COURSE OUTLINE: CHM 94 - ACE CHEMISTRY

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Course Code: Title	CHM 94: ACE CHEMISTRY
Program Number: Name	8220: ACAD CAREER ENTRANCE
Department:	ACAD. UPGRADING SPONSORSHIP
Semesters/Terms:	18F, 19W, 19S
Course Description:	This course will utilize students` previous exposure to science, and build on that foundation through the expansion of various topics dealing with chemistry. In an introductory manner, the learner will be introduced to many aspects of chemistry, from defining chemistry to understanding topics such as matter, chemical reactions, bonding, gases, liquids, solids, and acids and bases. Threaded throughout the course is a discussion of chemistry in the environment. The course is divided into three compulsory core topics, and one of two electives. This curriculum is preparatory for continuation in a post-secondary college educational stream and career path.
Total Credits:	8
Hours/Week:	5
Total Hours:	100
Prerequisites:	ENG044, MTH050
Corequisites:	There are no co-requisites for this course.
Substitutes:	ACE020
Essential Employability Skills (EES) addressed in this course:	EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.
Course Evaluation:	Passing Grade: 70%, B
Books and Required Resources:	Pearson Custom Library: ACE Chemistry, Chem 94 by CATALYST: The Pearson Custom Library for Chemistry Publisher: Pearson ISBN: 978-1-256-60025-1

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Upon successful completion of this course, the student will demonstrate the ability to understand and utilize appropriate	1.1 Write in scientific notation 1.2 Calculate measurements of length, volume and mass 1.3 Use significant figures

terminology related to Measurement and Calculation.	1.4 Convert between various systems of temperature calculation
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Upon successful completion of this course, the student will demonstrate the ability to understand and utilize appropriate terminology related to Properties of Matter.	2.1 Define various states of matter 2.2 Identify characteristics of matter as gases, solids, liquids, and in solution 2.3 Name basic sub-atomic particles and list their properties 2.4 Name compounds
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Upon successful completion of this course, the student will demonstrate the ability to understand and utilize appropriate terminology related to Chemical Reactions.	3.1 Calculation of empirical and molecular formulas 3.2 Predict whether a chemical reaction will occur 3.3 Measure energy changes 3.4 Identify types of chemical reaction 3.5 Write a balanced equation 3.6 Define the mole concept 3.7 Describe modern atomic theory 3.8 Describe ionic and covalent bonds and explain how they are formed
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Upon successful completion of this course, the student will demonstrate the ability to understand and utilize appropriate terminology related to Electrochemistry (elective).	4.1 Name the components of galvanic and electrolytic cells and describe their roles in terms of oxidation and reduction 4.2 Explain the chemical reactions involved in corrosion 4.3 Relate the chemistry of corrosion to the chemical reactions in an electrochemical cell 4.4 Describe various techniques used to prevent corrosion of metals
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Upon successful completion of this course, the student will demonstrate the ability to understand and utilize appropriate terminology related to Organic Chemistry (elective).	5.1 Describe characteristics of the carbon atom in terms of bonding and the formation of long chain molecules 5.2 Explain the general properties of molecules containing oxygen or nitrogen 5.3 Identify the structure of alkanes, alkenes, alcohols, etc. 5.4 Represent covalent bonding in organic compounds 5.5 Use structural formulas to describe organic reactions

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight	Course Outcome Assessed
Learning Activities	20%	
Tests	80%	

Date: August 30, 2018

Please refer to the course outline addendum on the Learning Management System for further information.