



Division of Natural Sciences and Geology

Department of Chemistry

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

CHEM 1311: General Chemistry I | Lecture | #13367

Summer II 2019 | 5 Weeks (7.8.2019-8.11.2019)

In-Person | Northwest College Katy Campus Rm 360B | MoWeFr 11:30AM –
2:32PM

3- units (3 hrs lecture) | 48 hours per semester

Instructor Contact Information

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

HCC Email: 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

You will learn so much about how we can use chemical principles to have a clear understanding of a host of phenomena that occurs around us everyday; the changes that produce brilliant colors of tree leaves, the cascade of bubbles you notice when you mix vinegar and baking soda, how energy is produced, the impact of energy on our everyday activities, why lasers produce light with very

specific colors, the role of salt in our bodies, causes, sources and remediation of environmental pollution, all these and many more will be explored in detail in this course.

My Personal Welcome

Welcome to General Chemistry—I'm delighted that you have chosen this course. One of my passions is how the relationship between molecular structures and predicted properties largely influence design of new chemicals, and I can't wait to pass it 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. My goal is for you to walk out of the course with a better understanding of how you can use chemistry concepts and chemical principles in real-life. Please contact me whenever you have questions.

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 lab, CHEM 1111 with CHEM 1311. 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.

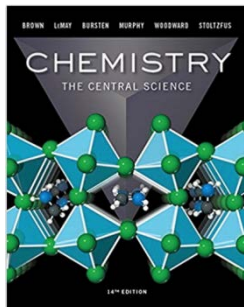
Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Eagle Online Canvas Learning Management System

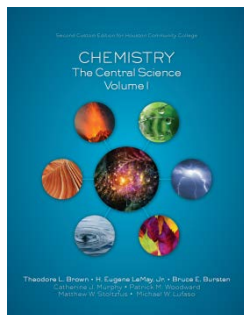
This course will use the learning web (learning.hccs.edu) and the ([Eagle Online Canvas](#) (<https://eagleonline.hccs.edu>)) to supplement in-class assignments, lecture notes, exams, and activities. The usage of Mastering Chemistry is optional. Mastering Chemistry requires you to purchase the access code in addition to the textbook expense and thus is not mandatory.

Instructional Materials

Textbook and Course Materials Information



OR



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

1. Brown, LeMay Jr, Bersten, Murphy, Woodward, Stoltzfus. (2015). *Chemistry : The Central Science*, 14thed., Pearson, MN.

Either hardcover that contains BOTH volumes I and II (for General Chemistry I and II) ISBN: 978-0-13-441423-2

OR

Softcover Volume I for CHEM 1311 only
ISBN: 978-1-323-85000-8

The texts are included in a package that contains the text as well as an access code and are found at the [HCC Bookstore](#). You may either use a hard copy of the book, or rent the e-book from Pearson.

<http://www.mypearsonstore.com/bookstore/chemistry-the-central-science-0134414233>

(Note: Pearson's Mastering Chemistry with access code is **optional** for this course).

2. A Nonprogrammable scientific calculator (no graphing calculators permitted in testing)

3. Scantron (Form 882-E available at HCC Bookstores)

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. You can watch tutoring videos for this course on this library website: <https://library.hccs.edu/tutoring/chem>

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 for CHEM 1311

This course 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 Objectives (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 1311

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

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

SLO 3. Do chemistry calculations involving reaction stoichiometry and energy changes.

SLO 4. Relate the properties of electromagnetic radiation (frequency, wavelength, and energy) to each other and to the energy changes atoms undergo which accompany electronic transitions.

SLO 5. Identify the parts of the periodic table and the trends in periodic properties of atoms.

SLO 6. 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 7. 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.

LO 8: Calculate density and relate the value to mass and volume measurements for all physical states.

SLO 9: Covert measurements in Metric, SI, and American systems

SLO 10: Apply thermochemical principles to evaluate work, heat, and energy relationships based on specific heat, calorimetry, and temperature changes.

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

[1311.](#)

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
- Attending class in person
- Completing all assigned assignments
- Participating in class 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.

Student Success in CHEM 1311

Chemistry 1311 is a course that is largely based on math, which requires conceptual understanding and application, and is not a subject that can be learned passively. Chemistry is full of word problems and therefore mastering chemistry depends heavily on the student's reading and math skills, persistence and strong determination.

Chemistry is best learned through constantly working problems. Listening to lecture attentively is essential for mastery of the course. Be punctual to class and come prepared. Follow the course outline, work on the homework practice problems, and study the chapters/assignments before coming to class is the key for success.

