



## **Division of Natural Sciences and Geology**

### **Department of Chemistry**

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

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## **CHEM 1305: Introductory Chemistry I | Lecture | #20817**

Spring 2019 | 16 Weeks (1.14.2019-5.12.2019)

in-Person | Missouri City Campus Rm 205 | Mo, We 2 p.m.- 3:20 p.m.

3-hour lecture course | 48 hours per semester

### **Instructor Contact Information**

Instructor: Emad Akeer, Ph.D.

Cell Phone: 740-274-3350

HCC Email: [emad.akeer@hccs.edu](mailto:emad.akeer@hccs.edu)

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.

### **My Personal Welcome**

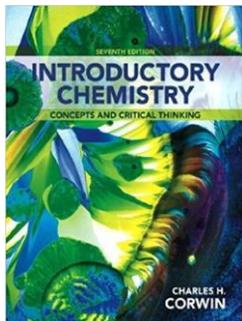
Welcome to Introduction to Chemistry—I'm delighted that you have chosen this course. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life. As you read and wrestle with new ideas and facts that may challenge 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'm 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**

MATH 1312 or MATH 1314 Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. These are stated in the course description in the HCC catalog (quoted just above) and they are stressed again here for emphasis. Lack of satisfactory completion of the course prerequisites are one of the main reasons that cause students to do poorly in chemistry. Basic math and problem-solving skills at the level of college algebra are essential. If you are not sure if your prior coursework meets these prerequisites, come and talk to me or to the department chair for advice. With the prerequisites satisfactorily completed (preferably with a grade of B or better), you can be confident that you are well-prepared for this course. 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- Introductory Chemistry - Concepts and Critical Thinking/Edition 7 Author: Charles H. Corwin Publisher: Pearson Education Company

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. Order your book here: [HCC Bookstore](#)

- 2- 4 Scantron 886E Mini Exam Booklets (for test dates)

- 3- A Nonprogrammable scientific calculator



### Temporary Free Access to E-Book

Follow these steps to get temporary free access to a digital version of the text for fourteen days:

- Logon to [Canvas](#)
- Click "MyLab and Mastering"
- Click "Open MyLab & Mastering"
- Accept License Agreement
- Enter Pearson log-in credentials or create a new account
- Click "Get temporary access without payment for 14 days" near the bottom of the page
- Follow on-screen instructions from here.

### Other Instructional Resources

All course material will be available on the HCCS learning Web.

<https://learning.hccs.edu/faculty/emad.akeer/chem1305>

[MyLab & Mastering](#)

This course is also supplemented by Pearson online software.

You will find the instructions on the HCCS learning web.

### 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/>.

## **Core Curriculum Objectives (CCOs) for all CHEM Core Courses**

CHEM 1305 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 1305**

Upon completion of CHEM 1305, 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. Do chemistry calculations involving reaction stoichiometry and energy changes.

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.
5. Identify the parts of the periodic table and the trends in periodic properties of atoms.
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.
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.
- 8: Calculate density and relate the value to mass and volume measurements for all physical states.
- 9: Measurements and conversions in Metric, SI, and American systems
- 10: Apply thermochemical principles to evaluate work, heat, and energy relationships based on specific heat, calorimetry, and temperature changes.

## **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 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](#)

### **Academic Integrity**

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. 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](#)

## Exams and Assignments

### Exams

There will be total of 4 exams (3 inter-session exams and 1 final exam). Inter-Session exams consisting of 15 multiple-choice and 3 short answer questions. Students must provide their own Scantron forms (FORM NUMBER 886-E).

Assignment quiz is assigned at the end of each two chapters.

### Written Assignment

I will periodically give out practice problems and these are graded. These practice problems, and especially the end of chapter problems, are highly beneficial, indeed essential, to learning chemistry. I recommend that you work as many of the odd numbered end of chapter problems (which have the answers in the back of your textbook) as you can, up to the "Additional Exercises" section. Get a spiral leaf notebook just for working chemistry problems in - that will keep your work more organized and better prepared when reviewing the material.

### CHEM 1305 Final Exam

All students will be required to take a comprehensive final exam consisting of 35 multiple-choice and 6 short answer questions. Students must provide their own Scantron forms (FORM NUMBER 886-E). All the information students need to prepare for the exam is in the review given in class or the [Final Exam Handbook](#).

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. Any student who does not take a makeup exam by the end of the following long semester will receive a final exam grade of zero and a course grade of F.

### Policy Regarding Making Up Missed Assignments

- Make-up Exam Policy: No make-ups are allowed for any missed exams. If you have an unavoidable absence at one intersession exam, it will be replaced with the final exam grade after you submit a valid excuse note.
- If you have not missed any exams, your lowest intersession exam will be replaced by final exam grade if higher.

### Grading Formula

Exams 1, 2 & 3	45%
Quizzes	15%
Homework	15%
Departmental Final Exam	20%
Extra Credit	5%

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

## Course Calendar

Week #	Lecture
<b>Week 1</b> Jan 14 & 16	Syllabus / Introduction Chapter 1: Introduction to Chemistry – Prerequisite Science Skills
<b>Week 2</b> Jan 21 & 23	Chapter 2: The Metric System (Quiz 1)
<b>Week 3</b> Jan 28 & 30	Chapter 3: Matter and Energy
<b>Week 4</b> Feb 4 & 6	Review Exam 1 (covers Ch 1,2,3)
<b>Week 5</b> Feb 11 & 13	Chapter 4: Models of the Atom (Quiz 2)
<b>Week 6</b> Feb 18 & 20	Chapter 5: The Periodic Table
<b>Week 7</b> Feb 25 & 27	Chapter 6: Language of Chemistry (Quiz 3)
<b>Week 8</b> Mar 4 & 6	Review Exam 2 (covers Ch 4,5,6)
Mar 11 - 17	Spring Break
<b>Week 9</b> Mar 18 & 20	Chapter 7: Chemical Reactions
<b>Week 10</b> Mar 25 & 27	Chapter 8: The Mole Concept (Quiz 4)
April 1	<b>Last Day to Withdraw</b>
<b>Week 11</b> Apr 1 & 3	Chapter 9: Chemical Equation Calculations
<b>Week 12</b> Apr 8 & 10	Review Exam 3 (covers Ch 7,8,9)
<b>Week 13</b> Apr 15 & 17	Chapter 10: Gases (Quiz 5)
<b>Week 14</b> Apr 22 & 24	Chapter 11: Liquids and Solids
<b>Week 15</b> Apr 29 & May 1	Chapter 12: Chemical Bonding (Quiz 6) Review for Final Exam
<b>Week 16</b>	<b>Final Exam</b>

### 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.

### 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. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

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

### 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.

## HCC Policy Statements

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

## Basic Needs

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. Additional information may be found at: <http://www.hccs.edu/applying-and-paying/financial-aid/financial-coach/>

## 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/>

### Chemistry Department Chair

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