Chemistry 1405 Syllabus
Cedar Valley College

Instructor Information
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Office Hours: Tuesday & Thursday 2:00 – 4:00 pm
Division Office and Phone: M217 & 1(972) 8605211

Course Information
Course Title: Introduction to Chemistry
Course Number: Chem 1405
Section Number: 31420
Semester/Year: Fall 2019
Credit Hours: 4
Class Meeting Time/Location: INET
Certification Date: 09/09/2019
Last Day to Withdraw: 11/14/2019

Course Prerequisites
One of the following must be met:
(1) Developmental Reading 0093 or English as a Second Language (ESOL) 0044 or
(2) have met Texas Success Initiative (TSI) Reading standard.
(3) Developmental Mathematics 0090, 0091 or higher or the equivalent

Course Description
Introductory Chemistry I is designed to meet the needs of students with no background in Chemistry or who are in need of additional preparation before taking Chemistry 1411. Introductory Chemistry I is concerned with the study of matter presented at an introductory level. Topics covered include: matter and energy, chemical calculations, gas laws, atomic theory, bonding, molecular structure, chemical nomenclature, reactions and equations, chemical formulas and stoichiometry.

Disclaimer:
The instructor reserves the right to amend this syllabus as necessary.
**Student Learning Outcomes**

Upon completion of this course, the student should be able to:
1. Formulate a plan to obtain a desired quantity using the mathematics of the factor label method.
2. Be capable of deriving quantum numbers from spectral data
3. Provide the necessary coefficients to balance a given chemical equation.

**Texas Core Objectives**

In this course, the activities you engage in will give you the opportunity to practice the following core competencies:

1. **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

2. **Communication Skills** - to include effective development, interpretation, and expression of ideas through written, oral, and visual communication

3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

4. **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

**Required Course Materials**

**Required Lecture supplies.**

**Textbook**

**Scientific Calculator:**
Be sure your calculator has the capability to do exponents, logarithms and scientific notation numbers. [Example of recommended scientific calculator](#)

**Required Lab Supplies:**

**Lab Manual:**
The Laboratory Manual is Introductory Chemistry Laboratory Manual. This book can be purchased from the Cedar Valley College bookstore or directly from [http://www.lulu.com](http://www.lulu.com). The hard copy manual can be shipped or ordered as an e-book.
Lab Kit:

Lab chemicals:
Ecampus/blackboard has a list of household chemicals you need to purchase for each lab.

Digital Balance:
You can order any digital balance with an accuracy of 0.1 grams. [Example of digital balance with 0.1 increment](#)

Summary of Graded Work

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Quiz</td>
<td>1 @ 20 points</td>
<td>20 points</td>
</tr>
<tr>
<td>Lab Safety Form</td>
<td>1 @ 20 points</td>
<td>20 points</td>
</tr>
<tr>
<td>Laboratory Assignment</td>
<td>10 @ 20 points each</td>
<td>200 points</td>
</tr>
<tr>
<td>Homework</td>
<td>12 @ 15 points each</td>
<td>180 points</td>
</tr>
<tr>
<td>Vocabulary Assignment</td>
<td>11 @ 10 points each</td>
<td>110 points</td>
</tr>
<tr>
<td>Exams</td>
<td>1 @ 100 points</td>
<td>400 points</td>
</tr>
<tr>
<td>Signature Assignment</td>
<td>1 @ 70 points</td>
<td>70 points</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>1000 points</strong></td>
<td></td>
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</table>

Final Grade

<table>
<thead>
<tr>
<th>Points</th>
<th>Percentages</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>900-1,000</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>800-899</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>700-799</td>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>600-699</td>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-599</td>
<td>0-59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Description of Graded Work

**Syllabus Quiz:** The syllabus quiz has 20 multiple-choice questions about the syllabus. You will be allowed unlimited attempts at the quiz and your highest score will be counted towards your final course grade.
**Lab Safety Form:** A document that summarizes safety procedures and guidelines that must be observed at all times when completing the lab. Students must sign this form and submit before working on labs.

**Vocabulary Assignment:** Define vocabulary terms, state relevant laws, provide calculation paths and outline procedure for solving a problem. Students are to paraphrase definition instead of copying and pasting answers.

**Laboratory Assignment:** Hands on assignments that requires students to connect conceptual understanding with the laboratory experience.

