

# Brazosport College

## Syllabus for CHEM 1305 - Introductory Chemistry

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### I. COURSE DESCRIPTION

**CHEM 1305 - Introductory Chemistry. CIP 4005015103**

A study of basic organic and inorganic chemistry with special emphasis placed on practical applications of chemistry. Designed for students with no previous background in chemistry.

**Credit Hours:** 3 (3 lecture, 0 lab)

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Dr. Judy Chu

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Dr. Kirby Lowery

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Gary Hicks

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Jeff Detrick

April 2018

**A. Prerequisite:** N/A

**Required skill level:** College-level reading and writing. Intermediate algebra level math (placement code 3).

**II. COURSE OBJECTIVES**

This course is designed to help the student:

**A. Unit 1**

- a. Learn the basic terms used to describe matter and energy.
- b. Understand the relationship of the masses of elements and compounds to the unit of measure, the mole.
- c. Understand the relationship of atomic structure to chemical properties.
- d. Predict the properties of element based on its position in the periodic table.

**B. Unit 2**

- a. Determine the names and formula of chemical compounds.
- b. Develop a good understanding for the relationship between percent by mass and the mole. Be able to convert from moles to grams and grams to moles.

**C. Unit 3**

- a. Write and balance chemical equations.
- b. Use the concept of stoichiometry to determine quantities of reactants needed and products formed in a chemical reaction.
- c. Identify the element oxidized, the element reduced and the oxidizing and reducing agents in a redox reaction.

**D. Unit 4**

- a. Obtain a basic understanding of the ideal gas law, i.e. the effect of pressure and temperature on volume.
- b. Understand the relationship between mass percent and molarity and how to convert from one to another. Also understand the dilution formula and how to use it.

**E. Unit 5**

- a. Distinguish between organic and inorganic compounds. Draw structural formulas and name the alkanes, alkenes and alkynes. Distinguish between saturated, unsaturated, and cyclic hydrocarbons.
- b. Discuss the general formula, names, structure and uses of alcohols, ethers, aldehydes, ketones, carboxylic acids and esters.
- c. Become familiar with monomers and polymers. Be exposed to polymer manufacturing and polymer evaluation technology.

**III. STUDENT LEARNING OUTCOMES**

At the completion of CHEM 1305 the student will be able to:

1. Use the periodic table to determine the chemical symbols of the elements, their electronic configurations, and to predict chemical formula.
2. Balance chemical equations.
3. Perform molar and mass quantity calculations given balanced chemical equations.
4. Use basic laboratory skills to carry out procedures in a laboratory, as indicated by the student's laboratory grade.

#### IV. TEXTBOOK OR COURSE MATERIAL INFORMATION

##### A. Textbook

1. Introductory Chemistry access card pkg. W/E Text, TRO, 6<sup>th</sup> Ed. Pearson Publisher 2018.  
ISBN: 978-0-134557311
2. Scientific Calculator T130XA.

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://brazosport.edu/bookstore/home.html>. Students are not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

**For Distance Education Courses include the following:** Contact the Brazosport College Bookstore with a credit card for course materials. Phone: 979.230.3651. Fax: 979.230.3653. Email: [bookstore@brazosport.edu](mailto:bookstore@brazosport.edu). Website: <http://brazosport.edu/bookstore/home.html>

##### B. Course Outline

**This is a sample outline which may vary with individual instructors. It will also vary based on whether the course is a summer course or a fall/spring course. Students should contact their instructor for the outline of the course they are taking.**

WEEK	LECTURE
1	Chapter 1 – The Chemical World Chapter 2 – Measurement and Problem Solving
2	Chapter 2 – Measurement and Problem Solving Chapter 3 – Matter and Energy
3	<b>Exam 1</b> Chapter 4 – Atoms and Elements
4	Chapter 9 – Electrons in Atoms and the Periodic Table Chapter 10 – Chemical Bonding
5	Chapter 10 – Chemical Bonding Review for Exam 2
6	<b>Exam 2</b> Chapters 5 – Molecules and Compounds
7	Chapters 5 – Molecules and Compounds Chapter 7 – Chemical Reactions
8	Chapter 7 – Chemical Reactions
9	<b>Exam 3</b> Chapter 6 – Chemical Composition
10	Chapter 6 – Chemical Composition Chapter 8 – Quantities in Chemical Reaction
11	Chapter 8 – Quantities in Chemical Reaction Chapters 13 – Solutions
12	<b>Test 4</b> Chapter 14 – Acids and Bases
13	<b>Thanksgiving Holiday (Thursday)</b>

WEEK	LECTURE
14	Chapter 14 – Acids and Bases Chapter 18 – Organic Chemistry
15	Chapter 11 – Gases Review for the Final Exam
16	<b>Final Exam</b>

### **Important Semester Dates:**

Last Day to Withdraw from Classes– Check BC Academic Calendar at  
<http://catalog.brazosport.edu/index.php>

### **V. STUDENTS WITH DISABILITIES**

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979-230-3236, for further information.

