CHE 170 45Z2 (3644): General College Chemistry I Summer 2019 Online

Instructor Contact Information
Instructor Name/Title: Melanie Couch
Office Hours: By appointment. Use calendly.com/mel-couch link or email to make an appointment 24 hours in advance.
Office Location: JCC 260
Email Address: mcouch0017@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 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: 7/1/2019
Midterm/Last Date to Withdraw Without Instructor Permission: 7/15/2019

Textbook Information and Supplies
NOTE: The above book is included in the cost of the course. There is nothing separate you need to purchase.

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

Basic Structure:
This course is arranged in four units. Each unit consists of 2-3 chapters. Each chapter has two assignments, a LearnSmart Lesson, and a study guide. Additional materials may also be available for units to help you with the materials but they are not assigned. 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. LearnSmart Lessons are not available after their due date.

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. Chapter Study Guides are accepted late without penalty.

Unit Exam: This is a timed (120 min), two attempt exam with 40 questions covering the 2-3 chapters within the unit. Unit Exams are accepted late but receive a 2% per day penalty for being late.

Final Exam: This is a timed (120 min), single attempt exam with 40 questions covering the four units. The final exam cannot be submitted late.

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.

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

Grading Policy/Scale
Grading Summary
Due July 15, 2019 (Midterm): Unit 1 and 2

Unit 1
Chapter 1 LearnSmart: 100 points
Chapter 1 Study Guide: 100 points
Chapter 2 LearnSmart: 100 points
Chapter 2 Study Guide: 100 points
Chapter 3 LearnSmart: 100 points
Chapter 3 Study Guide: 100 points
Unit 1 Exam: 600 points

**Unit 2**
Chapter 4 LearnSmart: 100 points
Chapter 4 Study Guide: 100 points
Chapter 5 LearnSmart: 100 points
Chapter 5 Study Guide: 100 points
Chapter 6 LearnSmart: 100 points
Chapter 6 Study Guide: 100 points
Unit 2 Exam: 600 points

**Due July 27, 2019 (Finals): Unit 3,4 and final**

**Unit 3**
Chapter 7 LearnSmart: 100 points
Chapter 7 Study Guide: 100 points
Chapter 8 LearnSmart: 100 points
Chapter 8 Study Guide: 100 points
Chapter 9 LearnSmart: 100 points
Chapter 9 Study Guide: 100 points
Unit 3 Exam: 600 points

**Unit 4**
Chapter 10 LearnSmart: 100 points
Chapter 10 Study Guide: 100 points
Chapter 11 LearnSmart: 100 points
Chapter 11 Study Guide: 100 points
Unit 4 Exam: 600 points
Final Exam: 900 points

**Total points: 5500**

7/27 is the last day to submit assignments

**GRADING SCALE:**

- 90% -100% =A 4925 – 5500 points
- 80% - 89% =B 4372 – 4924 points
- 70% - 79% =C 3818 – 4371 points
- 60% - 69% =D 3273 – 3817 points
- Below 60% =E 3272 points and below

**Class Policies/Procedures**

**Inclement Weather Class Policy/Procedure**
Because this is an online class, inclement weather should not be an issue. Situations will be evaluated on a person by person 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 July 27, 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 July 6th 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.

Students may withdraw from class at their discretion and receive a grade of “W” up until last day to withdraw at the student’s discretion. After that date through the last day to withdraw at the discretion of the instructor, students can withdraw with a grade of “W” only if the student has completed the midterm and is currently passing with a grade of 60% or higher. Students wishing to withdraw who do not fit each of these criteria will not be permitted to do so and will receive an “E” grade (or appropriate letter grade as earned) at the end of the semester.

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: Lees Campus, Smith Admin Building, Room 101A
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. States of matter
B. Classification of matter
C. Properties of matter
D. Physical and chemical changes
E. Atomic theory
F. Formulas and Nomenclature of substances

IV. Atomic Theory and the Periodic Table
A. Fundamental particles
B. Isotopes
C. Quantum theory and 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
E. Hybrid orbitals

VI. Chemical Reactions
A. Balancing equations
B. Types of reactions
C. Net ionic equations
D. Redox equations

VII. Mole Calculations with Formulas and Equations
A. Atomic and molecular weights
B. Mass-mole conversions
C. Percentage composition
D. Empirical and molecular formula
E. Stoichiometry
F. Limiting reagents and percentage yields
G. Solution Stoichiometry

VIII. Gases
A. Gas laws
B. Stoichiometry with gasses
C. Kinetic molecular theory

IX. Solids and liquids
A. General properties
B. Changes of state
C. Intermolecular attractions
D. Types of solids
E. Phase diagrams

X. Thermochemistry
A. Temperature and heat
B. Energy and units  
C. Calorimetry  
D. Enthalpy and enthalpy changes  
E. Hess's law  

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

General Education Student Learning Outcomes  
**Natural Sciences (NS)**  
Conduct a hands-on project using scientific principles (category experience).  
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.