Instructor Contact Information

**Instructor Name/Title:** Ramon E. Cuellar  
**Office Hours:** By Appointments  
**Office Location:** online  
**Phone Number:** 423-300-2756  
**Email Address:** ramon.cuellar@kctcs.edu

Course Information

**Course Description**

Presents the elementary principles of general, organic and biological chemistry

**Prerequisites**

CHE 175  
Pre/Corequisite: CHE 180

**Start Date:** 7-1-19  
**Midterm/Last Date to Withdraw Without Instructor Permission:** 7-15-19  
**Last Date to Withdraw with Instructor Approval:** 7-26-19

Textbook Information and Supplies

eScience Lab 2nd Edition General Chemistry Version 2 SKU: Kit4252  
Late Nite Labs Access (28121811)  
A Scientific Calculator (cell phones turned long ways have this function)  
Camera (again a cell phone will work)

Course Competencies/Student Learning Outcomes

1. Recognize chemical hazards in the laboratory.  
2. Identify and demonstrate proper use of basic laboratory equipment.  
3. Collect data from observations and use scientific measuring devices to make accurate and precise measurements.  
4. Analyze data using chemical principles and concepts.  
5. Interpret results to arrive at rational conclusions.  
6. Prepare written reports which present data, analyses, and conclusions in scientific format.

General Education Course Competencies/Student Learning Outcomes

**Natural Sciences (NS)**  
1. Demonstrate an understanding of the methods of science inquiry.
2. Explain basic concepts and principles in one or more of the sciences.
3. Apply scientific principles to interpret and make predictions in one or more of the sciences.

Explain how scientific principles relate to issues of personal and/or public importance.

Course Structure, Evaluation, and Grading Methods
This course consists of a series of lab experiments using two different systems. Late Nite Labs (LNL) are virtual labs conducted using the Late Nite Labs website. eScience Labs (ES) are labs conducted using a kit of materials and some common household items. Both parts are required to complete the course.

Grading Policy/Scale
Lab Reports will be completed as part of the eScience lab and will detail the experiment. Some labs have multiple reports (in which case, the point value will be divided amongst them). For each report, you will take a picture of yourself performing the lab (“selfie” style works). You will receive 10% of the lab if you do not attach the picture, and 5% off if your face is not in the picture.

Multiple choice questions are associated with most of the labs in Late Nite Labs and cover information from that lab. These assignments become unavailable after their due date.

Exercises are worksheets completed as a part of some eScience labs. These assignments receive a 10% reduction if received after their due date.

Lab quizzes have multiple types of questions regarding the eScience lab it is associated with. These may be repeated as many times as you want and the highest grade is taken. These assignments have no a late penalty.

Extra Credit may be given for particularly good or entertaining photos up to a maximum of 14 points for the course.

A Midterm Grade is given to you as an indicator of your progress for the material due at the midterm. This grade should not be taken to be equivalent to your final grade as you still have 50% or more of the assignments left to complete before the term is finished.

All assignments are due by End of Day on their specified due date.
**Grading Summary**

<table>
<thead>
<tr>
<th>Lab</th>
<th>Recommended Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry Demo (LNL)</td>
<td>7/6</td>
</tr>
<tr>
<td>Chemical Kinetics (LNL)</td>
<td>7/6</td>
</tr>
<tr>
<td>Enthalpy Change of a Chemical Reaction (LNL)</td>
<td>7/6</td>
</tr>
<tr>
<td>Enthalpy Change for Decomposition (LNL)</td>
<td>7/6</td>
</tr>
<tr>
<td>Introduction to Science (ES)</td>
<td>7/6</td>
</tr>
<tr>
<td>General Chemistry Lab Safety (ES)</td>
<td>7/6</td>
</tr>
<tr>
<td>Nuclear Chemistry (ES)</td>
<td>7/6</td>
</tr>
<tr>
<td>pH Indicators (LNL)</td>
<td>7/13</td>
</tr>
<tr>
<td>Titration Tutorial (LNL)</td>
<td>7/13</td>
</tr>
<tr>
<td>Stoichiometry of an Acid-Base Reaction (LNL)</td>
<td>7/13</td>
</tr>
<tr>
<td>Reaction Rates (ES)</td>
<td>7/13</td>
</tr>
<tr>
<td>Equilibrium Constants (ES)</td>
<td>7/13</td>
</tr>
<tr>
<td>Titration Indicators (ES)</td>
<td>7/13</td>
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<tr>
<td>Preparation of Buffer Solutions(ES)</td>
<td>7/13</td>
</tr>
<tr>
<td><strong>Midterms</strong></td>
<td></td>
</tr>
<tr>
<td>Titration of Strong and Weak Acids (LNL)</td>
<td>7/20</td>
</tr>
<tr>
<td>Vitamin C Content (LNL)</td>
<td>7/20</td>
</tr>
<tr>
<td>Precipitation Titration (LNL)</td>
<td>7/20</td>
</tr>
<tr>
<td>Chemistry Biological Molecules (LNL)</td>
<td>7/20</td>
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<tr>
<td>Standardization of a Solution (ES)</td>
<td>7/20</td>
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<tr>
<td>Oxidation-Reduction Reactions (ES)</td>
<td>7/20</td>
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<tr>
<td>Separation by Chromatography (ES)</td>
<td>7/20</td>
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<tr>
<td>Chemistry Enzymes (LNL)</td>
<td>7/27</td>
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<tr>
<td>Qualitative Analysis (LNL)</td>
<td>7/27</td>
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<tr>
<td>Identifying Halide Ions (LNL)</td>
<td>7/27</td>
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<tr>
<td>Electrochemical Series (ES)</td>
<td>7/27</td>
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<tr>
<td>Electrochemical Cells (ES)</td>
<td>7/27</td>
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<tr>
<td>Organic Compounds (ES)</td>
<td>7/27</td>
</tr>
<tr>
<td>Coordination Compounds and Isomers (ES)</td>
<td>7/27</td>
</tr>
</tbody>
</table>

