



Division of Natural Sciences and Geology

Department of Chemistry

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

CHEM 1105: Introduction to Chemistry | Lab | CRN 21836

Fall 2020 | 16 Weeks (9.21.2020-12.13.2020)

HCC Online | Webex |

| Friday | 3:00 pm – 5:50 pm

1 credit hour lab course | 48 contact hours per semester

Instructor Contact Information

Instructor: C. Karen Fortune

Email: karen.fortune@hccs.edu

Office Phone: 713-718-2431

Student Conference: W 1:00-3:00pm, F: 10:00 – 12:00noon

Conference Location: <https://hccs.webex.com/meet/karen.fortune/>

Please feel free to contact me concerning any problems that you are experiencing in this course. Your success in my class is very important to me. I am available to hear your concerns and just to discuss course topics.

Instructor's Preferred Method of Communication My preferred method of contact is email. I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

[This is a synchronous Online Class (on line on a schedule). Students will meet with the instructor during class time online (WebEx) for lab, discussion, and testing. Further instructions are available in the Canvas Course Shell]

What is Exciting About This Course?

This course is the lab component to CHEM 1305. It is intended for students majoring in one of the physical sciences or life sciences, engineering, or for students who are pursuing pre-professional programs in medicine, dentistry, pharmacy, veterinary medicine, or other health programs. The course is also beneficial to students who are preparing themselves for higher level science courses in their respective curricula. In this course you will put to practice the concepts and theories studied in CHEM 1305. As such, you must have already taken CHEM 1305 or are also enrolled in CHEM 1305. In this course you will learn the proper technique for using chemical equipment and observe amazing chemical reactions. This course is web-based, so please log on to Canvas to see schedules, prepare for labs and to submit reports.

My Personal Welcome

Welcome to Introduction to Chemistry Lab — I am delighted that you have chosen this course. One of my passions is teaching chemistry I can hardly wait to pass that on. 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 life. As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I am available during posted office hours to tackle any questions you might have. My goal is for you to walk out of the course with a better understanding of yourself and of human behavior. So please visit me or contact me whenever you have a question.

Prerequisites and/or Co-Requisites

CHEM 1105 requires college-level reading and writing skills. In addition, you must be co-enrolled in CHEM 1305 or have already taken CHEM 1305. 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. The minimum requirements for enrollment in CHEM 1105 include placement in college-level reading (or take INRW 0420). If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Eagle Online Canvas Learning Management System

This section of CHEM 1105 will use [Eagle Online Canvas](#) to supplement in-class assignments, exams, and activities. The course schedule, prelabs and other information are accessible via Eagle Online Canvas. Please check this site regularly and pay close attention to deadlines. HCCS Open Lab locations may be used to access the Internet and Eagle Online Canvas. It is recommended that you **USE [FIREFOX](#) OR [CHROME AS YOUR BROWSER](#)**.

Instructional Materials

Textbook, Course Materials and Technology Information

The materials listed below are **required** for this course:

1. Online access to virtual lab: See link in Canvas
2. Additional virtual/online labs in this course will be used; links will be provided on the Assignment page of Canvas
3. A nonprogrammable scientific calculator
4. A lab coat
5. Safety goggles or glasses Z87.1 Grade

Computer Requirements:

You will need to have access to a computer with internet access and a contemporary web browser and needed plug-ins. You are responsible for maintaining your own hardware and software. **Chrome book will not work with Respondus LockDown Browser needed for test taking.** If you are incapable of maintaining your own system, please plan accordingly (perhaps borrowing a computer for test taking).

CANVAS REQUIREMENTS (Online Teaching Platform)

Here are the Canvas requirements and aids from HCC Online technical support website <https://www.hccs.edu/online/technical-support/>:

HCC uses the Canvas learning management system (LMS), which we call Eagle Online. To access Eagle Online, you will need a PC (Windows 7 sp1 or better), or Mac (OS X 10.8 or better) with a broadband connection to the Internet.

Canvas Browser Requirements:

- Canvas recommends the use of the latest version of any web browser. It's important to update your web browser regularly.
- Pop-ups must be enabled. Disable your pop-up blockers.
- Javascript must be enabled
- Cookies must be enabled
- Install the most commonly used internet plugins and keep them updated

Eagle Online (Canvas) Video Introduction:

[Part One of the Canvas Training for Students](#) follows the online training version found in Canvas. Topics covered include overview, settings, announcements, and notifications.

[Part Two of the Canvas Training for Students](#) follows the online training version found in Canvas. Topics covered include modules, discussions, assignments, and grades.

