AP Chemistry
Instructor: Jennifer Corbett
jennifercorbett@johnston.k12.nc.us
Tutorials: Wednesdays B lunch; Fridays A lunch

Overview
This AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first year of college. This course is structured around the six big ideas articulated in the AP Chemistry curriculum framework provided by the College Board. A special emphasis will be placed on the seven science practices, which capture important aspects of the work that scientists engage in, with learning objectives that combine content with inquiry and reasoning skills. AP Chemistry is open to all students that have successfully completed a year of chemistry who wish to take part in a rigorous and academically challenging course.

Required Materials
- 1½" – 2" 3-ring binder
- Notebook paper
- Pens and Pencils
- Scientific or Graphing Calculator
- BOUND Composition Notebook with Graph Paper (no spiral or "wireless" notebooks)

Textbooks and Supplemental Materials
- Tro, Nivaldo J. *Chemistry: A Molecular Approach*, 4th Edition. Pearson, 2017.
- Students are strongly encouraged to purchase an AP Chemistry Review Book from a well-known publisher (5 steps to a 5, Barron's, etc) to use throughout the year as a means of reviewing for the AP Exam in May.

Student Expectations
- Follow the Pirate Pledge.
- Be on time for class. Work missed because of tardiness is the responsibility of the student. Consequences for tardiness can be found in the student handbook.
- Be prepared for class. Bring all necessary materials to class daily. There will be times that you will be asked to print an assignment from my website and bring it to class.
- Cell phones should be away during instructional time unless permitted for academic purposes.
- Actively participate in the course! This is vital to success in an AP class. Studying, homework, projects, and lab participation are a must!

Absences
By policy, students may miss no more than 4 days per nine weeks for any class. Students are responsible for all missed work due to an absence! Please speak with me immediately upon your return to school to schedule make-up labs, tests, and quizzes.

Classwork and Homework
Students will be given a syllabus for each unit listing which topics will be covered, required readings, and homework assignments. Students are expected to keep their classwork and notes organized in a notebook. Assignments may consist of practice problems, research, reading, artwork, lab reports, writing, projects, etc. Students will also select an article once per semester about a scientific innovation based on chemistry, environmental concerns, or technological components from a reputable scientific journal or news article to summarize. The report must include a description of the innovation and how it affects society.

Laboratory Assignments
The course will meet 85 minutes each day for two consecutive semesters. This allows ample time for classroom lecture and topic discussion as well as a strong laboratory component. Each student will submit a complete report for each lab experiment, including purpose, procedure, data and observations, data analysis, error analysis, and conclusion. All reports are kept in a lab notebook for the students to present to the college of their choice.

Tests and Quizzes
Quizzes will be both announced and unannounced. Any missed quizzes should be made up within three days after an absence. All tests will be **cumulative and timed**. Extra time will not generally be allowed – you must complete tests in the time allocated in class. Tests will include multiple choice and free response questions written in the same style as the AP exam. Test dates are announced well in advance; an absence a day or two before a test will not excuse you from taking the test with the rest of the class on the scheduled test date. Test corrections will be required of all students who make a grade below 70% on a test and available for all students who so choose.

The AP Chemistry Exam
The AP Chemistry exam will be given on May 9, 2019. The exam is approximately three hours long and has two parts – multiple choice and free response. Each section is worth 50% of the AP exam grade. AP exam scores will not come back until the summer following the course. Students will receive a score of 1-5 based on their performance on the exam. Students wishing to receive college credit based on AP exam scores should research if the college of their choice will accept it. Colleges have widely differing policies to this matter ranging from complete acceptance to total disregard.

Grading
Grades are calculated on a point system. The student's grade will be determined by dividing the number of points earned by the total points possible. All late work will have a 50% deduction in grade. Each quarter grade will count for 40% of a student's semester grade. There is a cumulative teacher-made exam for each semester which will count for 20% of the semester grade. There is a student project and presentation following the AP exam that will count as a test grade.

