3	S'more lab Stoichiometry and limiting reagents
4-5	Properties of gases Gas laws	C.1.5, C.5.1, C.5.2	Molar Volume of a gas Temperature vs. Pressure lab Boyles law lab
6-7	Stoichiometry of gases Grams law	C.4.4, C.5.3	Air bag lab

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8-9	Thermochemistry	C.6.2, C.6.4	Specific Heat of Metals
10-12	Solutions Colligative properties	C.1.1, C.7.1, C.7.2, C.7.3, C.7.4, C.7.5	Dissolving Rate Lab Freezing Pt. Depression Lab
13-14	Acids and Bases PH Titrations	C.8.1, C.8.2, C.8.3, C.8.4, C.8.5	Acid/Base Lab Standardization of NaOH Titration of Vinegar Titration of Antacid
15-17	Nuclear Chemistry	C.2.5, C.2.6, C.2.7	Half-life lab Geiger counter lab
18	Finals		