Brazosport College
Syllabus for CHEM 1305.80: Introductory Chemistry

Instructor: Dr. Mike Creswick **Office:**
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COURSE DESCRIPTION

A study of basic organic and inorganic chemistry with special emphasis on practical applications. Designed for students with no previous background in chemistry. (3 SCH, 3 lecture, 0 lab)

PREREQUISITES

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

COURSE OBJECTIVES

This course is divided into **5 Units** that demonstrate basic chemical concepts:

A. Unit 1
   a. Practice numerical problem solving, paying attention to scientific notation, significant figures, conversion of units.
   b. Learn basic terms used to describe matter and energy.

B. Unit 2
   a. Understand the relationship of atomic structure to chemical properties.
   b. Predict the properties of element based on its position in the periodic table.
   c. Understand the relationship of the masses of elements and compounds to the unit of measure, the mole.

C. Unit 3
   a. Determine the names and formula of chemical compounds.
   b. Write and balance chemical equations.
   c. 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.
   d. Identify the element oxidized, the element reduced and the oxidizing and reducing agents in a redox reaction.

D. Unit 4
   a. Use the concept of stoichiometry to determine quantities of reactants needed and products formed in a chemical reaction.
   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.
   c. Understand concepts of acids and bases. Convert between pH, pOH, and acid/base concentrations

E. Unit 5
   a. Obtain a basic understanding of the ideal gas law, i.e. the effect of pressure and temperature on volume.
   b. Distinguish between organic and inorganic compounds. Draw structural formulas and name simple alkanes, alkenes and alkynes. Distinguish between saturated, unsaturated, and cyclic hydrocarbons.
   c. Discuss the general formula, names, structure and uses of alcohols, ethers, aldehydes, ketones, carboxylic acids and esters.

COURSE OUTCOMES

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

1. Use the periodic table to determine chemical symbols for elements, write their electronic configurations, and predict chemical formulas for simple compounds.
2. Balance chemical equations.
3. Perform molar and mass quantity calculations given balanced chemical equations.

TEXTBOOK OR COURSE MATERIAL INFORMATION

1. Tro, Introductory Chemistry, 6th Ed., Published by Pearson, 2019. (Either paper or online.)
2. **Desure2Learn** on college website (course registration automatically opens your access to online materials for courses **CHEM1305** and **CHEM1105**.)
3. **MasteringChemistry** access code (bundled with textbook for course **CHEM1305.3097.MCRESWICK.SPR22**).
4. Scientific Calculator.

CONNECTING TO CLASS MATERIAL:

Access the course by going to: https://online.brazosport.edu/index.asp
Follow the instructions in "How to Access Desire2Learn" to login to the course in Desire2Learn.
For help with login to Desire2Learn, email your problems to helpdesk@brazosport.edu.

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.

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://www.brazosport.edu.

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, and may, at a minimum, result in a course grade of F in this course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.

ATTENDANCE AND WITHDRAWAL POLICIES

Attendance will be recorded for both on-site and off-site groups. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar. If this is not done, the student will receive a grade based on test grades and class grades earned before he/she stopped coming to class.

COURSE REQUIREMENTS AND GRADING POLICY

For this class you must complete the following:

Tests: There will be a total of five tests, each lasting approximately one hour. The exact date of each quiz will be announced in class prior to the actual date of the exam.

Homework: We will use MasteringChemistry, an online tutorial and homework program that accompanies the textbook. Due date for homework is the Saturday following a scheduled test. For example, Test 1 covers chapters 1-3; therefore, the due date for chapter 1, 2, and 3 homework is the Saturday after Test 1 is taken.

Participation: Attendance, class problem solving, discussions, polls, short online assessments.

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

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

Hourly Tests	60%
Homework	15%
Participation	5%
Final Exam	20%
SI Session Attendance	Up to 10 extra points toward final grade

TESTING

See the class schedule for the chapters and dates of tests. The following items are allowed during the test: one page of hand written notes, containing equations, etc., and a calculator (scientific or graphing). Material to be covered on each test is as follows:

Exam	Chapters
1	1, 2, 3
2	4, 9, 10
3	5, 6, 7
4	8, 13, 14
5	11, 18
Final	Comprehensive Exam

MAKE-UP POLICY

No makeup tests. The lowest test grade will be dropped. If necessary, final exam grade will replace **one** missed test grade.