Eagle Online (Canvas) Student Guide:

For information about navigating your online course and using Canvas' tools, see the [Canvas Student Guide](#)

Canvas Guides FAQs:

- [How Do I Compose a Message?](#)
- [How Do I Find My Unread Messages?](#)
- [How Do I Set My Notification Preferences?](#)
- [How Do I Add a Text Contact Method in Canvas?](#)
- [How Do I Submit an Online Assignment?](#)
- [How Do I Upload a File to My Assignment Submission?](#)
- [How Do I Reply to a Discussion Topic?](#)
- [How Do I Take a Quiz or Exam?](#)

Other Instructional Resources

Tutoring

HCC provides free, confidential, and convenient academic support 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](#) website for details.

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>.

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 successfully completed the specified course and have earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

Course Overview

CHEM 1105 is the lab component to a core curriculum course intended to a core curriculum course designed as a preparatory course for science majors who have no prior knowledge of chemistry and/or for non-science and allied health students. It is a prerequisite to Chemistry 1311 and 1111 (General Chemistry I Lecture and Laboratory). It satisfies the Life and Physical Sciences or Component Area of the HCC core.

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 Objectives (CCOs) for all CHEM Core Courses

CHEM 1105 satisfies the chemistry requirement in the HCCS core curriculum. The HCCS Chemistry Discipline Committee has specified that the course address the following core objectives:

1. Demonstrate basic mastery of chemistry by writing formula and equations for chemical reactions, performing chemical calculations and recognizing the application of chemistry in our daily lives
2. Demonstrate a mastery of introductory and intermediate level chemistry to promote success in higher level chemistry and other science programs in four year universities
3. Demonstrate a mastery of General and Organic Chemistry in preparation for allied and professional health programs and engineering
4. Conduct laboratory experiments by making measurements, performing chemical reactions and analyzing the results in a group or individual setting.

Program Student Learning Outcomes (PSLOs) for all CHEM Courses

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

Course Student Learning Outcomes (CSLOs) for CHEM 1105

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

1. Give names and formulas of elements, ions, and ionic and molecular compounds.
2. Categorize, complete, and balance chemical reactions.
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.
4. Do basic chemistry calculations involving reaction stoichiometry.
5. Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.
6. Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.
7. Calculate density and relate the value to mass and volume measurements for all physical states.
8. Measurements and conversions in Metric, SI, and American systems
9. Apply thermochemical principles to evaluate work, heat, and energy relationships based on specific heat and temperature changes.

Learning Objectives for CHEM 1105

Learning Objectives for each CSLO can be found at [Learning Objectives for CHEM 1105](#). Specifically, they are:

- 1.1. Given the name, identify the formula and charge of positive and negative ions, and vice-versa.
- 1.2. Given the name, write the formula of ionic compounds, binary molecular compounds, and acids. Given the formulas of these types of compounds, name them.
- 2.1. Identify given reactions as combination, decomposition, single displacement, and double displacement.
- 2.2. Starting with the reactants, complete the reaction by writing the reaction products.

- 2.3. Given the reactants and products, balance the reaction.
- 3.1. Based on their location in the periodic table, classify elements by type.
- 3.2. State the periodic law and identify the periodic trend of atomic size, metallic character, and ionization energy.
- 3.3. Write electron dot formulas of representative elements; write the electron configuration of atoms and ions.
- 4.1 Convert amounts in units of mass or volume to moles, and vice-versa.
- 4.2. Given the amount of one substance in a reaction, calculate the amount of the other substances that react or form.
- 4.3. Identify the limiting reactant and excess reactant in a reaction where more than one reactant amount is given.
- 5.1. Relate and calculate the pressure, volume, temperature, or amount of gas using Boyle's law, Charles' law, Gay-Lussac's law, Avogadro's law, the combined gas law, and the ideal gas law.
- 5.2. Use Dalton's law to perform calculations involving gas mixtures.
- 5.3. Explain the assumptions of the kinetic-molecular theory of gases.
- 6.1. Draw the Lewis dot structure of molecules containing two to four atoms.
- 6.2. Based on the dot structure of the molecule, determine its geometry and molecular shape based on VSEPR theory.
- 7.1 Given either mass, volume, or density, be able to calculate an unknown variable through use of the density equation.
- 7.2 Appreciate the utility of density as an intensive and physical property as an identification tool.
- 8.1 Convert and assess temperatures in three scales of measurement: Celsius, Fahrenheit, and Kelvin.
- 8.2 Convert measurements of mass, volume, length between established units of official International (SI), Metric, and American systems.
- 9.1 Calculate heat based on mass, specific heat or heat capacity, and temperature change.
- 9.2 Convert between SI and American units of heat.

