



# Intro. Chemistry Lab I-16712

## CHEM-1105

S2 2021 Section 006 1 Credits 07/12/2021 to 08/15/2021 Modified 07/09/2021

### Course Meetings

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#### Meeting Days

Mondays

#### Meeting Times

6:00 pm (we will meet for 30mins - 1 hr only)

#### Meeting Location

[ZOOM \(here is link\) \(https://us02web.zoom.us/j/81675814265?pwd=QUg0RVBxejVJaWJ0UUIZd0FZSGx1dz09\)](https://us02web.zoom.us/j/81675814265?pwd=QUg0RVBxejVJaWJ0UUIZd0FZSGx1dz09)

### Welcome and Instructor Information

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#### Instructor: Professor Karen Fortune

Email: [karen.fortune@hccs.edu](mailto:karen.fortune@hccs.edu)

#### What's Exciting About This Course

Chemistry is all around us. We interact with it and make decisions about what we use to brush our teeth, what we eat, what we wear, and what policies benefit or harm our communities. One of my passions is learning about the chemistry around us and how it can be used to impact life. I cannot wait to pass this on to you. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your lives.

#### My Personal Welcome

Again, welcome to CHEM 1105 active online course. We will spend a lot of time in this class getting to know each other and ourselves better. We will explore things that interest us and impact our quality of life. My goal is to help you gain a better understanding of the chemistry around you and encourage you to learn about and advocate for policies that impact you and your community. If you have questions about anything in this course please do not hesitate to reach out to me.

#### Preferred Method of Contact

My preferred method of contact is via email: [Karen.fortune@hccs.edu](mailto:Karen.fortune@hccs.edu). You may also reach me by leaving a message at (713)718-2431.

#### Office Hours

Mondays

Monday, 6:00 PM to 7:00 PM, ZOOM

Click on the following [ZOOM link \(https://us02web.zoom.us/j/81675814265?pwd=QUg0RVBxejVJaWJ0UUIZd0FZSGx1dz09\)](https://us02web.zoom.us/j/81675814265?pwd=QUg0RVBxejVJaWJ0UUIZd0FZSGx1dz09) to meet with me.

### Course Description

CHEM 1105 gives a general introduction to the field of chemistry, with an emphasis on the impact of chemistry in our everyday lives and our environment. Laboratory experiments are designed for hands-on chemistry activities with real life applications, including units of measurements, physical and chemical properties of substances, chemical stoichiometry, chemical reactions, chemical calculations, chemical bonding, and molecular structure. Core curriculum course. Designed for non-science and allied health students.

Selected laboratory experiments related to topics in CHEM 1305 (Introductory Chemistry I) for non-science majors.

#### Requisites

Must have passed CHEM 1305 with a grade of D or above, or co-enroll in CHEM 1305 as a co-requisite.

Research indicates that you are most likely to succeed if you have already taken and passed Reading 0342, Math 0312 and Writing 0310/0349 or Math 0312 with INRW 0420.

### Chemistry Department

<https://learning.hccs.edu/programs/chemistry>

## Core Curriculum Objectives (CCOs)

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The HCCS Chemistry Discipline Committee has specified that the course address the following core objectives:

- **Reading/ Writing:** Students will engage in reading and writing activities through the laboratory exercises by reading labs prior to class, completing pre-lab activities, and writing results in lab reports, providing an understanding of chemical concepts observed in the lab.
- **Speaking/Listening:** Students will learn to communicate significant lab findings with their peers as well as the instructor by asking (speaking) and answering (listening) questions throughout the experiment.
- **Critical Thinking:** Students will demonstrate a deeper understanding of chemical concepts by completing labs, collecting data and analyzing results, and drawing conclusions. Connections to broader chemical topics may also be made.
- **Computer/Information Literacy:** Students will engage in utilization of computer and written references as resources as they prepare for and complete lab reports.

## Student Learning Outcomes and Objectives

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### Program Student Learning Outcomes (PSLOs)

Can be found at <http://learning.hccs.edu/programs/chemistry>

### Course Student Learning Outcomes (CSLOs)

Upon completion of CHEM 1105, the student will be able to:

SLO 1. Give names and formulas of elements, ions, and ionic and molecular compounds.

SLO 2. Categorize, complete, and balance chemical reactions.

SLO 3. Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.

SLO 4. Do basic chemistry calculations involving reaction stoichiometry.

SLO 5. Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.

SLO 6. Depict chemical bonding with dot

structures and predict the molecular shape (geometry) of molecules.

SLO 7: Calculate density and relate the value to mass and volume measurements for all physical states.

SLO 4. Do basic chemistry calculations involving reaction stoichiometry.

SLO 5. Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.

SLO 6. Depict chemical bonding with dot

structures and predict the molecular shape (geometry) of molecules.

SLO 7: Calculate density and relate the value to mass and volume measurements for all physical states.

SLO 8: Measurements and conversions in Metric, SI, and American systems

SLO 9: Apply thermochemical principles to evaluate work, heat, and energy relationships based on specific heat and temperature changes.

