# 8/11/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 11 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Chemistry I Lab

**BRCC Course Rubric:** CHEM 1121

**Previous Course Rubric**: CHEM 101L

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 0-3-1

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 0-45-45

**Louisiana Common Course Number:** CCEM 1121

**CIP Code:** 40.0501

**Course Description:** Provides a laboratory component that supplements CHEM 1123 (CHEM 101) content. Introduces safety and basic laboratory techniques. Intended for students pursuing careers in science, engineering and many health professions. This course requires a lab fee.

**Prerequisites:** MATH 1113 (or MATH 101) or MATH 1213 (or MATH 110) or MATH 1235 (MATH 120) with a grade of ‘C’ or better

**Co-requisites:** None

**Suggested Enrollment Cap:** 24

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Demonstrate knowledge of basic laboratory skills and operations in the areas of safety, measurement, chemical and physical properties of matter, atomic and molecular structure, chemical reactions, reactivity, structure, periodicity, and bonding.

2. Record, graph, chart and interpret data obtained from experimentation.

3. Use the scientific method to conduct, and interpret basic laboratory experiments relevant to course content and to write concise and comprehensive laboratory reports.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Administration of unit exams during the semester and a comprehensive final exam at the end of the semester.

2. Instructor-designed assignments including, but not limited to, laboratory reports, projects, homework, and/or quizzes. All assignments will be graded using an instructor-designed rubric.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Basic Laboratory Techniques

a. Laboratory Safety

b. Safe Handling of Chemicals

c. Proper Use of Laboratory Equipment

II. Mechanics of Laboratory Report Writing

a. Format

b. Content

III. Treatment of Experimental Data

a. Review of Simple Mathematics

b. Significant Figures and Calculation

IV. Determination of Physical Properties and Separation Techniques

a. Density of Solids and Liquids

b. Indirect Gravimetric Analysis

c. Separation of the Mixture Components

d. Solubilities

V. Chemical Reactions in Aqueous Solutions and Synthesis

a. Percent Copper and Formula Weight of a Copper Compound

b. Hydrogen Ions, pH and Indicators

VI. Gas Laws

a. Indirect Determination of Magnesium

b. Molecular Weight Determination of an Unknown Compound

VII. Periodic Table and Periodicity

a. Chemical Periodicity of the Halide Ions

b. Relative Reactivity of Metals and the Activity Series