Student Success

Expect to spend **at least three (3) hours per week** outside of class working on pre and post lab questions. Successful completion of this course requires a combination of reading the textbook, completing assignments, submitting them in Canvas Eagle Online, and participating in class discussions. There is no short cut for success in this course; it requires reading, solving problems and studying the material using the course objectives as your guide.

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 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
- Arrange to meet with individual students before or after class as required

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

- Attend class and participate in class discussions and activities
- Read and comprehend the textbook and lecture notes
- 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
- Take the exams during the designated period
- Attain a raw score of at least 70% in the course
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](#)

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 very 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 and on Student Conduct in the [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 your being reported to the disciplinary board and possibly removed from this classroom.

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.

Academic Integrity

Students are expected to comply with policies stated in the Houston Community College System Student Handbook concerning academic honesty. You are expected to be familiar with

the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements

Disciplinary proceedings and penalties may be initiated by the college system against a student accused of scholastic dishonesty. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. Penalties can include failure in the course, academic probation, or even expulsion from Houston Community College. There is a **Zero tolerance** for any type of academic dishonesty. Please see the following link for further information: [Student Handbook](#)

Exams and Assignments

Written Assignments

There will only be laboratory experiments, reports, discussions and assignments in this class. Students need to submit a lab report for every experiment performed in the lab by the following lab period. Late lab reports and assignments will be penalized and/or will not be accepted. Each experiment will be graded based on:

- (1). Lab Experiment Score (OLI)
- (2). Discussions (see grading rubric in Canvas)
- (3). Quizzes (OLI & Canvas)

Students are expected to comply with all the laboratory rules and safety instructions. **Laboratory coats, safety glasses or goggles and masks must be worn at all times during the laboratory experiment period.** Any student **not** wearing glasses or goggles after the experiment has begun may be given a **zero** for that experiment!

Make-Up Policy

There will be **NO** make-up for any laboratory experiment. Failure to do a laboratory activity during the specified time will result in a zero (0) for the missed laboratory experiment.

Grading Formula

The **overall score** is based on the following:

Labs / Quizzes	50%
Discussions	50%

The **course grade** is then obtained from the overall score:

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

HCC Grading Scale can be found on this site under HCC Grading System:

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Course Calendar

Week	Laboratory
1 09/21	Introduction/Syllabus Lab 1: Orientation and Lab Safety
2 09/28	Lab 2: Lab Techniques/Basic Equipment
3 10/02	Lab 3: Density of Metals Official Day of Record: September 09/30/2020
5 10/09	Lab 4: The Periodic Table
6 10/16	Lab 5: Elements and Compounds
7 10/23	Lab 6: Solutions
8 10/30	Lab 7: Chemical Reactions Last Day to Withdraw: 10/30/2020
9 11/06	Lab 8: Chemical Bonding and Molecular Geometry
10 11/13	Lab 9: Solar Paint & Heat Capacity
11 11/20	Thanksgiving Holiday – No School
12 11/27	Lab 10: Murder Mystery Final Lab Wrap-Up

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.

Other Course Information

[Scoring Rubrics, Sample Assignments, etc.](#)

Look in Eagle Online Canvas for the scoring rubrics for assignment, samples of class assignments, and other information to assist you in the course.

<https://eagleonline.hccs.edu/login/ldap>

[HCC Online Information and Policies](#)

<http://www.hccs.edu/online/>

HCC Policies

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

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

EGLS³

The EGLS³ ([Evaluation for Greater Learning Student Survey System](#)) 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. EGLS³ surveys are only available for the Fall and Spring semesters. EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<https://hccsaweb.hccs.edu:8080/psp/csprd/?cmd=login&languageCd=ENG&>

Campus Carry Link

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

<http://www.hccs.edu/departments/police/campus-carry/>

HCC Email Policy

HCC prefers students to communicate only through the HCCS email system to protect your privacy. If you have not activated your HCCS student email account, you can go [to HCC Eagle ID](#) and activate it now. You may also use Canvas Inbox to communicate.

Basic Needs

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course. Please go to HCC CARES at <https://www.hccs.edu/support-services/counseling/hcc-cares/>

HCC CARES has student resources for: Food and Hunger, Financial Emergencies, Emergency Shelters and Housing, Mental Health Support/Crisis, Healthcare, Paying Bills, Cellphones and Internet, Loss of Job, Childcare, Transportation, Drug and Alcohol, and Recently Incarcerated Resources

Office of Institutional Equity

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

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including 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 <http://www.hccs.edu/support-services/disability-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
<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/>

Department Chair Contact Information

Chemistry Department Chair

If you have questions or concerns about the course, please see your instructor. Should you wish to contact the department chair, below is his information:

Dr. Emmanuel Ewane, emmanuel.ewane@hccs.edu; 713-718-5414