

9/13/2022 DATE

☒ REQUIRED COURSE
☐ ELECTIVE COURSE

 MSD DIVISION
☐ NEW COURSE
☒ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:		CHM-101		TITLE: (30 Characters Max)		Physical Science II									
SEM CR HRS:		3		Lecture:		2		Lab:		2		ECH:		4	
Course Level:		<input checked="" type="checkbox"/> Gen Ed / IAI <input type="checkbox"/> Baccalaureate /Non-IAI		<input type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		Clinical Practicum:		0		SOE/ Internship:		0		SOE ECH: 0	
COURSE PCS #		11 - 40.0101		IAI Code		P1 903L		Contact Hours (Minutes Per Week)							
Repeatable (Y/N):		N		Pass/Fail (Y/N):		N		Variable Credit (Y/N):		N		Min:		Max:	
												16 Wks		200	
														8 wks	
														400	
Prerequisites:		None													
Catalog Description: (40 Word Limit)		An introductory discussion of chemical principles. Presents a balance between basic knowledge needed to understand the uses of chemicals and applications of chemicals in everyday life.													

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Non-Clinical Internship/ SOE
Careers in Chemistry	1	0		
Historical Review	1	0		
Metric System and Math Principles	3	2		
Atomic Theory	3	2		
Chemical Bonding	3	2		
Chemical Reactions	4	6		
Acid-Base Theory	4	6		
Organic Chemicals	4	6		
Drugs	2	2		
Oxidation and Reduction	2	2		
Chemicals and the Environment	3	2		
TOTAL		30	30	0
				0

EVALUATION			
QUIZZES <input checked="" type="checkbox"/>	EXAMS <input checked="" type="checkbox"/>	ORAL PRES <input checked="" type="checkbox"/>	PAPERS <input type="checkbox"/>
LAB WORK <input checked="" type="checkbox"/>	PROJECTS <input type="checkbox"/>	COMP FINAL <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>

COURSE MATERIALS	
TITLE:	Chemistry for Changing Times
AUTHOR:	John W. Hill
PUBLISHER:	Pearson Publishing Company
VOLUME/EDITION/URL:	12th
COPYRIGHT DATE:	2010

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Careers in Chemistry	1	Describe career opportunities in chemistry and related areas.
Historical Review	1	Describe the contributions of scholars to structure and reactions of matter.
Metric System and Math Principles	5	Use the SI and English system for calculation of mass, volume, length, temperature, density and make conversions between the two systems.
Atomic Theory	5	Describe Dalton's atomic theory and distinguish between atomic weight and atomic number. Describe the organization of the periodic table and use the periodic table to predict trends in the elements.

Chemical Bonding	5	Draw name simple molecular and ionic compounds. Distinguish between the two main types of chemical bonds
Chemical Reactions	10	Balance chemical equations and predict the products when a chemical reaction occurs.
Acid-Base Theory	10	Define the terms acid, and base calculate the pH of solutions from hydronium or hydroxyl in concentration, perform acid-base titrations.
Organic Chemicals	10	Classify organic compounds according to functional groups. Present and give uses of several compounds in each class of compounds.
Drugs	4	List the major types of drugs used in medicine and the dangers of abuse of drugs.
Oxidation And Reduction	4	Identify the major keys to recognizing redox processes, utilize oxidation numbers, Understand the role of redox in nature
Chemicals and the Environment	5	List the major types and sources of air and water pollutants and methods of control of pollutants.
60		

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	• Demonstrate an understanding of basic chemical concepts & principles
	• Be able to apply appropriate chemical concepts & principles, to the explanation of personal and societal experiences/problems
	• Understand the general structure & properties of compounds found in society
	• Evaluate scientific information found in the media.
	• Improve critical thinking skills
	• Safely collect data and analyze data obtained through experiments.

* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.