



Hamilton High School Agriculture Sciences Department

## **Agriculture Chemistry**

2022-2023 Course Syllabus & Course Outline

Instructor: Ms. Hautala

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**CLASS REMIND:** text 81010 with message @joinagchem

**Google Classroom Code:** q3tnjth

### **Course Description:**

This course explores the chemical and physical nature of soil; as well as the relationship between soil, plants, animals, and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will work on agriscience skills within projects. Students will work on enhancing their skills within the physical science realm through real life agricultural skills.

**This course is an NGSS Practice, A-G Fulfillment, and UC Approved Science Course.** *Meaning that this course counts the exact same way that a regular chemistry course does!*

### **FFA and SAE Project:**

It is required that each student have a SAE project, a project related to agriculture, which they can pursue outside of the classroom. These projects are valuable tools to teach work ethic and responsibility. In addition they can lead to awards and recognition in the FFA, scholarships and employment. Students will be required to maintain a record book for their project. Projects range in type and size from a vegetable garden to raising cattle. The work for these projects will be done outside of class time.

The FFA is a national organization found in schools across the U.S. The goals of the organization are to develop premier leadership, personal growth, and career success. Your student automatically became a member of the FFA organization when enrolling in this agriculture class. There are numerous opportunities to participate in events during or after school. These activities include community service events, leadership conferences, chapter meetings and more! Students are required to attend **2 activities per semester** for full credit in this class. This will count towards 10% of students' final grade. While participating in agriculture classes, school farm activities and FFA I understand my picture may be taken and used in media promoting FFA and Hamilton High School.

### **Ag Department Tardy Policy:**

*This tardy policy is in addition to the Hamilton High School Tardy Policy.* Students are given 50 points in their gradebook per the start of semester. For each tardy, students will have five points subtracted from the 50 points. Tardies are tracked in Aeries, points lost cannot be earned.

**Absentee Policy:**

It is the student's responsibility to retrieve their missing assignments and notes when class is missed. If a quiz or test was administered the day a student was absent, it must be made up in a time coordinated with the teacher. If previously assigned work was due on the day of absence, the work is due on the first day the student returns.

For every seven unexcused absences or excessive tardies in this class, one unit will be deducted from your credits earned. This policy goes per semester and is enforced by tracking in Aeries. *This policy is in alignment with Hamilton High School Guidelines.*

**Late/Incomplete Work:**

All student work should be turned in ON TIME and be students best quality. During each grading period, there will be a date set by the instructor, which will serve as the last day to submit work. Any work that is not submitted by the set date will turn into a zero inside of the gradebook and will not be accepted for credit. *Late work is subject to a point deduction based on teachers discretion.*

Any assignments submitted incomplete will have points deducted accordingly. If a student would like the opportunity to resubmit incomplete work, that is something that needs to be coordinated with the instructor. Resubmissions for incomplete work will only be accepted during that grading period on a set date by the instructor **(Make sure to be on the Class Remind for reminders on assignments and deadlines)**

**Notebooks:**

Students will be provided a notebook to hold all in-class notes, activities, and warm ups. Notebooks will be checked on each quiz date for a notebook grade. Notebooks will be used daily in class and students are responsible for maintaining them. Ms. Hautala also keeps her own copy of the class notebook; if a student needs to, they can come in on their own time and retrieve information from the notebook. If a notebook is lost, the student is responsible for purchasing a new one and rewriting the pertinent information.

**Tests/Quizzes:**

Quizzes will either be open notebook or allotted for quiz corrections. Which is why notebooks are an important component of this class! Tests are subject to be given at the end of each unit, and will cover any information that has been discussed throughout the unit. Tests will not be an open note or open for quiz corrections.

**Communication:**

Communication is a very important factor in education for myself! I strongly encourage all parents to join the Class Remind so they can receive updates on the class. Additionally, Remind notifications go directly to my phone and are the best way to receive a quick response from myself. I also send out messages frequently through Aeries Communication so please make sure to join!

## **Evaluation:**

This course is designed to have a variety of assignments and quizzes to allow an abundance of opportunities for you to earn points. There is no curve in this course. Seeking assistance for a failing grade at the end of the semester will not allow you to pass this course- Get help early and often! Below is a breakdown of each grade category. Please note, some assignments are posted/fulfilled through the google classroom. Even though some grades are in google classroom, student grades are ONLY fully represented through Aeries. *Remember- students earn grades, teachers merely assign them, do your best at all times.*

**A= 90-100%    B= 89-80%    C= 79-70%    D= 69-60%    F=59-0%**

### **Classwork/Homework - 15%**

This portion will encompass any assignments that are given to be completed during class time OR to be completed and turned in at a later date/time.