SUPPLEMENTAL INSTRUCTION (SI)

Participation of SI sessions will contribute a maximum of 10 bonus points toward the final grade for the semester. SI leader will handout SI session schedule.

STUDENT RESPONSIBILITIES

Students are expected to participate in all aspects of the course. The following advice will help enable your success in this course:

1. understand syllabus requirements.
2. use appropriate time management skills.
3. communicate with the instructor.
4. complete course work on time.
5. utilize online components (such as Desire2Learn and Mastering Chemistry) as required.

PROJECTS, ASSIGNMENTS, PORTFOLIOS, SERVICE LEARNING, INTERNSHIPS, ETC.

None of these apply to CHEM1305 or CHEM1105.

OTHER STUDENT SERVICES INFORMATION

Information about the Library is available at www.brazosport.edu/sites/CurrentStudents/Library/default.aspx or by calling 979-230-3310.

Information about study skills and tutoring for math, reading, writing, biology, chemistry, and other subjects is available in the Learning Assistance Center (LAC); see www.brazosport.edu/sites/CurrentStudents/LAC/default.aspx or call 979-230-3253.

To contact the Physical Sciences and Process Technology Department call 979-230-3427.

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.

Title IX Statement:

Brazosport College faculty and staff are committed to supporting students and upholding the College District's non-discrimination policy. Under Title IX and Brazosport College's policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are "Responsible Employees" and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at www.brazosport.edu/sexualmisconduct.

Kelli Forde Spiers, Director, Student Life and Title IX Coordinator
Office J-117D; 979-230-3355; kelli.fordespiers@brazosport.edu

KEYS TO STUDENT SUCCESS

- Review the syllabus and paper handouts that the instructor provides.
- Obtain access to a paper or online textbook. Read each chapter 2-3 times.
- Review materials in D2L.
- Attend lectures. Pay attention to lecture, D2L, and email announcements.
- If needed view Powerpoint and Recorded video files in D2L.
- Obtain key code for Mastering Chemistry.
- Work homework problems (either online or on paper).
- Submit homework on time.
- Browse review problem handouts and attend review session.
- Participate in scheduled SI sessions.
- Take ALL tests.

CLASS SCHEDULE

CHEM1305/CHEM1105 –Spring 2022 as of 1/13/2022

Dr. Mike Creswick – (979) 265-4433 – e-mail: mike.creswick@brazosport.edu

WEEK	DATE	LECTURE 5:25-8:05pm HS-208	LAB 8:10-10:00pm HS-202
1	1/19	Intro; D2L; Mastering Chemistry; Ch1 - Chemical World, ½ Ch 2 Measurement	Tech 380 - Safety Practices; Identify Equipment
2	1/26	½ Ch2 - Problem Solving Ch3 - Matter and Energy (skip 3.12)	Misc 486 - Dimensional Analysis.
3	3/2	**REVIEW and Exam 1**	Tech 382 - Transfer (do all of prelab)
4	9	Ch4 - Atoms and Elements	Prop 375 - Separation (skip prelab #5,6)
5	16	Ch9 - Electrons in Atoms and Periodic Table	Separation (continued)
6	23	Ch 10 - Chemical Bonding	Reac 399 - Chemical Change (do *all* prelab and postlab)
7	3/2	**REVIEW and Exam 2**	Anal 387 – Water in a Hydrate (skip prelab #3) Exp. 388 Empirical Formula (skip prelab#3)
8	9	Ch5 - Molecules and Compounds	Ch6 - Chemical Composition
9	16	**SPRING BREAK**	
10	16	Ch7 - Chemical Reactions	**REVIEW and Exam 3 (possibly online)**
11	30	Ch8 - Quantities in Chemical Reactions	Reac 405 – Identify (skip prelab #3; skip postlab)
12	4/6	Ch13 - Solutions	Ch14 - Acids and Bases
13	13	**REVIEW and Exam 4**	Anal 394 - Molar Concentration (skip prelab; skip postlab #2)
14	20	Ch11 - Gases	Exp. 304 - Vinegar (skip Questions; skip prelab #1,2)
15	27	Ch18 - Organic Chemistry	**REVIEW and Exam 5**
16	5/4	**FINAL REVIEW**	**Final Exam**
	5/11	Grades due 3pm	

HOMEWORK

The purpose of homework is to encourage study. Online assignments allow multiple attempts; hints are offered; when necessary students may view correct answers. Students may work alone, with a partner, or in a small groups; some assignments will be completed during lecture class; some may become part of SI sessions, at the discretion of the SI leader. Homework assignments contribute 15% of the final grade.

