**REGENTS CHEMISTRY**

**COURSE OUTLINE 2022-2023**

**THE CINEMA SCHOOL**

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This handbook is designed to help you have a successful year and to be able to have a quick reference for class content, expectations and procedures**. Please keep it in the front of your binder for future reference.**



Chemistry is a required Regents chemistry laboratory science which is used to fulfill the requirements for the New York State Regents Exam. Successful completion of this course will contribute to your receiving a Regents Diploma upon graduation. The course covers several different content areas with three key concepts weaved throughout the material. The course seeks to develop inquiry skills, problem solving skills and critical thinking skills. The three key concepts specified by New York State are listed below.

**Three Key Concepts**

* Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
* Energy exists in many forms, and when these forms change energy is conserved.
* Energy and matter interact through forces that result in changes in motion.

**A Word on Labwork:**

* You are **required by New York State** to complete at least 1200 minutes worth of lab assignments over the course of the year.
* Laboratory work is an extremely important part of the Chemistry curriculum. **If you are absent for lab, you MUST make it up**.
* You will store all of your graded lab reports in a personalized folder that will be maintained in the classroom.
* **Do not take your labs out of the room.** If somehow your labs are taken out of the classroom and lost, **you cannot sit for the exam in June** and your graduation will be put in jeopardy.

**Course Texts**

Experience Chemistry: Student Edition, Volumes 1 and 2; Savvas

Online texts and materials relating to Experience Chemistry will be used:

<https://www.savvasrealize.com>

Chemistry/The Physical Setting NYS Reference Tables (2011 edition): <http://www.kentchemistry.com/newRT.pdf>

**Topic List**



This course includes an extensive body of information which must be applied to concepts. In order to complete all areas of study before the Regents examination a strict time schedule must be maintained. Students should master each topic unit of study as it is presented since there is not sufficient time to “re-teach” the entire course in the last few weeks of school. Below is an approximate schedule.

| **Semester 1** | **Semester 2** |
| --- | --- |
| **Storyline 1: Atoms, Elements, and Molecules***Anchoring Phenomenon: What distinguishes the minerals in this mountain?*Students identify properties of atoms, elements, and molecules and describe how different types of chemical bonds influence the properties of matter.1. Atomic Structure

 (11.5 days), EC Vol.1 pp. 4-411. The Periodic Table

 (7.5 days), EC Vol.1 pp. 42-651. Chemical Bonding

(11.5 days), EC Vol.1 pp. 66.107**Storyline 2: Understanding Chemical Reactions***Anchoring Phenomenon: How can we produce better foods?*Students explore how structure determines the physical properties of materials, and refine models of chemical reaction systems.1. Physical Properties of Materials

 (13.5 days), EC Vol.1 pp. 110-1711. Chemical Quantities

 (9.5 days), EC Vol.1 pp. 172-2131. Chemical Reactions

(7.5 days), EC Vol.1 pp. 214-2491. Stoichiometry

(8 days) EC Vol.1 pp. 250-2791. Thermochemistry
 | **Storyline 3: The Chemistry of Climate Change***Anchoring Phenomenon: Why are we seeing more extreme weather?*Students analyze the connection between chemistry and changes in weather and climate and identify how these changes impact global climate.1. The Behavior of Gases

 (9.5 days), EC Vol.2 pp. 4-411. Weather and Climate

 (12 days), EC Vol.2 pp. 42-971. Global Climate Change

 (14.5 days), EC Vol.2 pp. 66.107**Storyline 4: The Dynamics of Chemical Reactions and Ocean Acidification***Anchoring Phenomenon: How do our everyday activities impact Earth?*Students connect how their everyday activities impact Earth by investigating the relationships among reaction rates and equilibrium, acid-base equilibria, and ocean acidification.1. Reaction Rates and Equilibrium

