Introduction to Chemistry

Year Course Offered: 2014
Semester Course Offered: Fall
Department: NS
Course Number: Chem1305
Name of Course: Introduction to Chemistry
Name of Instructor: Chemistry faculty

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The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.
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Learning Objectives (LO)

This course is a fundamental principle of everyday chemistry for non-science majors. The introduction to chemistry stretches from fundamental science to applications, and describes what the everyday world is made of and applications of chemical science in all fields.

Upon successful completion of this course, students will be able to recognize the basic principles in chemical science and applications.

Work with peers to apply content knowledge in problem solving.

Core Objectives (CO)

Introduction to Chemistry addresses the following core objectives to ensure students develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in their lives. The core objectives meet the Texas Core Curriculum objectives for the Social and Behavioral Sciences Foundational Component Area.

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Social Responsibility - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.
- Team Work - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>CO</th>
<th>Assessment Methods</th>
<th>Criteria/Targets</th>
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<tbody>
<tr>
<td>1. Define the fundamental properties of matter. Determine the basic nuclear and electronic structure of atoms. Identify trends in chemical and physical properties of the elements using the Periodic Table.</td>
<td>CT, EQS</td>
<td>Exams</td>
<td>Students will be able to define the fundamental properties of matter. Determine the basic nuclear and electronic structure of atoms. Identify trends in chemical and physical properties of the elements using the Periodic Table.</td>
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<tr>
<td>2 Demonstrate understanding of the basic chemical science and their applications in daily life.</td>
<td>CT, COM</td>
<td>Assignment and tests.</td>
<td>Students will be able to demonstrate understanding of the basic chemical science and their applications in daily life.</td>
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<tr>
<td>3. Understanding how amino acids and proteins keep us healthy. Household chemicals and their environmental impact. Forensic chemistry and applications</td>
<td>SR, COM</td>
<td>Students will be evaluated based on quiz, lecture questions and answers.</td>
<td>Students will be able to understand how amino acids and proteins keep us healthy. Household chemicals and their environmental impact. Forensic chemistry and applications</td>
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</tbody>
</table>

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Tentative list of topics

Atoms: the chemical elements and their personalities  
Molecules: shapes and structures  
Chemistry and Structure of the Earth  
Food – Fertilizer  
Compounds and daily life  
Pharmaceuticals, dyes, perfumes, fabrics...what do they have in common? Carbon  
How amino acids and proteins keep us healthy  
Sugars are more than just sweet  
Why you should know about DNA  
Household chemicals and their environmental impact  
Forensic chemistry and applications