Mastering Online tracks most assignments; some paper assignments are tracked separately. From the table *(next page)* assignments total about 700 points/700 minutes/12 hours of effort. Students can earn a perfect homework grade by completing (online) or submitting (on paper) at least 350 points/350 minutes/6 hrs of homework. So, while homework completion is encouraged, a student may miss about ½ of assignments.

Answers to odd-numbered end-of-chapter questions are available in the back of the textbook.

HOMEWORK SCHEDULE

Assignments are listed below for **FIVE** units of instruction. Each assignment is due Saturday, the week that its unit test is taken. Bold items are end-of-chapter questions from the textbook. Additional online items are not in the textbook. Items in brackets [ ] are from the textbook but not online; these must be done on paper. Time estimates are from past students' performance in Mastering Chemistry Online.

UNIT	CHAP	TOPIC (average student time)	HOMEWORK
	00	Intro to Mastering Chemistry (19 minutes).	3 Online items.
	00	Math Review. (18 minutes).	5 Online items.
1	1	Chemistry and Scientific Method (5 min).	4 Online items + **1: 15**
	2	Measurement (46 minutes).	**2: 31, 39, 41, 45, 49, 51, 57, 67, 69, 75, 85, 105, 111**
	3	Matter and Energy (35 minutes).	4 Online items + **3: 31, 33, 37, 41, 49, 63, 65, 75**
2	4	Atoms and Elements (39 minutes).	3 Online items + **4: 33. 35. 41, 47, 51, 53, 55, 57, 59, 65, 77, 87, 93, 97.**
	9	Atomic Structures (64 minutes).	9 Online items + **9: 13, 16, 31, 51, 61, 75, 77, 81, 89, 97**
	10	Chemical Bonding .(60 minutes)	11 Online items + **10: 23, 29, 33, 35, 39, 47, 51, 65, 77, 81, 85, 89, 91.**
	00	Chemical Problem Solving (17 minutes)	5 Online items.
3	5	Molecules and Compounds (47 minutes).	**5: 31, 33, 35,41, 49, 51, 53, 59, 61, 69, 71, 73, 77, 83**
	6	Chemical Composition (54 minutes).	**6: 7, 8, 17, 29, 39, 59, 61, 73, 79, 87, 91, 99, 119.**
	7	Reactions (29 minutes).	8 Online questions + **7:25, 27, 59, 61** On paper: [**7:47, 51, 57, 65, 67, 83, 89]**
4	8	Quantities in Chemical Reactions (50 min).	**8:3, 12, 15, 17, 21, 31, 33, 43, 47, 59, 61, 69, 71. On paper: [27]**
	13	Solutions (69 minutes)	**13:13, 23, 25, 27, 31, 41, 47, 59, 65, 71, 87, 89, 91.**
5	11	Gasses (38 minutes).	6 Online questions + **11: 7, 10, 22, 23, 33, 39, 42, 45, 51, 59, 61, 83.**
	14	Acids and Bases (41 minutes).	5 Online questions + **14: 3, 15, 29, 31, 33, 39, 41, 53, 55, 61, 65, 67, 83.**
	18	Organic Compounds (21 minutes).	11 Online questions + **18:4, 33, 34, 36, 84, 103.**

Pearson | Mastering | Chemistry Registration Instructions

Pearson allows you to register for temporary access to homework and textbook; eventually you will need to pay.

To register for CHEM1305.3097.MCRESWICK.SPR22

1. Go to https://www.pearson.com/mastering
2. Under ***Register***, select **Student**.
3. Confirm you have the information needed, then select **OK! Register now**.
4. Enter the instructor: creswick09890 and **Continue**.
5. Enter your existing Pearson account ***username*** and ***password*** to **Sign In**.
   You have an account if you have ever used a MyLab or Mastering product before.
   » If you don't have an account, select **Create** and complete the required fields.
6. Select an access option.

» Enter the ***access code*** that came with your textbook or that you purchased separately online or from a bookstore.

» If available for your course,

- Buy access using a credit card or PayPal.
- Get temporary access.

(If you're taking another semester of the same course, skip this step.)

