CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type
☒ Existing/Restructured
☐ New Course

Course Prefix & Number: **CHEM 1305**

Texas Common Course Number (TCCN): **1305**

Course Title: **Introductory Chemistry I**

Course Catalog Description

Introductory Chemistry I (4,3,3). A survey of chemistry including the metric system, scientific method, physical properties of matter, atomic structure, ionic and covalent bonding, naming of compounds, chemical reactions, stoichiometry, gas laws, liquids, solids, solutions, equilibrium, acid-based theory, electrochemistry, nuclear chemistry, and a brief survey of functional groups of organic molecules and biomolecules.

Course Prerequisites:

Available Online?
☐ Yes
☒ No

Part II: THECB Course Objectives

None provided.

Part III: THECB Skill Objectives
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 applications of scientific and mathematical concepts.
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

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Part IV: Course Student Learning Outcomes (SLO)

1. The student will demonstrate understanding of the science process and terms used in scientific communication, and be able to recognize and define basic chemical terminology involving matter and energy.
2. The student will understand and be able to use different measurement units and tools, convert from one unit to another, and perform calculations involving density and heat.
3. The student will differentiate between the basic parts of the atom, how the concept of atoms evolved historically, what role these parts play, and how they influence the periodic table, bonding patterns, and shapes of molecules.
4. The student will be able to name and write the formulas for simple inorganic compounds including salts, acids, and covalent molecules.
5. The student will be able to balance and characterize chemical equations and be able to perform calculations involving the mole and stoichiometry.
6. The student will be able to explain solvation and solve problems related to solution concentration and dilution.
7. The student will be able to describe the three acid-base theories and be able to use pH.
8. The student will be familiar with basic chemical lab equipment, and able to follow simple experimental protocol.

See attached syllabus.

Skill Objective:	**Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
THECB Course Objective	na
Course Student Learning Outcome	(SLO #3) The student will differentiate between the basic parts of the atom, how the concept of atoms evolved historically, what role these parts play, and how they influence the periodic table, bonding patterns, and shapes of molecules.
General Learning Activities	Student lab teams will complete the lab activity "The Ties That Bind." Students investigate the physical properties of compounds with ionic and covalent bonding. The experiments include melting point, conductivity, and solubility in water and acetone. Based on the trends that they observe, they classify various unknowns, given only the formula, as being either ionic or covalent. As a team,

	the student complete and submit a lab report. See attached activity.
Assessment ***Must Include Assignment & Rubric***	Grade, see attached rubric.

Skill Objective:	**Communication Skills:** to include effective written, oral, and visual communication
THECB Course Objective	na
Course Student Learning Outcome	(SLO #3) The student will differentiate between the basic parts of the atom, how the concept of atoms evolved historically, what role these parts play, and how they influence the periodic table, bonding patterns, and shapes of molecules.
General Learning Activities	Student lab teams will complete the lab activity "The Ties That Bind." Students investigate the physical properties of compounds with ionic and covalent bonding. The experiments include melting point, conductivity, and solubility in water and acetone. Based on the trends that they observe, they classify various unknowns, given only the formula, as being either ionic or covalent. As a team, the student complete and submit a lab report. See attached activity.
Assessment ***Must Include Assignment & Rubric***	Grade, see attached rubric.

Skill Objective:	**Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.
THECB Course Objective	na
Course Student Learning Outcome	(SLO #3) The student will differentiate between the basic parts of the atom, how the concept of atoms evolved historically, what role these parts play, and how they influence the periodic table, bonding patterns, and shapes of molecules.
General Learning Activities	Student lab teams will complete the lab activity "The Ties That Bind." Students investigate the physical properties of compounds with ionic and covalent bonding. The experiments include melting point, conductivity, and solubility in water and acetone. Based on the trends that they observe, they classify various unknowns, given only

	the formula, as being either ionic or covalent. As a team, the student complete and submit a lab report. See attached activity.
Assessment ***Must Include Assignment & Rubric***	Grade, see attached rubric.

Skill Objective:	**Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
THECB Course Objective	na
Course Student Learning Outcome	(SLO #3) The student will differentiate between the basic parts of the atom, how the concept of atoms evolved historically, what role these parts play, and how they influence the periodic table, bonding patterns, and shapes of molecules.
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