### **VI. ACADEMIC HONESTY**

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at  
<http://brazosport.edu/students/for-students/student-services/>

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.

It is your responsibility to know and understand the student code of conduct with regard to scholastic honesty, as well as the consequences for a breach of conduct. If you cheat on an exam, you will receive an "F" for the class.

### **VII. ATTENDANCE AND WITHDRAWAL POLICIES**

Class attendance contributes to your final grade, but you must attend class to successfully complete the course. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar's office. If the student decides to drop out of the class it is the responsibility of the student to initiate a withdrawal before the withdrawal deadline in order to get a "W" on their transcript. If this is not done the student will receive a grade based on test grades and class grades earned during their attendance and absence (i.e. zeros on all missed materials, exams, skills tests, and final exam). If you stop participating on-line and do not withdraw, you will receive a performance grade, usually an "F".

## VIII. COURSE REQUIREMENTS AND GRADING POLICY

For this class you must complete the following:

**Exams:** There will be a total of five exams. Each exam will last approximately one hour during class. The exact date of each Exam will be announced in class prior to the actual date of the exam.

**Homework:** You will be using [MasteringChemistry](#), an online tutorial and homework program that accompanies your textbook. For example, Exam 1 covers chapters 1-3; therefore, chapters 1, 2, and 3 is for Exam 1 review.

**Final Exam:** The final will be given at the end of the course. The final exam is comprehensive.

### A. Grading

Each of the above requirements counts toward your final grade as follows:

Exams	60-80%
Homework/Exams	30-0%
Final	20-30%

Grades are assigned as follows:

Grade	Final Average
A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

### B. Testing

See the class calendar for the chapters and dates of the tests. Students are allowed to bring one page of hand written notes, containing equations, etc., to the exams. The material to be covered on each exam is as follows:

<u>Exam</u>	<u>Chapters</u>
1	1 - 3
2	4, 9, 10 &12
3	5 &7
4	6 &8
5	13, 14, &11
Final	Comprehensive Exam (all chapters from Exams 1-5 and chapter 18)

### C. Make-Up Policy

There will be no make-up exams. The lowest exam grade will be dropped. The final exam grade will replace **one** missed exam grade.

## **X. STUDENT RESPONSIBILITIES**

Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:

1. Understand the syllabus requirements
2. Use appropriate time management skills
3. Communicate with the instructor
4. Complete course work on time, and
5. Utilize online components (such as Desire2Learn) as required.

## **XI. OTHER STUDENT SERVICES INFORMATION**

Information about the Library is available at <http://brazosport.edu/students/for-students/places-services/library/about-the-library/> or by calling 979-230-3310.

For assistance with online courses, an open computer lab, online and make-up testing, audio/visual services, and study skills, visit Learning Services next to the Library, call 979.230.3253, or visit <http://brazosport.edu/students/for-students/places-services/learning-services/>

For drop-in math tutoring, the writing center, supplemental instruction and other tutoring including e-tutoring, visit the Student Success Center, call 979-230-3527, or visit <http://brazosport.edu/students/for-students/student-success-center/math-center/>

To contact the Physical Sciences and Process Technology Department call 979-230-3618.

The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Activities	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.



Dear Student:

In this course you will be using MasteringChemistry®, an online tutorial and homework program that accompanies your textbook.

**What You Need:**

- ✓ **A valid email address**
- ✓ **A student access code** (included in your textbook if you bought it from the BC Bookstore)
- ✓ **The ZIP code for your school:** 77566

**A Course ID:** \_\_\_\_\_ (Provided by your instructor)

**Register**

- Go to [www.masteringchemistry.com](http://www.masteringchemistry.com) and click **New Students** under **Register**.
- To register using the Student Access Code above select **Yes, I have an access code**. Click **Continue**.
- **License Agreement and Privacy Policy:** Click **I Accept** to indicate that you have read and agree to the license agreement and privacy policy.
- Select the appropriate option under “Do you have a Pearson Education account?” and supply the requested information. Upon completion, the **Confirmation & Summary** page confirms your registration. This information will also be emailed to you for your records. You can either click **Log In Now** or return to [www.masteringchemistry.com](http://www.masteringchemistry.com) later.

**Log In**

- Go to [www.masteringchemistry.com](http://www.masteringchemistry.com).
- Enter your Login Name and Password and click **Log In**.

**Enroll in Your Instructor’s Course and/or Access the Self-Study Area**

Upon first login, you’ll be prompted to do one or more of the following:

- **Join your MasteringChemistry course** by entering the **MasteringChemistry Course ID** provided by your instructor.

