

# Brazosport College

## Syllabus for CHEM 1105 – Introductory Chemistry Laboratory

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### I. COURSE DESCRIPTION:

**CHEM 1105 Introductory Chemistry Laboratory. CIP 4005015103**

Credit in CHEM 1305 as a laboratory science is contingent upon successful completion of CHEM 1105. **Credit Hours:** 1 (0 lecture, 2 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:** Successful completion of, or concurrent enrollment in, CHEM 1305.  
**Required skill level:** College-level reading and writing. Intermediate algebra level math (placement code 3).

## **II. COURSE OBJECTIVES**

1. Learn and be tested on safe laboratory procedures.
2. Correctly read and record metric measurements for length, volume and mass. Be able to determine the density of objects using this information.
3. Separate the components of a mixture based upon solubility. Calculate percent composition.
4. Observe physical and chemical properties associated with physical and chemical changes.
5. Determine the percentage by mass of water in a hydrated salt.
6. Calculate the empirical formula of a compound from experimental data.
7. Identify the ionic compounds present in an unknown solution by systematically studying the interactions among the ions.
8. Determine the molar concentration of a NaOH solution using a solid primary standard.
9. Determine the percentage of acetic acid in vinegar using a standardized NaOH solution.

## **III. STUDENT LEARNING OUTCOMES**

1. Students will be able to follow experimental procedures as described in the laboratory manual to perform chemical procedures, reactions and calculations.
2. Students will successfully carry out all of the experiments as described in the above course objectives.

## **IV. TEXTBOOK OR COURSE MATERIAL INFORMATION**

### **A. Textbook**

1. Signature Labs Series, CER, Publisher Cengage Learning, 2015.  
ISBN: 978-1-305-74972-6
2. Visorgogs or safety goggles, must meet ANSI Z87.1-1989 certification.

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://brazosport.edu/bookstore/home.html>. A student of this institution is 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: [brazosport.edu/bookstore/home.html](mailto:mailto:brazosport.edu/bookstore/home.html). Website: <http://www.brazosport.edu/bookstore>

## 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	LAB
1	No Lab
2	Exp. 486 – Dimensional Analysis
3	Tech 380 – Safety Practices
4	Exp. 382 - Transfer
5	Exp. 375 - Separation
6	Exp. 375 - Separation (continued)
7	Exp. 399 - Chemical Change
8	Exp. 405 - Identify
9	<b>Spring Break (no lab)</b>
10	Exp. 387 - % Water
11	Exp. 388 - Empirical Formula
	<b>Last day to withdraw</b>
12	<b>Make-up Lab</b>
13	Exp. 394 - Molar Concentration
14	Exp. 304 – Vinegar
15	<b>No Lab</b>
16	Clean up

### **Important Semester Dates:**

Last Day to Withdraw from Classes– Check BC Academic Calendar

<http://catalog.brazosport.edu/index.php>

## V. LAB REQUIREMENTS

1. Visorgogs or safety goggles, must meet ANSI Z87.1-1989 certification.

## VI. 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.

## VII. 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.

### **VIII. 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".

### **IX. COURSE REQUIREMENTS AND GRADING POLICY**

#### **A. Grading**

1. Final Grades will be determined according to the following system:

Total points possible: 100

90-100 = A

80-89 = B

70-79 = C

60-69 = D

0-59 = F

2. There are 11 graded experiments for the lab course. Each experiment counts 100 points toward the final average lab grade. If you will be absent during a lab, you can make up the lab by going to another 1105 lab session during the same week, or you can make up the lab during make-up week (see schedule) You must turn in your lab write ups (pre-lab, data sheet and post-lab) to the lab instructor during your make-up lab. The lab instructor will forward your lab write ups to me. Missing more than 2 labs will constitute a grade of F for the course.
3. Attendance will be taken for each lab session. No lab write ups (pre-lab, data sheet or post-lab) will be accepted for any experiment not attended, unless the lab was made up with another lab instructor, or during make-up week.

#### **B. Grading Of The Laboratory Experiment**

1. The Pre-lab exercise (25 points) must be completed before the lab session. Student must turn in the pre-lab write up before commencing the experiment.
2. The Data Sheets and Observations (50 points) and the Post-lab exercises (25 points) will be due at the end of the period following the completion of the experiment.

3. The Data Sheets and Observations must be completely filled out in ink. When you make an error, cross it out with a single line. Do not use liquid paper or obliterate the error. For example: error error

## **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 Technologies 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 Life	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.