### **Class Participation- 10%**

This portion will be pertaining to the Ag Department Tardy Policy discussed in detail above. Please check that section of the course outline for further information.

### **Project/ Lab- 25%**

This is the largest area of student grades. There will be projects to be completed during this course and labs completed. Some projects include: researching elements in agriculture and soil management practices.

### **Notebook Checks- 15%**

This portion is fulfilled by the biweekly notebook checks that correlate with class quizzes. Notebook Check requirements are posted in the google classroom to allow students time to meet requirements.

### **AET Check- 10%**

This portion will be pertaining to the SAE Project students are required to complete. All students are given an AET account and given class time to update. These will be checked biweekly and requirements/submissions will be posted in the google classroom.

### **FFA- 10%**

This portion is in alignment with the FFA requirement of this course. This portion of grade will only be updated at the end of the semester with student's current FFA Activities.

Please check the FFA section of the course outline for additional information.

### **Tests/Quizzes- 15%**

This portion will be fulfilled during biweekly quizzes. Please check the test/quiz section of the course outline for additional information. As a reminder, quizzes will either be open notebook or allotted for quiz corrections.

## **Ms. H Guide to Success in Agriculture Chemistry**

My greatest piece of advice to be successful in this course is to ***be honest and communicate!*** Being productive in the time given during class takes off the additional work of doing assignments at home. I understand that things come up in life and we get busy.... Being an open communicator ensures that I am able to give the best opportunities to my students. As a reminder, information provided can be subject to change by Ms. Hautala, and communicating with her is the responsibility of the student.

## **Course Outline**

*Here is a general outline of the units covered in this course and some of the standards that are met. This class follows California NGSS Physical Science Standards and California Agriculture Chemistry Standards.*

### **Unit 1- Introduction to Agriscience**

*C13.0 Design agricultural experiments using the scientific method.*

### **Unit 2- Measurements and Significant Figures**

*This is treated as a foundational unit to ensure all students have the proper knowledge and skills to complete complex units presented throughout the course.*

### **Unit 3- Energy and Matter**

*HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.*

*HS-PS3-4. Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).*

### **Unit 4- Atoms and Periodic Table**

*HS-PS1-1. Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.*

*HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.*

*HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.\**

### **Unit 5- Chemical Bonding/Stoichiometry**

*HS-PS1-8. Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.*

### **Unit 6- Reactions/Equations**

*HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.*

*HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.*

*HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.*

*HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.\**

*HS-PS1-7. Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.*

### **Unit 7- Nature of Soil**

*C2.0 Examine the interrelationship between agriculture and the environment.*

### **Unit 8- Water Quality Management**

*E6.0 Understand aquatic resource use and management.*

### **Unit 9- Plant and Soil Managements**

*C10.0 Explain soil science principles.*

## **Agreement**

I have read this course outline and agree to follow class procedures. By signing below I acknowledge, understand and agree to the attached syllabus and will follow the guidelines that are expected in the Agriculture Chemistry Course Syllabus, with Ms. Hautala. I understand that my grade will be maintained on Aeries, and that I may check it at any time. I understand this is an Agriculture course that encompasses California FFA requirements and will uphold my grade in FFA which is worth 10% of my overall grade.

The information below is used to keep on file with the HHS Agriculture Department

### **Student:**

Student Name: \_\_\_\_\_

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### **Parent/Guardian:**

Guardian Name: \_\_\_\_\_

Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Best way to contact you (Check all that apply)-

☐ Aeries Communication

☐ Phone: \_\_\_\_\_

☐ Email: \_\_\_\_\_

☐ Other: \_\_\_\_\_

***If there is any additional information you feel is important for me to know about your student, please use the back of this paper as a place to write!***

## **Assignment #1 Syllabus Submission**

This form is to be signed and returned no later than: \_\_\_\_\_

Return by \_\_\_\_\_ to receive EXTRA CREDIT!

ONLY TURN IN THIS SHEET OF PAPER!!! (Tear this sheet off from the rest of the syllabus for submission)