



Division of Natural Sciences and Geology

**Department of Chemistry**

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

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**CHEM 1111: General Chemistry I Laboratory CRN 13341**

Summer II 2019|5 Weeks (7.08.2019 – 8.11.2019)

In-Person| Spring Branch Campus Rm. 522| TuThFr: 3:00 pm –  
6:02 pm

1 credit unit (3-hours)

**Instructor Contact Information**

Instructor: Anuoluwa Adegoke, Ph.D.      Office Hours: By appt.

HCC Email: [anuoluwa.adegoke@hccs.edu](mailto:anuoluwa.adegoke@hccs.edu)      Office Location: Spring Branch Campus

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance 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**

I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings. Your HCC Email address is required as the preferred method of contact, should you contact me, please use your HCC Student Email address.

**What's Exciting about This Course**

General Chemistry 1 Laboratory (CHEM 1111) is a Laboratory course related to the study of atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. CHEM 1111 is a Core Curriculum Course. This course is intended to reinforce the concepts learned in General Chemistry 1 class through scientific investigations in the Chemistry Lab. Students will be able to develop

modern chemistry lab techniques, develop scientific reasoning and intellectual abilities, apply data interpretation and analysis and develop teamwork skills.

### **My Personal Welcome**

Welcome to General Chemistry 1 Laboratory— I'm delighted that you have chosen this course. One of my passions in this laboratory course is when students develop a perspective of chemistry as a scientific process of discovery. 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'm available during posted office hours to tackle any questions you might have. My goal is for you to walk out of this course with a better understanding of how you can use chemistry concepts and chemical principles in real-life. So please visit me or contact me whenever you have a question.

### **Prerequisites and/or Co-Requisites**

This course requires college-level reading and writing skills. 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. For this course, additional prerequisites are completion of one year of high school chemistry or CHEM 1305 (Introduction to Chemistry) and MATH 1314 (College Algebra). Other minimum requirements for enrollment in CHEM 1311 include placement in college-level reading (or take INRW 0420). It is also highly recommended to take the corresponding lecture, CHEM 1311 with CHEM 1111. 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 Student Handbook.

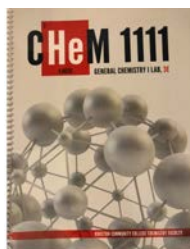
Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

## Instructional Materials

### Textbook Information

The materials listed below are *required* for this course

#### 1. Lab Manual



Available at [HCC Bookstore](#)

*CHEM 1111 General Chemistry I* 3<sup>rd</sup> Edition. by HCC Chemistry Faculty; Blue Door Publishing (2018) ISBN-13: 978-1-68135-811-6

2. A Nonprogrammable basic model scientific calculator: TI -30X. No smart watches or phone calculator allowed.



#### 3. Lab Coat

### 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 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/>.

## **Course Overview**

CHEM 1111 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.

Science and engineering majors study atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. The laboratory includes appropriate experiments.

## **Core Curriculum Learning Outcomes (CCLOs)**

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

- Reading/ Writing
- Speaking/Listening
- Critical Thinking
- Computer/Information Literacy

## **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 1111**

SLO1. Learn Proper Safety Practice and Measures in the chemistry laboratory.  
SLO2. Practice Basic Lab Techniques of Measurement and Conversion  
SLO3: Perform separation of mixtures using proper technique  
SLO4: Identify physical properties  
SLO5: Observe various chemical reactions and write supporting chemical equations  
SLO6: Calculate empirical and molecular formulas and reaction yield  
SLO 7: Apply thermochemical principles to evaluate energy relationships based on specific heat, calorimetry, and temperature changes.  
SLO 8. Relate the properties of gases with the gas laws and extend the application of these relationships to reaction stoichiometry, gas mixtures, and effusion/diffusion of gases.  
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SLO 7: Apply thermochemical principles to evaluate energy relationships based on specific heat, calorimetry, and temperature changes.  
SLO 8. Relate the properties of gases with the gas laws and extend the application of these relationships to reaction stoichiometry, gas mixtures, and effusion/diffusion of gases.  
SLO 9. Depict chemical bonding with dot structures and valence bond theory and determine the molecular shapes (geometry) of molecules based on VSEPR and valence bond theory.

Learning Objectives for each CSLO can be found at [Learning Objectives for CHEM 1111](#).

### **Student Success**

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 and lab manual
- Attending every lab meeting
- Completing all assigned laboratory assignments
- Participating in 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.

### **Methods of Instruction:**

Hands on Experiment with Chemicals and Instruments.