**Homework:** Chapter homework assignments will be completed online. Students must purchase OWLv2 access code in order to access homework.

**Exams:** You will have 2 hours to complete the exam. Exam questions include multiple-choice, matching and true or false questions.

**Signature Assignment:** A research paper used to assess program-level learning outcomes – critical thinking, quantitative reasoning, and communication skills. Students will apply their knowledge, synthesizing information and analyze data pertaining to real-world problems.

**Late Work Policy**
A 25% penalty will be applied to late assignments. An exam can only be made up for a personal, family work or medical emergency. In order to take the exam, email instructor with a copy of official documentation supporting incident, if documentation is satisfactory, you will be allowed to take the test.

**Institutional Policies**
Institutional Policies relating to this course can be accessed using the link below. These policies include information about tutoring, Disabilities Services, class drop and repeat options, Title IX, and more.

*Cedar Valley Institutional Policies*
http://www.cedarvalleycollege.edu/syllabipolicies
Course Schedule
CHEMISTRY 1405 LECTURE AND LAB SCHEDULE
Plan to spend a minimum of 5 hours per week working on chemistry assignments

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Chapter</th>
<th>Reading the following chapters and Complete the vocabulary by due date:</th>
<th>Complete the following Labs by the due date, Submit Reports on ecampus</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/29</td>
<td>Orientation</td>
<td>Syllabus, Explore Ecampus, Complete Syllabus Quiz.</td>
<td>Submit Lab Safety Form via ecampus</td>
</tr>
<tr>
<td>09/01</td>
<td>2</td>
<td>Vocabulary : Matter and Energy</td>
<td>Lab: Graphing of Data / Math Modeling</td>
</tr>
<tr>
<td>09/08</td>
<td>3</td>
<td>Vocabulary : Measurements and Chem. Calculations</td>
<td>Lab: Dimens. Analysis and conversions</td>
</tr>
<tr>
<td>09/15</td>
<td>2&amp;3</td>
<td>Exam I (Sunday)</td>
<td></td>
</tr>
<tr>
<td>09/22</td>
<td>4</td>
<td>Vocabulary: The Gas Laws</td>
<td>Lab: Gas Laws Experiment</td>
</tr>
<tr>
<td>09/29</td>
<td>5</td>
<td>Vocab: Atomic Theory: Nuclear Model of the Atom</td>
<td>Lab: Percent Conc. of Sodium Chloride</td>
</tr>
<tr>
<td>10/06</td>
<td>11</td>
<td>Vocab: Atomic Theory: Quantum Model of the Atom</td>
<td>Lab: Determination of Quantum Numbers</td>
</tr>
<tr>
<td>10/13</td>
<td>4,5&amp;11</td>
<td>Exam II (Sunday)</td>
<td></td>
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<tr>
<td>10/20</td>
<td>12</td>
<td>Vocabulary: Chemical Bonding</td>
<td>Lab: Density of Pennies</td>
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<tr>
<td>10/27</td>
<td>13</td>
<td>Vocabulary: The Structure and Shape of molecules</td>
<td>Lab: Molecular Modeling</td>
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<tr>
<td>11/03</td>
<td>6</td>
<td>Vocabulary: Chemical Nomenclature</td>
<td>Lab: Paper Chromatography</td>
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<tr>
<td>11/10</td>
<td>12,13&amp;6</td>
<td>Exam III (Sunday)</td>
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<tr>
<td>11/17</td>
<td>8</td>
<td>Vocabulary: Reactions and Equations</td>
<td>Lab: Solutions</td>
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<tr>
<td>11/24</td>
<td>7</td>
<td>Vocabulary: Chemical Formula Problems</td>
<td>Lab: Balancing Chemical Equations</td>
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<tr>
<td>12/08</td>
<td>10</td>
<td>Vocabulary: Quant. Relationships in Chem. Reactions</td>
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<tr>
<td>12/12</td>
<td>8,7&amp;10</td>
<td>8,7 &amp; 10 Final Exam (Wednesday)</td>
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<tr>
<td>Date</td>
<td>Homework</td>
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<tr>
<td>08/29</td>
<td>Chapters Intro Due</td>
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<tr>
<td>09/01</td>
<td>Chapters 2 Due</td>
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<td>09/08</td>
<td>Chapters 3 Due</td>
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<td>12/08</td>
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