



Academy of Science, Research & Medicine

Honors Chemistry Syllabus- 2015-2016

Paulding County High School



Teachers: Marc Pedersen & Michael Seymour
Email Address: mpedersen@paulding.k12.ga.us
Classroom Website: www.pedersenscience.com
School Phone Number: (770)-443-8008

Course Description: This rigorous, laboratory-based course will focus on instructing students on the research, laboratory, and technical skills needed in the study of Chemistry. Chemistry is the study of the nature, properties and composition of matter. Chemistry is a physical science that includes abstract concepts such as the structure of atoms, structure and properties of matter, and the conservation and interaction of energy and matter. Students will investigate chemistry through hands-on laboratories and investigative activities using the processes of scientific inquiry. Each honors student will need to:

- View and take notes on chemistry podcasts (available online or download to flash drive).
- Participate in a variety of hands-on laboratories following lab safety protocol (see Flinn contract)
- Take the Chemistry Student Learning Objective (SLO) to ensure mastery of the Georgia Performance Standards.
- Monitor the classroom website on a daily basis.
- Join and participate in our virtual Edmodo classroom (www.edmodo.com; see additional hand-out)

This course will prepare students for the Chemistry Student Learning Objective (SLO) assessment, which will be given in August and again in late April or early May. This assessment will be used to determine mastery of the Georgia Performance Standards, in addition to student academic and cognitive growth. To be successful in this course, students must complete all assignments and participate in all lab activities. Students may be assigned a separate study guide and workbook that will be used as a resource throughout the course. Students will also be provided with a hardcopy of the required textbook. However, a great deal of information will be presented to the students through online podcast lectures, which the students will view at home. This will allow students to take notes on the content at their own pace, while also providing the opportunity to view the podcast lectures as many times as needed. Students will then practice and apply these concepts in the classroom, as well as receive clarification, further instruction and support from the teacher. Detailed information packets and rubrics will be provided for the Honors Chemistry Research Project during the first week of school and are always available on the classroom website or the QR codes at the end of this syllabus.

Grading Policy: (Subject to change based county policy)

A 90-100 B 80-89 C 70-79 F below 70

60% summative, 20% formative, 20% SLO

Flipped Classroom Model: *Online Chemistry Podcasts (no textbook needed)* The flipped classroom is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by students at home before the class session, while in-class time is devoted to laboratories, projects, discussions and addressing student questions over the content. If viewing this syllabus online ([CLICK HERE](#)) for a thorough explanation of the flipped classroom model, or scan the QR code at the end of this document.

Class/Lab Procedures and Rules: Students must return their signed Flinn Safety contracts before participating in lab-based activities. All school policies in the student handbook will be followed, as well as all lab safety rules and teacher policies. Tardy policy will be followed as listed in the student handbook.

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Performance Assessments will include, but will not be limited to, the Student Learning Objective (SLO), quizzes, unit tests, lab reports, projects, Edmodo participation, podcast composition book and final exams.

Recommended Materials: Students will need a glued/stitched composition notebook for their podcast notes, computer flash drive, scientific calculator, graph paper, a designated spot in their binder or folder for labs, etc.

Year Outline: (all units and durations are approximate and subject to change)

| Unit | Timeframe | GPS |
|---|--|------------------|
| 1- Lab Techniques; Measurements; Matter | 1 week | Sch1-7; SC1b |
| 2- Atomic Theory | 1 ½ weeks | SC1a-b, SC3a,c,d |
| 3- Electron Configuration | 1 ½ weeks <i>1st quarter ends</i> | SC3a,b,f |
| 4- Periodic Trends | 2 weeks | SC4a-b |
| 5- Nomenclature; Bond Type; Lewis Dot; VSEPR | 1 week | SC1c-d; SC3b,e |
| 6- Chemical Reactions & Net ionic Equations | 1 ½ weeks <i>end 1st semester</i> | SC2a-b |
| 7- Moles | 1 ½ weeks | SC2a-c |
| 8- Stoichiometry | 1 ½ weeks | SC2a-e |
| 9- Solutions, Colligative properties | 1 ½ weeks <i>3rd quarter ends</i> | SC7a |
| 10- Equilibrium | 1 week | SC5a-c; SC7a |
| 11- Acids & Bases; pH, Ka, titrations | 2 weeks | Sc1d, SC7b |
| 12- Gas Laws & KMT, Thermochemistry | 2 ½ weeks | SC5c, SC6a-c |
| 13- Organic chemistry (optional, if time permits) | | SC1b-d, SC2a-b |

Make-up Work

It is the student's responsibility to get his/her makeup work. For excused absences, all makeup work must be completed and turned in within **three** days upon the student's return to school. However, if a student is absent on the day an essay or long-term project is due; it is due the day the student returns. It is an expectation that students monitor the classroom website and Edmodo on a daily basis.

Late work

Late work for assessments will be accepted within three (3) days of the due date with a 10% deduction for each day it is late. Any work turned in after 3 days will not be accepted, and you will receive a zero (0) on that assignment. For example, if an assignment is due on Monday, it will be accepted, with penalty, until Thursday.

QR Codes for documents referred to in this syllabus. Remember all files and relevant materials are also on the classroom website.



Flinn Safety Contract



Research Project Guide
Not required 2015-2016



Course Periodic Table



Georgia Performance Standards



Flipped Classroom
Explanation