Assignments in **bold** are virtual Labs. Assignments in normal text use the kit. **7/27 is the last day to submit assignments**
Grading Summary

<table>
<thead>
<tr>
<th>Method</th>
<th>Number</th>
<th>Points Each</th>
<th>Total Points</th>
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</thead>
<tbody>
<tr>
<td>Lab Reports (ES)</td>
<td>13</td>
<td>100</td>
<td>1300</td>
</tr>
<tr>
<td>Multiple Choice (LNL)</td>
<td>14</td>
<td>100</td>
<td>1400</td>
</tr>
<tr>
<td>Lab Exercise (ES)</td>
<td>4</td>
<td>Varies</td>
<td>115</td>
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<tr>
<td>Lab Quiz (ES)</td>
<td>14</td>
<td>Varies</td>
<td>244</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>3059</strong></td>
</tr>
</tbody>
</table>

**GRADING SCALE:**
90% -100% =A
80% - 89% =B
70% - 79% =C
60% - 69% =D
Below 60% =E

Approved Course Outline:
I. Advanced Laboratory Operations
   A. Safety
   B. Measurements (including precision and accuracy)
   C. Calculations (including graphing data and statistical data manipulation)
   D. Laboratory techniques

II. Kinetics
   A. Reaction rates
   B. Rate laws

III. Chemical Equilibria
   A. Le Chatelier's principle
   B. Equilibrium constants
   C. Acid-base equilibria
   D. Buffers and their reactions

IV. Thermodynamics
    A. Hess’s Law
    B. Calorimetry

V. Synthesis
   A. Organic
   B. Inorganic

VI. Selected topics
    A. Colligative properties
    B. Electrochemistry
    C. Nuclear chemistry
    D. Qualitative analysis

Class Policies/Procedures
Inclement Weather Class Policy/Procedure
During periods of inclement weather, HCTC will either open at 11:00 or be closed. On days that HCTC open at 11:00 a.m., all courses scheduled BEFORE 11:00 a.m., will be canceled. Decisions regarding evening classes will be made by 4:00 p.m. Check local radio, TV stations, or the HCTC website for information.

General Class Make-up, Late Assignment Class Policy/Procedure
Though there are specific due dates for the course, all assignments are available to the course start date, and it is in your best interest to not wait until the last minute to do the course work. You are even encouraged to work ahead when possible. Policies regarding late assignments are listed above in the “Descriptions of Graded Assignments” section. Exceptions, including those that are weather-related, will be considered on a case by case basis. No assignments will be accepted after 11:59 pm Eastern on July 27th, 2019.

Attendance Class Policy/Procedure
As this is a web-based class, there is no formal attendance; however, students are expected to complete the work in the time allotted. Any student who has not completed the Course Orientation Assignment in Blackboard by June 5th will be reported as a “no-show” under KCTCS policy.

Withdrawal Class Policy/Procedure
A student may officially withdraw from any class up to and including the date of midterm with a W grade assigned to the student’s record. After midterm and through the last class day (not including the period for final, students will need instructor’s permission.

Accommodations Procedure
HCTC recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements. In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, any qualified student with disabilities may request appropriate course accommodations to ensure that full benefits are received and that the instructor is aware and can make the proper adjustments. Students are encouraged to meet with the Disability Services Representative to develop and complete an Accommodations Plan.

Julie Caudill, HCTC Disabilities Services Representative  
Phone: 606-487-3486 and Email: jcaudill0129@kctcs.edu

Appeals Process
Always begin the informal process by talking to your instructor. If issues cannot be resolved, then talk with the Dean/Supervisor (see below for contact information) of the faculty member. For information about academic rights, academic offenses, and the student’s formal right to appeal, review the KCTCS Code of Student Conduct.

Dean/Supervisor Contact Information  
Dean/Supervisor: Dr. Leila Smith  
Office Location: Lee campus/ Admin 101A  
Phone Number: 606-487-3504  
Email Address: Leila.smith@kctcs.edu
Developmental Course Emphasis:
As this is a web-based class, there is no formal attendance; however, students are expected to complete the work in the time allotted.

Additional Syllabus Information:
Review the HCTC Website: (from HCTC Website Click Current Students > Academic Resources)

Print Version of URLs listed in the syllabus:
Academic Calendar: https://hazard.kctcs.edu/education-training/academic-calendar/index.aspx
HCTC Syllabus Website: https://hazard.kctcs.edu/current-students/academic-resources/syllabus_information.aspx
Student Code of Conduct: https://kctcs.edu/current_students/code_of_student_conduct.aspx