It is easy to fall behind in a course like CHEM 1311. Students easily fall behind if they miss classes and do not keep up with daily study. The concepts build on each other, in other words, your mastery of the concepts and word problems from the first chapter is very crucial for the understanding of subsequent chapters. The adverse impacts on student performance includes but not limited to frequent tardiness, early departure, absence and taking more than full-time student load (12 credit hours) while working full-time/overtime. This course is more rigorous than high school chemistry and Introductory Chemistry and thus requires students putting more effort than what they did in their previous study.

Usually it requires 20 or more hours a week to study and practice. Scores from exams speak for student preparation for the class and how thorough the student has study for the tests. Remember that reading solutions is solely different from solving problems and doing homework and practice exams yourself.

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 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
- 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
- Attain a raw score of at least 70% on the departmental final exam
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](#)

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.

Academic Integrity

You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. 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. Please see the following link for further information: [Student Handbook](#)

Attendance Policy

Attendance to all classes is expected. Studies have shown that consistently missing class and/or being tardy to class has an adverse effect on student performance and success. Your success in this class is based on a **cumulative** understanding of the material. Should you miss a class, you are compromising your ability to understand future material. You are thereby hindering your ability to succeed in this class. I will take attendance every day. Should you anticipate an absence, please notify the instructor in advance by email with your excuse. Bear in mind any excessive number of absences will prohibit the successful completion of this course. If you should miss a class, it is the student's

responsibility to obtain lecture notes and assignments from students that attended.

If you are contemplating withdrawing from the class, it is advisable to discuss with your instructor. The instructor may be able to provide you with suggestions and learning strategies that may help you to improve your academic performance. However, if you decide to withdraw from the class, you need to follow HCC withdrawal guidelines to complete the appropriate paperwork before the deadline to receive a "W" on your transcript.

Students who no longer appear on the class roster because they have been dropped (for lack of attendance, non-payment, financial aid issues, etc.) are not permitted to sit in class, take exams, or be assigned a grade per College policy.

Semester Exams and Assignments

Exams and Make-up Policy

Exams in this course will consist of multiple-choice type questions as well as written answers. You are expected to bring your own scantrons and calculator on the exam or test date specified in this syllabus. Scantrons are sold in campus bookstores. (Scantron form number 882-E is required).

There will be three regular tests plus a final exam. Each exam consists of multiple choice questions and word problems. Word problems emphasize critical thinking skills. Scantrons are used for multiple choice questions; Use pencils only for scantrons. For the word problems, you need to show all your work, to receive full credit. You will receive zero (0) credit if you only give a final answers without showing the intermediate steps. Make-up exams will **NOT** be given for any reason, so make every effort to take the exams on their scheduled dates. In the event that you must miss a regular exam, I will count the grade made on the final exam as the grade for the missed exam (for one missed exam only) and calculate the final course grade accordingly. The final exam score can also replace the lowest score exam (for one exam only) if the final exam score is higher. The final exam is a Houston Community College System Exam and will cover **ALL** the material covered in the whole semester. Please see the make-up policy for the final exam in the final exam section below. All students are required to take the final (no student can be exempted). A student who completes the course by taking the final must receive a regular grade (A-F) in the course. The final exam score counts 25% of your overall grade. All exams are "closed book".

You are NOT allowed to leave the class during exams unless medically necessary. Students with disabilities should contact the Office for Student with Disabilities for information regarding reasonable accommodations for testing.

All smart watches must be removed and stored with phones in backpacks before an exam or test. The HCC Academic Honesty/Integrity policy will be strictly followed (please see HCC Academic Integrity/Honesty policy in the student handbook). There will be ZERO TOLERANCE for any academic actions contrary to academic integrity during examinations, tests, or quizzes. Scholastic dishonesty in-

cludes, 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. Penalty could also include referral to the college Dean of Student Services or disciplinary action up to and including expulsion.

Student Work

With the exception of group/collaborative projects explicitly assigned as such by your instructor, 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.

Policy on Answering Questions

You are expected to write your answers neatly and legibly. You will receive no credit if the instructor cannot read your answers, no partial credit is given for answers instructor cannot read. You are always welcome to type your home-assignment using word or other programs. All written solutions must be provided with a clear sentence structure (subject, verb, and object).

Mathematical answers must be coherent and you need to show as many steps in your work as you can. The final answer to a problem must be highlighted or boxed and numerical answers must have the correct units. Failure to do so, even if it is correct, will result in a loss of credit.

In-Class Activities

You should expect classroom assignments and participation in activities during class sessions.