Academic Integrity
While I expect students to work together on many assignments, cheating will not be tolerated in this class. Cheating can take many forms: copying another student's work OR allowing another student to copy yours; Plagiarism, which is copying the language, structure, idea, and/or thought of another and representing it as one's own work; and giving or receiving any unauthorized assistance or unfair advantage on any form of academic work. This includes sharing answers on a test or 'Googling' answers for a graded assignment. Integrity is not limited to refraining from cheating. Other violations of this policy would include falsification of any document presented or associated with the school (such as forging a parent's signature on a progress report). Consequences for violations of the academic integrity policy can be found in your student handbook.

Getting Help

Extra help is available during SMART lunch tutorials on Wednesdays during B and Fridays during A. I will also be available after school by appointment. If you need help with an assignment at home, you may email me at jennifercorbett@johnston.k12.nc.us. Any emails sent in the evening (after 6pm) will generally not receive a response until the next day. One of the best methods for getting extra help is to form study groups to help each other. Sometimes your peers are your best resource when you are stuck with a concept or assignment. This does not mean that you should copy someone else's work! Instead, having a study group can give you the opportunity to have the material explained and reviewed in multiple ways. Course information, pertinent documents, and useful links can be found on the Google classroom website.

AP Chemistry Big Ideas	**AP Science Practices**
Big Idea 1: The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions. Big Idea 2: Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them. Big Idea 3: Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons. Big Idea 4: Rates of chemical reactions are determined by details of the molecular collisions. Big Idea 5: The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter. Big Idea 6: Any bond or intermolecular attraction that can be formed can be broken. These two processes are in a dynamic competition, sensitive to initial conditions and external perturbations.	Science Practice 1: The student can use representations and models to communicate scientific phenomena and solve scientific problems. Science Practice 2: The student can use mathematics appropriately. Science Practice 3: The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course. Science Practice 4: The student can plan and implement data collection strategies in relation to a particular scientific question. (Note: Data can be collected from many different sources, e.g., investigations, scientific observations, the findings of others, historic reconstruction and/or archived data.) Science Practice 5: The student can perform data analysis and evaluation of evidence. Science Practice 6: The student can work with scientific explanations and theories. Science Practice 7: The student is able to connect and relate knowledge across various scales, concepts and representations in and across domains.

AP Chemistry Testing Dates and Outline using Tro Chemistry: A Molecular Approach

Unit	Chapter	Big Idea	Test Date
0	Honors Chem Packet Review	0	9/6
1	Ch. 1 Matter, Measurement, Problem Solving	1	9/20
	Ch. 2 Atoms and Elements		
	Ch. 3 Molecules, Compounds, Chemical Equations		
2	Ch. 7 Quantum Mechanical Model of Atom		10/4
	Ch. 8 Periodic Properties of the Elements		
3	Ch. 5 Gases	2	10/16
4	Ch. 9 Chemical Bonding I-Lewis Model		11/8
	Ch. 10 Chemical Bonding II-Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory		
	Ch. 11 Liquids, Solids, and Intermolecular Forces		
	Ch. 13 Solutions		
5	Ch. 4 Chemical Quantities and Aqueous Reactions	3	11/29
6	Ch. 14 Chemical Kinetics Pt. 1	4	Quiz: 12/7
	Semester 1 Final Exam	**1-3**	**12/14**
6	Ch. 14 Chemical Kinetics	4	1/24
7	Ch. 6 Thermochemistry	5	2/19
	Ch. 18 Free Energy and Thermodynamics		
8	Ch. 15 Chemical Equilibrium	6	3/7
9	Ch. 16 Acids/Bases		3/28
	Ch. 17 Aqueous Ionic Equilibrium		
10	Ch. 19 Electrochemistry	3	4/11
	AP Chem Review (3-4 weeks) and AP Test	1-6	**5/9 at 8:00AM**
	Selected Project and Chem Final		**5/22**