Click **Save** and **OK**.

Congratulations! You have completed registration and have enrolled in your instructor’s MasteringChemistry course. To access your course from now on, simply go to [www.masteringchemistry.com](http://www.masteringchemistry.com), enter your Login Name and Password, and click **Log In**. If your instructor has created assignments, you can access them in the **Assignments Due Soon** area or by clicking **View All** in this area. Otherwise, click on **Study Area** to access self-study material.

**Support**

Access Customer Support at [www.masteringchemistry.com/support](http://www.masteringchemistry.com/support), where you will find:

- System Requirements
- Answers to Frequently Asked Questions
- Additional contact information for Customer Support, including Live Chat



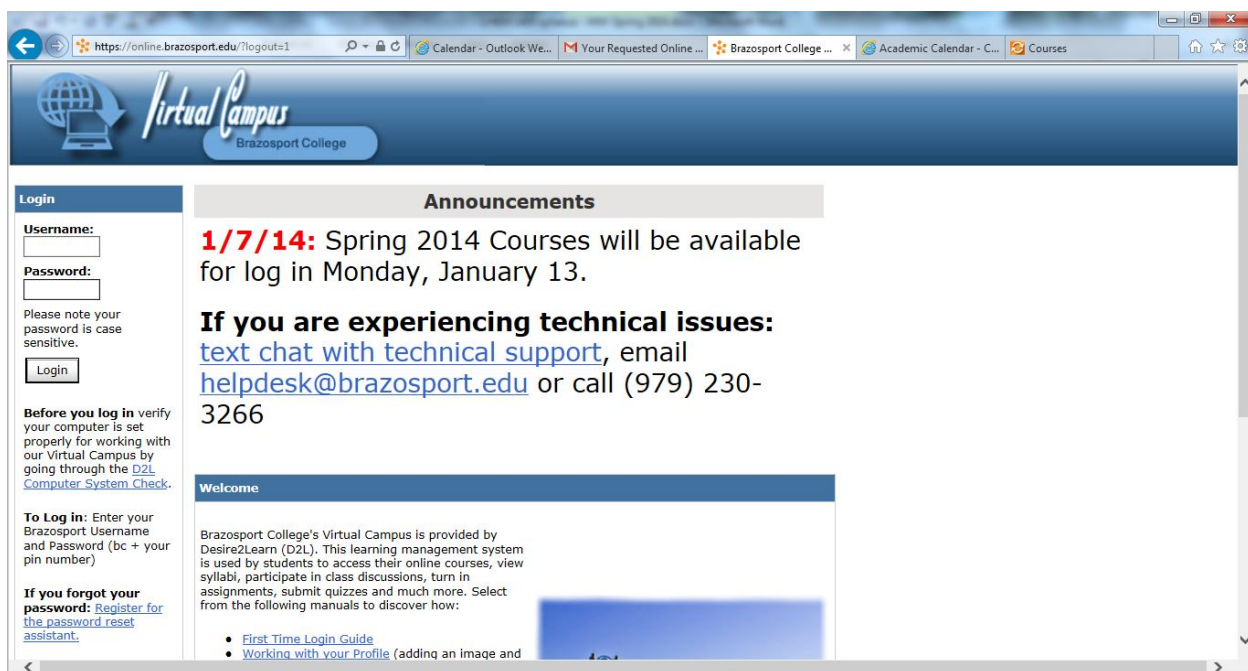
## Using Desire2Learn for Introductory Chemistry (CHEM 1305)

### What you need:

1. Computer with internet connection as well as Browsers such as [Internet Explorer](#), [Firefox](#) or [Safari](#) and updated [Java](#) loaded.
2. **Student ID (not Social Security Number)** and **PIN**. Go to <http://www.brazosport.edu/IT/Pages/Student-Accounts.aspx> for instructions about obtaining student accounts.
3. Sign up for BCNET password reset at <https://webb.brazosport.edu/TIWEB/PasswordReset/ResetPassword.htm>

### Log-on to Web Course

1. *Open Internet Explorer or Firefox* on your computer
2. Go to the **Brazosport College online course home page** <https://online.brazosport.edu/index.asp> (bookmark this page)



3. *Type your User Name and password* in the boxes (see example below)  
**Username** is the same as students' BCNET ID and is as follows:  
The username for your student account consists of your first name initial, your whole last name and the last four digits of your student ID (example: jdoe1234). Your **Password** will be BC+your pin number (example: bc123456). You should have received a letter from the Registrar that provided you your Student ID number and your pin number. You may visit the Registrar Office to get this information in person.
4. You will now see the **My Courses** page that will display your name and show a link for the course. If you are taking more than one web course at Brazosport College you will see each course listed, *click* on the [blue title](#) of the course to enter.