 (10.5 days), EC Vol.2 pp. 158-1911. Acid-Base Equilibria

 (10 days), EC Vol.2 pp. 192-2271. Ocean Acidification

(10 days), EC Vol.2 pp. 228-271**Storyline 5: Industrial Applications***Anchoring Phenomenon: How can we sustainably meet the world’s energy needs?*Students investigate the transfer of energy, nuclear processes, and green chemistry to develop ideas about meeting the world’s energy needs.1. Oxidation-Reduction Reactions

 (7.5 days), EC Vol.2 pp. 274-3091. Organic Chemistry

 (7.5 days), EC Vol.2 pp. 310-3551. Nuclear Processes

(7.5 days), EC Vol.2 pp. 356-4011. Green Chemistry

(8 days) EC Vol.2 pp. 402-439 |
| Review & Midterm (3 + 2 periods) | Review & Final (10 periods)  |

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**Supplies Needed**

***Every day of class you need to bring***:



1. A binder with dedicated section for ONLY Chemistry work.

OR A spiral lined notebook or notebook section that ONLY holds Chemistry notes.

3. A blue or black pen **and** a #2 pencil.

4. A charged laptop or chromebook (provided in class, or you can bring your own)

**Expectations and Evaluations**

Chemistry is an interesting and fun course of study. Similar to many things in life that are worthwhile, this course is very challenging and will require a good deal of hard work. Please read the following carefully so that you can get off to a great start this year.

 **Notes**:

* Students are expected to keep notes that are given by the instructor, taken during the instructor’s lectures, or composed by the student during an activity
* ***Organization will play a big role in your success in this course.*** Student’s notebooks should only contain material relating to the unit under study. Materials from previous units of study should be filed chronologically in a safe place at the student’s home.
* ***This course is cumulative.*** You will need to review material covered in previous units for the midterm as well as the Regents examination. Don’t throw out anything until you check with one of the instructors.

**Preparation/Homework:**

* Complete homework is due at the beginning of the class period **of the due date assigned.** Homework is a very important part of the course. There is a purpose to the homework- to prepare for an experiment, analyze experimental data, or help you study and comprehend the material discussed in class.
* A schedule of assignments will be given at the beginning of each unit of study. This is done in order for you to effectively plan your calendar.
* ***Late assignments are not accepted unless you have a verified absence or extreme situation.***
* If you have a verified absence, you must submit the homework to the instructors **within two day of your return**. It is your responsibility to obtain and submit assignments. You will not be reminded to hand in homework.
* Some homework assignments will be graded while others will be checked for completion.

**Exams and Quizzes:**

* Exams and quizzes will be given at the beginning of class periods. Quizzes will be given primarily to assess student preparation for the laboratory exercises and classroom activities; exams typically are at the end of a unit or occur at the midway points of larger units.
* Similar to non-exam days, you are required to come to class prepared (i.e. #2 pencil and/or pen) \*\**on those exams requiring computations, calculators will be provided\*\**
* ***If you have a verified absence and miss a scheduled test, the test must be made up within two days of your return to school. Like quizzes, tests cannot be made up during class time. It will be your responsibility to arrange a make-up time with me immediately upon your return to school.***
* If you have an unverified absence for the period an exam is given, **you will not be allowed to make up the exam and you will receive a grade of 45%.**

**Grading**



Quarter grades are calculated using a computer program to avoid mathematical errors. Averages will be calculated throughout each marking period and students will periodically receive progress reports detailing grades. In calculating averages, each graded assignment will have a different weight or value.

Standard values are as follows:

**Homework - 15%**

**Classwork and Participation - 35%**

**Assessments (test, quizzes, etc) - 30%**

**Performance Task (essay, projects, etc.) - 20%**

**Extra Help**

* Based upon your teacher’s schedule ---- day of week to be announced in September. 
* Special review sessions will be announced throughout the year for major tests.
* If you are having any problems with the course material, it is your responsibility to seek out extra help either during school or after school.