## 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 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](#)

## Academic Integrity

Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Disciplinary proceedings may be initiated by the college system against a student accused of scholastic dishonesty. Penalties may include a grade of "F" on the particular assignment, failure in the course, academic probation, or even dismissal from the college. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. In this class, the penalty for willful cheating on exams is a grade of F in the course. This is the standard policy of the Sciences Department.

## Student Work

All assignments and tests submitted to your instructor shall be performed solely by you. You will not submit work that is plagiarized or that otherwise violates copyright laws of the United States of America. If you have been found guilty of academic misconduct by your college of enrollment disciplinary action may result in banning you from the course and/or future enrollment at Houston Community College. Actions contrary to academic integrity will NOT be tolerated. Activities that have the effect or intention of interfering with learning or fair evaluation of a student's work or performance are considered a breach of academic integrity.

Examples of such unacceptable activities include, but are not limited to:

- Cheating - intentionally using or attempting to use unauthorized material, assistance or study aids in any academic work.
- Plagiarism - representing another's ideas, words, expressions or data in writing or presentation without giving proper credit, failing to cite a reference or failing to use proper documentation, using works of another gained over the Internet and submitted as one's own work.
- Falsification and/or Misrepresentation of Data - submitting contrived or made-up information in any academic exercise.
- Facilitating Academic Dishonesty - knowingly helping or attempting to help another violate any provision of the academic integrity policy.
- Multiple Submission - submitting, without prior approval from the instructor, any work submitted to fulfill academic requirements in another class.
- Unfair Advantage - trying to gain unauthorized advantage over fellow students.

## Laboratory Policy

On the first day of lab a safety video will be shown (about 35 min long). Lab safety will also be reviewed before the first lab is performed. Lab safety quiz will also be given before the first lab. Each student will then sign a statement affirming his or her commitment to following safe procedures in the laboratory, and turn in the form to the instructor. Be especially aware of the need for adequate eye protection and proper

clothing in the laboratory. Other requirements are as follows:

- Attendance to all labs is expected
  - Every student should arrive in the lab on time and prepared: Students that are tardy without a valid excuse will lose some participation points for the day
  - Students are required to read through the experiment and complete the pre-lab assignment in order to be able to participate and be prepared for each experiment
  - Pre-labs for each lab session are due as soon as the student enters the laboratory room. No late work will be accepted. NO EXCEPTIONS
  - Lab report form must be completed INDIVIDUALLY even though students work in groups; any evidence of plagiarized work from another student will result in a grade of zero
  - If a student does not complete the prelab assignment, the student will receive a 20 pts deduction from the laboratory grade
  - In every lab section, there will be point deduction for tardiness, early departure without finishing the lab or instructor's approval, safety violations, and not following directions and cleaning up the lab benches and hoods.
- \*Lab rules:**
- Safety goggles must be worn at all times during the laboratory period
  - No food or drinks allowed in the lab
  - Open-toed shoes and/or shorts should not be worn in the lab
- \*Admission to the lab may be denied for violations of any of these rules**

### Student Success in CHEM1111 and Laboratory Reports

CHEM 1111 will introduce students to the methods, apparatus, software and instruments used in chemistry laboratory, and train students safety and properly handling chemicals throughout the semester via various experiments.

**Students are required to read in advance the entire experiment and complete PRE-LABORATORY. Upon entering the laboratory, turn in your PRE-LABORATORY (torn off from your lab manual). The Report Form (where experimental results are recorded) is due the same day of the lab or at the beginning of the next lab meeting at the discretion of the instructor, report form should be completed INDIVIDUALLY not as a group, the POST-LABORATORY are due upon entering the laboratory at the next lab meeting prior to performing the next experiment.**

**NO LATE Pre-lab, Report form and Post-lab will be accepted. No extensions will be granted.**

**Each lab report must be done individually even though students work in groups. All labs are worth 100 points. Laboratory exercises MUST be performed to receive full points for the laboratory report.**



Report Form (where experimental results recorded) is graded based on neatness, proper significant digits in measurements, reasonableness, or accuracy. General principles, problems, fundamental laws, and theories are discussed in Introduction/Theory section of each experiment. Course content provides a foundation for work in advanced chemistry and related sciences.

CHEM 1111 requires conceptual understanding and application, the experiments in this course are designed to reinforce the concepts learned in CHEM 1311. If you do not have pre-requisite CHEM1311 or take CHEM1311 as co-requisite, you are taking this class at your own risk or subject to mandatory withdrawal.

Mastering chemistry depends heavily on a person's reading and math skills and of course the person's determination/dedication and time spent in effective study. Plan to brush up your math skill if you feel rusty and dedicate about 6 hours a week for this course. Use time management tool/skill to help your study.

