Hazard Community and Technical College
Course Syllabus

COURSE NUMBER AND SECTION: CHE 140: introductory General Chemistry (45z1)
Summer I 2019 Online

Instructor Contact Information
Instructor Name/Title: Dr. Paul B. Currie, Professor
Office Hours: By Appointment
Office Location: JCC 232 Hwy 15, Hazard
Phone Number: 606.487.3246
Email Address: paul.currie@kctcs.edu

Course Information
Course Description
Focuses on major chemical topics, including stoichiometry, atomic structure, properties of matter and the relationship between molecular structure and chemical behavior. Emphasizes solving of mathematical problems which illustrate the principles of chemistry. Designed for students in the sciences, engineering, and pre-professional programs

Prerequisites
(ACT math score of 21) OR (College Algebra with "C" or better) OR (CHE 130 OR CHE 140 with a grade of “C” or better) OR (CHE 160 with a grade of “P”) OR (Appropriate score on math or chemistry placement exam).

Start Date:
Midterm/Last Date to Withdraw Without Instructor Permission: June 17th, 2019
Last Date to Withdraw with Instructor Approval: June 28th, 2019

Textbook Information and Supplies
   NOTE: The above book is included in the cost of the course. There is nothing separate you need to purchase.
2. A Scientific Calculator (cell phones turned long ways have this function)

Course Competencies/Student Learning Outcomes
1. Demonstrate an understanding of general chemistry, including stoichiometry, atomic structure, properties of matter and the relationship between molecular structure and chemical behavior.
2. Evaluate and interpret numerical, chemical, and general scientific information.
3. Apply information from other areas of study (such as mathematics and physics) to facilitate their understanding and manipulation of fundamental chemical theories.
4. Analyze and solve chemical problems.
5. Relate chemical concepts to daily life.

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

**Course Structure, Evaluation, and Grading Methods**
This course is arranged in four units. Each unit consists of 3-4 chapters. Each chapter has two assignments, a LearnSmart Lesson, and a study guide. Video lectures are included with each chapter. These lectures cover the content of the chapter but are not specific to the textbook used in this course. Once a unit is completed, there will be a unit exam. After all, four units are complete, there will be a comprehensive final.

**Descriptions of Graded Assignments**
- **LearnSmart Lesson**: This will guide you through the reading of the chapter and ask you questions to reinforce what you have learned.
- **Chapter Study Guide**: This will present you with material that you are expected to know for the unit and final exams. Guided Solutions are available for most problems, and this assignment may be repeated as many times as you like.
- **Unit Exam**: This is a timed (120 min), two attempt exam with 60 questions covering the 3-4 chapters within the unit. The timer begins when you start the unit exam and does not stop if you exit out.
- **Final Exam**: This is a timed (120 min), single attempt exam with 60 questions covering the four units. The timer begins when you start the final exam and does not stop if you exit out.

There is no Extra Credit in this 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.

It is estimated you will spend approximately 3-5 hours per chapter studying and completing assignments in this course.

All assignments are due by the end of Day on their specified due date.

**Grading Policy/Scale**

**Grading Summary**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Number</th>
<th>Points Per</th>
<th>Total</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>LearnSmart</td>
<td>15</td>
<td>100</td>
<td>1500</td>
<td>Becomes unavailable after due date</td>
</tr>
<tr>
<td>Study Guide</td>
<td>15</td>
<td>100</td>
<td>1500</td>
<td>No penalty for late assignment; highest grade taken</td>
</tr>
<tr>
<td>Unit Exam</td>
<td>4</td>
<td>600</td>
<td>2400</td>
<td>2% per day penalty for late exams, 2 attempts per exam</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1</td>
<td>900</td>
<td>900</td>
<td>Becomes unavailable after due date; 1 attempt</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td>6300</td>
<td></td>
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<table>
<thead>
<tr>
<th>GRADING SCALE:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>90% - 100%</td>
<td>=A</td>
</tr>
<tr>
<td>80% - 89%</td>
<td>=B</td>
</tr>
<tr>
<td>70% - 79%</td>
<td>=C</td>
</tr>
<tr>
<td>60% - 69%</td>
<td>=D</td>
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</tbody>
</table>
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 opens 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. Weather related situations will be evaluated on an individual basis.

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 June 30th, 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 7th, 2019 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. Please refer to the following for instructions on request withdrawal: https://hazard.kctcs.edu/current-students/media/records/Online%20Withdraw%20Process%20Guide%20for%20Students.pdf

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: Leila Smith
Office Location: Smith Admin 101A, Lees College Campus
Phone Number: 606.487.3504
Email Address: Leila.smith@kctcs.edu

Approved Course Outline:
I. Definition of Chemistry
   A. History
   B. Scientific method
II. Measurement
   A. Metric system
   B. Density
   C. Temperature
   D. Significant figures
   E. Precision and accuracy
   F. Exponential notation
   G. Dimensional analysis
III. Matter
   A. Classification and properties of matter
   B. Physical and chemical changes
   C. Formulas and nomenclature
IV. Atomic Theory and the Periodic Table
   A. Fundamental particles
   B. Isotopes
   C. Electronic structure
   D. Periodic table and trends
V. Chemical Bonding
   A. Ionic and covalent bonds
   B. Electron dot structures
   C. Electronegativity
   D. Shapes and polarities of molecules
VI. Chemical Reactions
   A. Balancing equations
   B. Types of reactions
   C. Net ionic equations
   D. Oxidation and reduction
VII. Mole Calculations with Formulas and Equations
   A. Molar mass
   B. Mass-mole conversions
   C. Percent composition
   D. Stoichiometry
VIII. Gases
   A. Gas laws
   B. Kinetic molecular theory
IX. Solids and Liquids
A. General properties
B. Changes of state
C. Intermolecular attractions

X. Thermochemistry
   A. Energy and units
   B. Enthalpy
   C. Specific heat

XI. Chemical Equilibria and Kinetics
   A. Dynamic equilibria
   B. Equilibrium constants
   C. LeChatelier's principle
   D. Factors that influence reaction rates

XII. Acids and Bases
   A. Identification of acids and bases
   B. pH
   C. Reactions and equilibria
   D. Buffers

XIV. Solutions
   A. Solubility, dissociation and electrolytes
   B. Concentration
   C. Stoichiometry

XV. Nuclear Chemistry
   A. Types of radiation
   B. Balancing nuclear reactions
   C. Half-life
   D. Measurement
   A. Applications

Plagiarism Policy:
Students are expected to submit their work in their words or site sources by ACS standards (http://library.williams.edu/citing/styles/acs.php).

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

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/academic-resources/code-of-student-conduct.aspx