Learning Objectives for each CSLO can be found at [Learning Objectives for CHEM 1105.](https://learning.hccs.edu/programs/chemistry)  
(<https://learning.hccs.edu/programs/chemistry>)

## ☰ Departmental Practices and Procedures

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### Department Specific Instructor and Student Responsibilities: Chemistry

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through class activities, discussions, and lectures
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness and make up
- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

To be successful in this class, it is the student's responsibility to:

- Attend "online" class and participate in class discussions and activities
- Read and comprehend the textbook and instructor notes
- Complete the required assignments and exams
- Practice problems
- Ask for help in a timely manner when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Keep up with your grades which will be posted in the Canvas Gradebook
- Attain a raw score of at least 70% on all assignments
- Take the final exam during the designated testing period
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](#)

### Program-Specific Student Success Information : Chemistry

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook

- Attending class in person and/or online
- Completing assignments
- Participating in class or lab activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as your guide.

## Instructional Materials and Resources

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### Instructional Materials

This course uses a Lab kit to perform experiments at home and an online lab manual and submit results and complete pre and post lab questions. You will need to pick up a Lab kit and open an online account. The information to do this is provided below and on Canvas.

### Instructions to set up your online account

This course requires that you pick up a lab kit and set up an online account. The Lab kits must be picked up on Wednesday 1:30 pm at the Central Campus at 3100 Holman St., Houston, TX 77002. You will then [set up an online account](https://myhol.holscience.com/enroll/nzmv-zwsk-nzxs-vzcx) (<https://myhol.holscience.com/enroll/nzmv-zwsk-nzxs-vzcx>) by clicking this link. Note, there is a word document in Canvas and in your email with instructions on setting up your account.

## Course Requirements

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### Assignments, Exams, and Activities

Type	Weight	Topic	Notes
Lab Experiment	80		Please go to the <a href="https://myhol.holscience.com/enroll/nzmv-zwsk-nzxs-vzcx">virtual portal (https://myhol.holscience.com/enroll/nzmv-zwsk-nzxs-vzcx)</a> to complete your lab experiments.
Discussions	20		Each lab is associated with a discussion in Canvas. Go to Canvas, click on the lab. The discussion link is embedding the lab description.

### Grading Formula

Grade	Range	Notes
A	90-100	
B	80-89	
C	70-79	
D	60-69	
F	< 60	

## Instructor's Practices and Procedures

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### Incomplete Policy

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

### Missed Assignments/Make-Up Policy

Makeups are allowed only in the event of extreme emergency accompanied by appropriate documentation. If possible, inform me of any conflicts with your schedule ahead of due dates. In the event of unavoidable conflicts, a makeup lab should be completed prior to the scheduled due date. Due dates for labs are located in Canvas.

## Academic Integrity

Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion. There is a **Zero tolerance** for any type of academic dishonesty. Students found cheating in this course will receive a zero on the assessment and the incident is recorded in their student records. Another incidence of academic dishonesty will result in a "F" in the course and disciplinary proceedings will be initiated. Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

[https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/\(https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/\)](https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/(https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/))

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## Attendance Procedures

You are required to log on to Canvas weekly to view required labs and discussions for the week. You will also log into the [virtual portal](https://myhol.holscience.com/enroll/nznv-zwsk-nzxs-vzcz) (<https://myhol.holscience.com/enroll/nznv-zwsk-nzxs-vzcz>) each week to complete the labs.

## Student Conduct

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. I take this responsibility seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist me to achieve this critical goal. Please refer to [the HCC policy on Netiquette in the Student Handbook](https://www.hccs.edu/resources-for/current-students/student-handbook/) (<https://www.hccs.edu/resources-for/current-students/student-handbook/>) located under the **Student Code of Conduct**. Students whose behavior is deemed inappropriate for the classroom will be warned of such behavior. Any further incidence of inappropriate behavior will result in being reported to the disciplinary board and possibly removed from the classroom.

## Instructor's Course-Specific Information

This is an online lab course. We will have checkins on Mondays at 6pm. Labs are due on Thursdays of each week. Each week we will perform 2 to 3 Labs. You are strongly encouraged to complete 1 lab per day (pre, post and experimental) prior to Thursday so that you are not overwhelmed. Each lab may take 3-4 hours to complete. Labs will be graded and uploaded to Canvas weekly.

## Devices

You will need to have access to a computer with internet access in this class. Assistance with resources may be available [here](https://www.hccs.edu/support-services/) (<https://www.hccs.edu/support-services/>).

## Faculty Statement about Student Success

You are expected to spend *at least six (6) to eight (8) hours per week* completing labs, lab questions and discussions. When you receive your lab kit, and have set up your account, please do the following:

1. check the contents of your kit. If any items are missing or broken. A list is provided on the [virtual portal](https://myhol.holscience.com/enroll/nznv-zwsk-nzxs-vzcz) (<https://myhol.holscience.com/enroll/nznv-zwsk-nzxs-vzcz>).
2. select the Help on the top right of your webpage to notify the lab technicians of missing or broken items.

