# Course Syllabus

**Course Title**  
General Chemistry I Laboratory

**Course Number**  
CHM 1045L

**Pre-requisite / Co-requisite**  
Test Into College Level Math / General Chemistry I

**Credit Hours**  
1.0

**Contact Hours**  
45

**Class Meeting Times**  
M W 16:00-18:30 in D-108

**Class Method**  
Traditional classroom course (class meets in person)

**Instructor**  
Dr. Mark Frahn  
mark.frahn@fkcc.edu  
Office in C222  
Office # 305-809-3536

**Office Hours**  
Posted on Office Door

**Course Description**  
The lab portion of each class consists of approximately two and one-half hours of assigned laboratory work. Topics will be selected to complement the lecture material from CHM 1045. Atomic structure and molecular structure are studied, as well as the relation between mass and moles. The periodic properties of the elements, chemical reactions and chemical bonding are mastered and their relation to the three macro physical states of matter; gas, liquid, and solid.

**Course Objectives**  
Upon completion of the course, the student will be able to demonstrate knowledge—by successfully answering questions on an objective examination—of the following topics:

1. Learn the difference between qualitative and quantitative measurements.
2. Develop skills in the use of chemicals and laboratory equipment.
3. Be able to conduct gravimetric analysis, titrations, and determine the molar mass of an unknown.
4. Know the gas laws and how to use them to determine the molar mass of a gas.
**REQUIRED MATERIALS**

The student is required to bring a scientific calculator to the laboratory. In addition, the student is required to log into D2L and print out all materials associated with the experiment scheduled for that day. All other materials will be provided by the instructor.

**PROPOSED COURSE SCHEDULE**

Please note: The course schedule is subject to change to meet the needs of the course and its students. If you miss a class, it is YOUR responsibility to stay current.

<table>
<thead>
<tr>
<th>Date</th>
<th>Experiments</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/12</td>
<td>Experiment 1: Density of Liquids and Solids</td>
<td>Completed laboratory due 5/14</td>
</tr>
<tr>
<td>5/14</td>
<td>Experiment 2: Chemical and Physical Properties and Changes</td>
<td>Completed laboratory due 5/19</td>
</tr>
<tr>
<td>5/19</td>
<td>Experiment 3: Combustion of Magnesium</td>
<td>Completed laboratory due 5/21</td>
</tr>
<tr>
<td>5/21</td>
<td>Experiment 4: A Mathematical Investigation into Silver Metal</td>
<td>Completed laboratory due 5/28</td>
</tr>
<tr>
<td>5/26</td>
<td>Memorial Day (College Closed)</td>
<td></td>
</tr>
<tr>
<td>5/28</td>
<td>Experiment 5: Identification of a Chemical Compound by Mass Relationships</td>
<td>Completed laboratory due 6/2</td>
</tr>
<tr>
<td>6/2</td>
<td>Experiment 6: Boyle’s Law</td>
<td>Completed laboratory due 6/4</td>
</tr>
<tr>
<td>6/4</td>
<td>Experiment 7: Heat Effects and Calorimetry</td>
<td>Completed laboratory due 6/9</td>
</tr>
<tr>
<td>6/9</td>
<td>Experiment 8: Preliminary Investigations into pH</td>
<td>Completed laboratory due 6/11</td>
</tr>
<tr>
<td>6/11</td>
<td>Experiment 9: Neutralization Titrations</td>
<td>Completed laboratory due 6/16</td>
</tr>
<tr>
<td>6/16</td>
<td>Experiment 10: Experimental Determination of the Molar Mass of a Volatile Liquid</td>
<td>Completed laboratory due at end of laboratory meeting</td>
</tr>
</tbody>
</table>
A total of 10 laboratory assignments will be offered, each of which are equally weighted at 10 points each. Non-attendance automatically results in a grade of 0 points for the corresponding laboratory.

The total points obtained by the student relative to the total possible of 100 points will be used to determine the student’s % grade. Letter grades will be assigned according to the following levels of performance: A (100-90%), B (89-80%), C (79-70%), D (69-60%) and a grade of F below 59%.

**Attendance**

An instructor may withdraw a student from courses for excessive absences and/or non-attendance up to the 70% point in the semester.

**Academic Honesty**

Any cheating or plagiarism will result in disciplinary action to be determined by the instructor based on the severity and nature of the offense. It is the student’s responsibility to review the College’s policy on Academic Honesty.

**Special Needs**

- If you have any special needs or requirements pertaining to this course, please discuss them with the instructor early in the term.
- If you have special needs as addressed by the Americans with Disabilities Act (ADA) and need assistance, please notify the Office for Students with Disabilities at 305-809-3292 via email at: karla.malsheimer@fkcc.edu or the course instructor immediately.
- Reasonable efforts will be made to accommodate your special needs.

Students are expected to familiarize themselves with FKCC Policies, which can be found in the current Student Handbook.