7. From the ***You're Done!*** page, select **Go To My Courses**.
8. On the My Courses page, select the following course name to start your work.

CHEM1305.3097.MCRESWICK.SPR22

To sign in later:

1. Go to https://www.pearson.com/mastering.
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password,** and **Sign In**.
4. Select the course name **CHEM1305.80 - Introductory Chemistry - Fall 2020 CRESWICK** to start your work.

To upgrade temporary access to full access:

1. Go to https://www.pearson.com/mastering.
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password,** and **Sign In**.
4. Select **Upgrade access** for **CHEM1305.80 - Introductory Chemistry - Fall 2020 CRESWICK**.
5. Enter an access code or buy access with a credit card or PayPal.

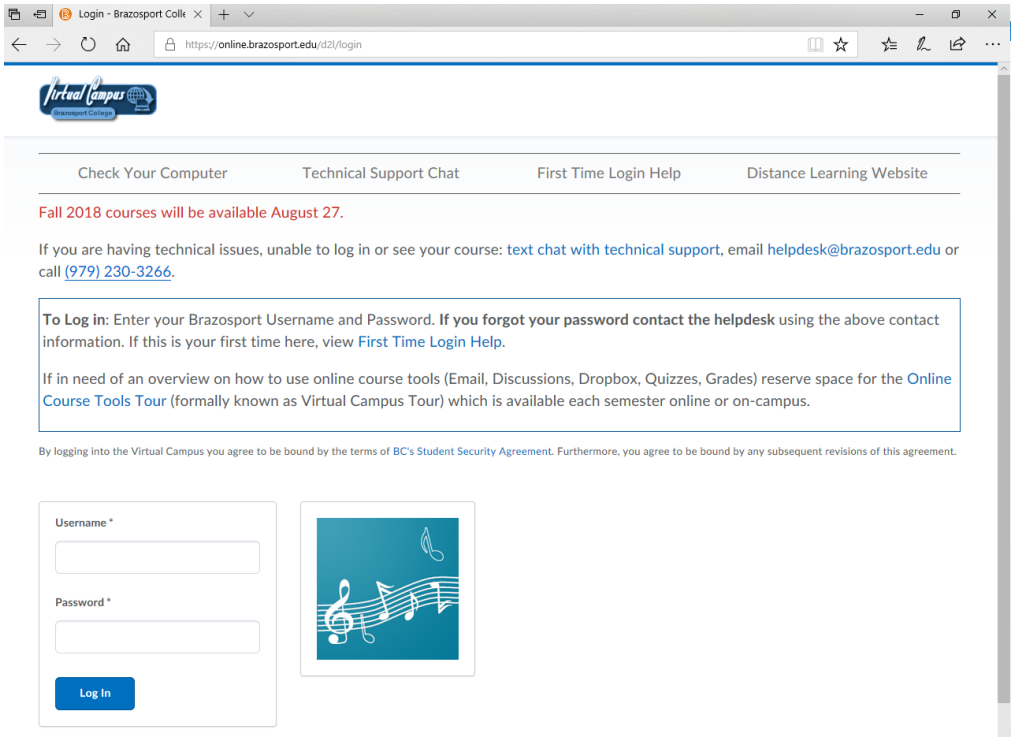
Desire2Learn for Introductory Chemistry (CHEM 1305)

What you need:

1. Computer with internet connection as well as Browsers which meets these requirements.
2. Go to the online page at Brazosport College for important information for online students: http://brazosport.edu/students/for-students/bc-online/
3. **Student ID** (**not Social Security Number**) and **PIN**. Go to http://brazosport.edu/faculty-and-staff/employee-services/information-technology/student-accounts/
4. Sign up for BCNET password reset at https://password.brazosport.edu/

Log-on to Web Course

1. *Open* **the internet browser** on your computer
2. Go to the **Brazosport College online course home page** https://online.brazosport.edu/d2l/login (bookmark this page)



3. *Type* your **User Name** and **password** in the boxes (see example below):
   Your User Name is the first initial of your first name, full last name, and the last four digits of your student ID. (ex: jsmith2468). Your password is bc + your pin number. You should have received a letter from the Registrar that provided you your Student ID number and your pin number when you first registered at BC. You may visit the Registrar Office to get this information in person.
4. You will then see the **My Courses** page that displays your name and shows a link for the course. If you are enrolled in more than one web course at Brazosport College, you will see *each* course listed, *click each* course to view content.