### Make-up Policy

Make-up labs will not normally be given; any labs missed will be assigned a grade of zero in the gradebook on CANVAS – NO EXCEPTIONS, so make every effort to make all the scheduled lab meetings.

### Grading

The lab reports, including the pre- and post- lab questions, are graded on the basis of completeness, neatness, consistent decimal digits in measurements, reasonableness or accuracy and the correctness of the calculations tied to the experimental results.

***Assigned lab reports including report form, Pre and Post Laboratory = 100% of total course grade.***

The following grade distribution scale will determine your course grade:

90 - 100 %	A
80 - 89 %	B
70 - 79 %	C
60 - 69 %	D
59 % AND BELOW	F

FINAL GRADE OF FX: Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline will be assigned the final grade of "FX" at the end of the semester, compared to an earned grade of "F" which is due to poor performance.

Students who receive financial aid but fail to attend class will be reported to the

Department of Education and may have to pay back their aid. A grade of "FX" is treated exactly the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress.

*HCC Grading Scale can be found on this site under Academic Information:*  
<http://www.hccs.edu/resources-for/current-students/student-handbook/>

### **Interaction and Participation Policy**

You will respect the classroom environment. You will not intentionally obstruct, disrupt or interfere with the teaching and learning that occurs in the classroom. You will not engage in any activity that demeans any student, instructor, or administrator. Such activities include, but are not limited to, oral and written communication that is ethnically derogatory, sexist, or racist in nature; unwanted sexual advances or intimidation; profane communication in any manner.

### **Use of Camera and/or Recording Devices**

All phones, cameras, IPADS, IPODS and other electronic devices are considered a major distraction and should be turned off when you enter the laboratory. No electronic devices can be used in the laboratory/teaching environment unless you have received permission from the instructor. Video recording, audio recording and/or taking pictures of any part of the lab are PROHIBITED. If students choose to use laptops or tablets (or other electronic device with wifi, cellular or communication capabilities) they should be for classroom-related purposes upon obtaining permission. Students with learning disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for Information regarding reasonable disabilities.

#### Other requirements for the laboratory sessions

You should be especially aware of the need for adequate eye protection in the laboratory. Protective glasses or goggles must be worn at all times during the laboratory period. Any student not wearing protective glasses or goggles after the experiment has begun may be given a zero for that experiment and excused for the laboratory meeting!

There are safety goggles in the lab to use during laboratory sessions, or you may choose to purchase your own personal safety goggle.



It is also recommended that students wear old clothing to lab, and have a second set of clothes readily available, should exposure to chemicals occur and a change of clothing is necessary. Alternatively, a lab jacket may be purchased.

### Email Procedures

I check my email frequently and strive for a less than 24-hour response time to your messages, but please exercise patience. In order to manage the great many emails I receive from students, I am asking that you include the following information in each email:

1. Identify the course number and course title.
2. Identify yourself stating your full name as you registered for this course.
3. Identify the assignment and date due or the subject of your message/question.

## COURSE CALENDAR

<b>DATES</b>	<b>ASSIGNED LABORATORY</b>
7/9	Lab 1: Introduction, Syllabus Review, Safety Orientation, Safety Video, Safety quiz
7/11	Lab 2: Measuring Techniques and Calculations
7/12	Lab 3: Separation of Components of a Mixture
7/16	Lab 4: Formula of Hydrate and Percentage of Water of Hydration
7/18	Lab 5: Iron Copper Molar Ratio, Limiting Reagent
7/19	Lab 6: Double Displacement Rxns: Reactions of Aqueous Solutions
7/23	Lab 7: Single Displacement Rxns: Reactions of Metals, Activity Series
7/25	Lab 8: Ideal Gas Law: Determination of Molecular Mass of Volatile
7/26	Lab 9: Heat of Acid-Base Neutralization
7/30	Lab 10: VSEPR Theory of Molecular Geometry
8/1	Pre-Lab Lectures
8/6	Final Exam Week (No Lab)

### Syllabus Modifications:

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

### Important Dates:

Official Date of Record: 7/11/2019

Last Day to Withdraw: 7/29/2019

## Other Course Information

### Chemistry 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/>

### 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

### *EGLS<sup>3</sup>*

The EGLS<sup>3</sup> ([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. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. EGLS<sup>3</sup> surveys are not offered during the Summer semester due to logistical constraints.

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

### *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*

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 and activate it now](#). You may also use Canvas Inbox to communicate.

### *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.

## **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](mailto: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](mailto:emmanuel.ewane@hccs.edu); 713-718-5414**