



**Honor Applied/Organic Chemistry Syllabus
CHS Science Department**

Contact Information: Parents may contact me by phone, email, or visiting the school.

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CCSD Vision Statement: The Chillicothe City School District will provide tomorrow's leaders with a high quality education by developing high expectations and positive personal relationships among students, staff, and community members.

CCSD Mission Statement: The Chillicothe City School District empowers students to learn, to lead, and to serve.

Course Description and Prerequisite(s) from Course Handbook:

Honors Applied/Organic Chemistry - 324

State Course #: 132326 (Level I)

Prerequisite: Successful completion of Algebra II, as well as "B" or better in Biology and Physical Science. Sophomores may take this course concurrently with Algebra II and with (math and science) teacher recommendation.

Elective

Grade: 10-12

Weighted Grade

Credit: 1/2

Course Description:

One of the objectives of this course is to prepare students for college-level chemistry. Honors Chemistry is a second year chemistry course that is divided into 2 semester classes, Honors Inorganic Chemistry and Honors Applied/ Organic Chemistry. The concepts taught in Honors Applied/Organic Chemistry will include thermochemistry, bonding, acids and bases, and basic organic chemistry. There will also be a laboratory component. It is necessary for the student to have a strong background in chemistry and math. **The laboratory fee is \$15.**

Learning Targets: Defined below for clarity are the Unit Titles, Big Ideas of every Unit taught during this course, and the Essential Questions to be answered to better understand the Big Ideas. A student's ability to grasp and answer the Essential Questions will define whether or not he or she adequately learns and can apply the skills found in Big Ideas. This will ultimately define whether or not a student scores well on assessments administered for this course.

- **3rd Quarter**
 - **Unit I Title: Solutions**

- **Big Idea #1:** I can use colligative properties to manipulate the boiling and freezing points of solutions.
 - *Essential Question #1: What are the 4 colligative properties?*
 - *Essential Question #2: How do I predict boiling point elevation?*
 - *Essential Question #3: How do I predict freezing point depression?*
- **Big Idea #2:** I can identify the type, properties, and concentrations of various acids and bases.
 - *Essential Question #1: What are acids and bases?*
 - *Essential Question #2: What are the most common properties of acids and bases?*
 - *Essential Question #3: How do I determine the concentration of acids and bases?*
- **Unit II Title: Thermochemistry**
 - **Big Idea #1:** I can determine the flow of energy and its enthalpy.
 - *Essential Question #1: How do I explain the relationships among heat, energy, work, and endothermic/exothermic reactions?*
 - *Essential Question #2: How do I measure the flow of heat?*
 - *Essential Question #3: How do I solve for enthalpy changes in chemical reactions?*
 - **Big Idea #2:** I can determine heat changes of state.
 - *Essential Question #1: How do I classify enthalpy changes when a substance changes state?*
 - *Essential Question #2: How do I calculate the change in enthalpy that accompanies the change of state?*
 - **Big Idea #3:** I can calculate the heat of reaction.
 - *Essential Question #1: How do I describe Hess's Law?*
 - *Essential Question #2: How do I solve for enthalpy changes using Hess's Law?*
- **4th Quarter**
 - **Unit III Title: Molecular Compounds and Nomenclature**
 - **Big Idea #1:** I can apply bonding theories.
 - *Essential Question #1: How do I distinguish between sigma and pi bonds?*
 - *Essential Question #2: How do I apply VESPR Theory?*
 - *Essential Question #3: How do I determine bond angle from molecular formulas?*
 - **Big Idea #2:** I can identify alkanes.
 - *Essential Question #1: What are the names of the first 12 members of the homologous series?*
 - *Essential Question #2: What are alkyl groups?*
 - *Essential Question #3: What isomers are associated with alkanes?*
 - **Big Idea #3:** I can identify alkenes and alkynes.
 - *Essential Question #1: How do I name the members of the homologous series of alkanes and alkynes?*

- *Essential Question #2: What are the functional groups and how are they used?*
- **Unit IV Title: Gases and the Kinetic Molecular Theory**
 - **Big Idea #1:** I can apply the unique properties of gases.
 - *Essential Question #1: How do gases differ from solids and liquids?*
 - *Essential Question #2: How do I explain and convert conditions to STP?*
 - *Essential Question #3: How do I apply Boyle's, Charles', Gay-Lussac's, and Avogadro's Laws?*
 - **Big Idea #2:** I can use the ideal gas law to determine other properties of gases.
 - *Essential Question #1: How do I perform calculations using the ideal gas law?*
 - *Essential Question #2: How do I calculate the density of a gas and determine the molar mass of a gas from the ideal gas equation?*
 - *Essential Question #3: I can combine gas laws with stoichiometry problems.*
- **END OF COURSE EXAM**

Course Materials:

- Google Chromebook and earbuds when needed
- 3 ring binder and notebook
- Scientific calculator
- Writing utensils

Textbook:

Chemistry by Zumdahl and Pearson's "Chemistry" by Wilbraham, Staley, Matt, and Waterman

Course Expectations:

- This is an honors level course. It is designed to prepare you for college chemistry. Students will be expected to do reading outside of class time and will have homework almost every evening. It is important that students have good attendance and work ethic so that they do not fall behind. This is a class that builds on previously learned material so staying on track is very important. It is a challenging and fast paced curriculum.

Grading:

Unit Exams	50%
Assessments (Including: Quizzes, Essays, Labs, and Projects)	30%
Class work/Homework	20%

- Each nine week's grade comprises 40% of a student's final grade.
- The End of Course Exam comprises 20% of a student's final grade.

Grading Scale:

The grading scale for Chillicothe High School can be found in the student handbook or online at <http://www.chillicothe.k12.oh.us/1/Content2/studenthandbook>.

Late Work: Late work will be subject to the Board-adopted policy on assignments that are submitted late (to be reviewed in class).

- Regardless of the absence type (excused, unexcused, OSS, etc.), students are expected to make up work and be held accountable for learning all material they missed.
- Any student who is absent from school will receive one (1) additional day for every day he/she missed to make up his/her work for full credit (100%).
- Any student who exceeds the allotted time to turn in an assignment for full credit may still submit work late for partial credit.
 - Any student who turns in work up to 1 week late must at least be given the opportunity to earn 75% on that assignment.
 - Any student who turns in work between 1 and 2 weeks late must at least be given the opportunity to earn 60% on that assignment.
- The end of the 9 weeks is the cut off point for teachers to accept late work from students for full or partial credit unless the teacher decides to give the student an incomplete for the 9 weeks due to extenuating circumstances.

Performance Based Section: Writing**Assignments/Exams/Presentations/Technology**

One or more of the End of Unit Exams may be Performance Based. According to the Ohio Department of Education, “Performance Based Assessments (PBA) provides authentic ways for students to demonstrate and apply their understanding of the content and skills within the standards. The performance based assessments will provide formative and summative information to inform instructional decision-making and help students move forward on their trajectory of learning.” Some examples of Performance Based Assessments include but are not limited to portfolios, experiments, group projects, demonstrations, essays, and presentations.

CHS Honors Applied/Organic Chemistry Course Syllabus

After you have reviewed the preceding packet of information with your parent(s) or guardian(s), please sign this sheet and return it to me so that I can verify you understand what I expect out of each and every one of my students.

Student Name (please print): _____

Student Signature: _____

Parent/Guardian Name (please print): _____

Parent/Guardian Signature: _____

Date: _____