3. Email me within Canvas notifying me of what is missing/broken items. I will follow up with the lab to ensure you have the items prior to when needed in the lab. It may take 1 or 2 weeks to replace missing or broken items, please do not wait until you are ready to perform the lab to identify missing materials, you are not likely to receive it on time to complete the lab.

## Faculty-Specific Information Regarding Canvas

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement labs performed at home and recorded in the virtual portal.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## Instructional Modalities

### Online Anytime (WW)

Traditional online course without scheduled meetings. However, we will have checkins on Mondays at 6pm CST to ensure that we all understand what labs are to be performed for the week.

## Social Justice Statement

Houston Community College is committed to furthering the cause of social justice in our community and beyond. HCC does not discriminate on the basis of race, color, religion, sex, gender identity and expression, national origin, age, disability, sexual orientation, or veteran status. I fully support that commitment and, as such, will work to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. In this course, we share in the creation and maintenance of a positive and safe learning environment. Part of this process includes acknowledging and embracing the differences among us in order to establish and reinforce that each one of us matters. I appreciate your suggestions about how to best maintain this environment of respect. If you experience any type of discrimination, please contact me and/or the Office of Institutional Equity at 713-718-8271.

## HCC Policies and Information

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### HCC Grading System

HCC uses the following standard grading system:

Grade	Grade Interpretation	Grade Points
A	Excellent (90-100)	4
B	Good (80-89)	3
C	Fair (70-79)	2
D	Passing (60-69), except in developmental courses.	1
F	Failing (59 and below)	0
FX	Failing due to non-attendance	0

Grade	Grade Interpretation	Grade Points
W	Withdrawn	0
I	Incomplete	0
AUD	Audit	0
IP	In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit.	0
COM	Completed. Given in non-credit and continuing education courses.	0

## Link to Policies in Student Handbook

Here's the link to the HCC Student Handbook <https://www.hccs.edu/resources-for/current-students/student-handbook/> (<https://www.hccs.edu/resources-for/current-students/student-handbook/>) In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

## Link to HCC Academic Integrity Statement

<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/> (<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/>)

## Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<https://www.hccs.edu/departments/police/campus-carry/> (<https://www.hccs.edu/departments/police/campus-carry/>)

## HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to [HCC Eagle ID \(https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/\)](https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/) and activate it now. You may also use Canvas Inbox to communicate.

## Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<https://www.hccs.edu/departments/institutional-equity/> (<https://www.hccs.edu/departments/institutional-equity/>))

### Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <https://www.hccs.edu/support-services/ability-services/> (<https://www.hccs.edu/support-services/ability-services/>)

### Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
Director EEO/Compliance  
Office of Institutional Equity & Diversity  
3100 Main  
(713) 718-8271  
Houston, TX 77266-7517 or [Institutional.Equity@hccs.edu](mailto:Institutional.Equity@hccs.edu) (<mailto:Institutional.Equity@hccs.edu>)

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/> (<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>)

### Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/> (<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>)

## Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.



Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: <http://www.hccs.edu/online/> (<http://www.hccs.edu/online/>)

## Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap> (<https://eagleonline.hccs.edu/login/ldap>)

## Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](http://www.hccs.edu/resources-for/current-students/student-handbook/) (<http://www.hccs.edu/resources-for/current-students/student-handbook/>)

## Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

## EGLS3

The EGLS<sup>3</sup> ([Evaluation for Greater Learning Student Survey System](http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/) (<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/> (<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>)

## Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

## Student Resources

### Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services \(http://www.hccs.edu/resources-for/current-students/tutoring/\)](http://www.hccs.edu/resources-for/current-students/tutoring/) website for services provided.

### Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu> (<http://library.hccs.edu/>).

### Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/> (<http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>).

### Resources for Students:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>  
(<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>)

### Basic Needs Resources:

<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/> (<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/>)

### Student Basic Needs Application:

[https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH)  
([https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH))

## COVID-19

Here's the link to the HCC information about COVID-19:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/> (<https://www.hccs.edu/resources-for/current-students/communicable-diseases/>)

## Course Calendar

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### Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Week	Laboratory

1	Lab 1: Syllabus / Introductions / Orientation / Getting Started
07/12	Lab 2: Laboratory Safety  (Note: You must pick up your lab kit and set up an account in the virtual portal.
2	Lab 3: Lab Techniques & Measurements
07/19	Lab 4: Observations of Chemical Changes  Lab 5: Caloric content of food
3	Lab 6: Titration for Acetic Acid in vinegar
07/26	Lab 7: Determination of Water hardness using a titrator  Lab 8: Identification of Gases
5	Lab 9: Equilibrium and Le Chatlier's Principle
08/02	Lab 10: Chromatography of Food Dyes

## Additional Information

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### Departmental/Program Information

Please visit the chemistry program page for more about our degree offering, requirements, employment prospects and more.

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/chemistry/>

[\(https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/chemistry/\)](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/chemistry/)

### Process for Expressing Concerns about the Course

If you have concerns about any aspect of this course, please reach out to your instructor for assistance first. If your instructor is not able to assist you, then you may wish to contact the Department Chair.

Dr. Emmanuel Ewane, [emmanuel.ewane@hccs.edu](mailto:emmanuel.ewane@hccs.edu); 713-718-5414