CHEM 1311 Departmental Final Exam

All students will be required to take a comprehensive departmental final exam consisting of 35 multiple-choice and 6 short answer questions. Students must provide their own Scantron forms (FORM NUMBER 882-E). All the information students need to prepare for the exam will be given in the review given in class.

Students who are absent from the final exam without discussing their absence with the instructor in advance or within 24 hours afterward will

receive a final exam grade of zero. Students with valid excuses who does not take a makeup final exam by the end of the following long semester will receive a final exam grade of zero and a course grade of F.

Use of Camera and/or Recording Devices

All phones and other electronic devices will be turned off when you enter the lecture class and labs. No electronic devices can be used in the teaching environment unless you have received permission from the instructor to use the device for course related work. Recording or taking pictures of the any part of the lecture is PROHIBITED. 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.

Evaluation

Your semester grade will be based on a combination of exams and tests. Exam and tests will require you to show calculations in order to receive full credit for answers. All work done should be completed on the test or exam. **NO work on scratch paper will be accepted!** There will be a final exam on the date indicated. All dates are to be considered approximate and not to be assumed exact.

Your final grade is based on a total point system of 100 and will be calculated based on the following:

$$\begin{array}{rcl} 75\% \text{-Test Average} & = & 75 \text{ points} \\ 25\% \text{- Comprehensive Final Exam} & = & 25 \text{ points} \\ \text{Total} & - & = 100 \text{ points} \end{array}$$

Grading Formula

Grade	Total Points
A	90-100
B	80-89
C	70-79
D	60-69
F	<59
FX	Student stop coming to class

FINAL GRADE OF FX: Students who stop attending classes and do not withdraw themselves prior to the withdrawal deadline will receive a grade of "FX", 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 HCC Grading System:
<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Homework

Homework is not a graded component of this course. Suggested homework problems from the back of each chapter are below (most answers are located in back of textbook). These are for your benefit and for preparation for the chapter exams. Participating in homework completion will help reinforce the material and better enable you master the content. As an additional incentive, on exam days, you may submit your completed homework for each set of chapters covered on an exam for bonus points.

This is done at the beginning of class. Homework may be hand written or typed, but must be the student's original work, with all problems worked out (no answers only), and legible to get credit. Loose papers must be stapled together and numbered correctly for example: (page 1 of 5, 2 of 5 ...).

	EXAM 1
Chapter 1	13, 15, 21, 25, 27, 37(a,b,d), 47, 51, 55
Chapter 2	4, 6, 15, 23, 25, 29, 35, 39, 41, 49, 51, 55, 59, 61, 63, 65, 73, 75, 77
Chapter 3	11, 13 a & b, 21, 23, 25, 35, 47 a & b, 53b, 61
	EXAM 2
Chapter 4	21, 31, 37, 39, 51 a, b, c, 73, 81
Chapter 5	25, 31, 37, 43, 57, 65, 73, 83
Chapter 10	26, 33, 34, 51, 55, 64
	EXAM 3
Chapter 6	19, 25, 37a, 39, 45, 57
Chapter 7	25, 27, 43 (a-c), 55, 67, 69
Chapter 8	4, 7, 13, 17, 19, 41, 47, 55
Chapter	23, 25 (a-d), 30, 37, 41, 51

9	
Chapter 11	2, 6

Course Calendar

Week #	Lecture Topics/Reading Assignment
Week 1 7/8 7/10 7/12	Syllabus / Introduction Chapter 1: Matter & Measurement Chapter 2: Atoms, Molecules & Ions Chapter 3: Chemical Reactions and Reactions Stoichiometry
Week 2 7/15 7/17 7/19	Chapter 3: Chemical Reactions and Reactions Stoichiometry Test 1 (Chapters 1-3) <i>Homework (Chaps 1-3) due</i> Chapter 4: Reactions in Aqueous solution Chapter 5: Thermochemistry Chapter 10: Gases
Week 3 7/22 7/24 7/26	Test 2 (Chapters 4, 5, 10) <i>Homework (Chaps 4, 5 & 10) due</i> Chapter 6: Electronic Structure of Atoms Chapter 7: Periodic Properties of the Elements
Week 4 7/29 7/31 8/2	Chapter 8: Basic concepts of Chemical Bonding Chapter 9: Molecular Geometry and Bonding Theories Test 3 (6,7,8 & 9) <i>Homework (Chaps 6, 7, 8, & 9 due)</i>
Week 5 8/5 8/7 8/9	Chapter 11: Liquids and Intermolecular Forces <i>8/7- Final Exam Review</i> 8/9 - Final Exam (Chemistry Department Comprehensive Final Exam: Chaps 1-11) (8/9)

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.

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

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.

<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

<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