

Part II. 1. New Syllabus of Record

I. Catalog Description

Course Title: Concepts in Chemistry I

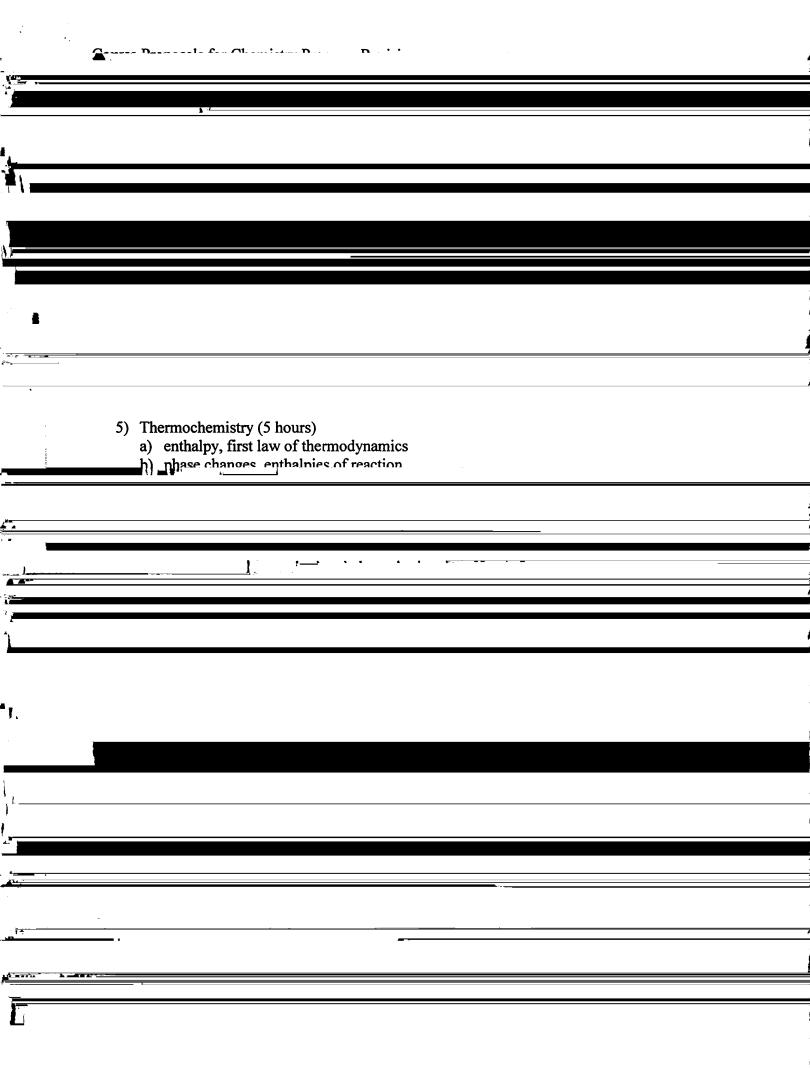
Prefix: CHEM

Hours: 3c-3l-4sh Prerequisites: none Co-requisites: none

Description: Introductory course for chemistry majors. This course is the first half of a two-semester sequence designed to give students the foundation of knowledge and laboratory techniques required to successfully complete a chemistry degree program. Topics include atomic theory, an introduction to chemical reactions, stoichiometry, thermochemistry, chemical bonding and molecular geometry, transition metal complexes, polymers and biomolecules.

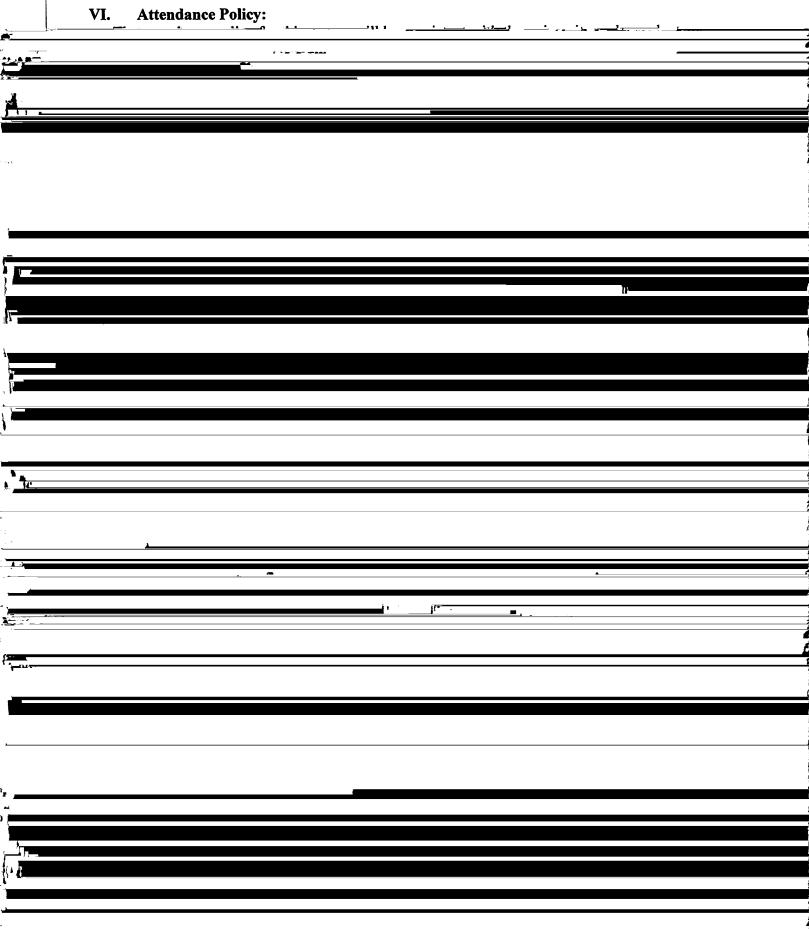
- II. Objectives: Upon the successful completion of the course, the student will:
 - 1) be familiar with the basic language of chemistry, including molecular formulas, nomenclature, and the writing of chemical equations.
 - 2) be able to carry out stoichiometric calculations related to chemical reaction systems.

- - 4) understand the current atomic model for matter and its historical development.
 - 5) be able to draw correct Lewis structures of any simple main-group molecule or polyatomic ion.



A: ≥90% B: 80-89% C: 70-79% D: 60-69% F: <60%

11. _50/0 **2.00** 0//0 00/0 1//0 2000 0//0 20



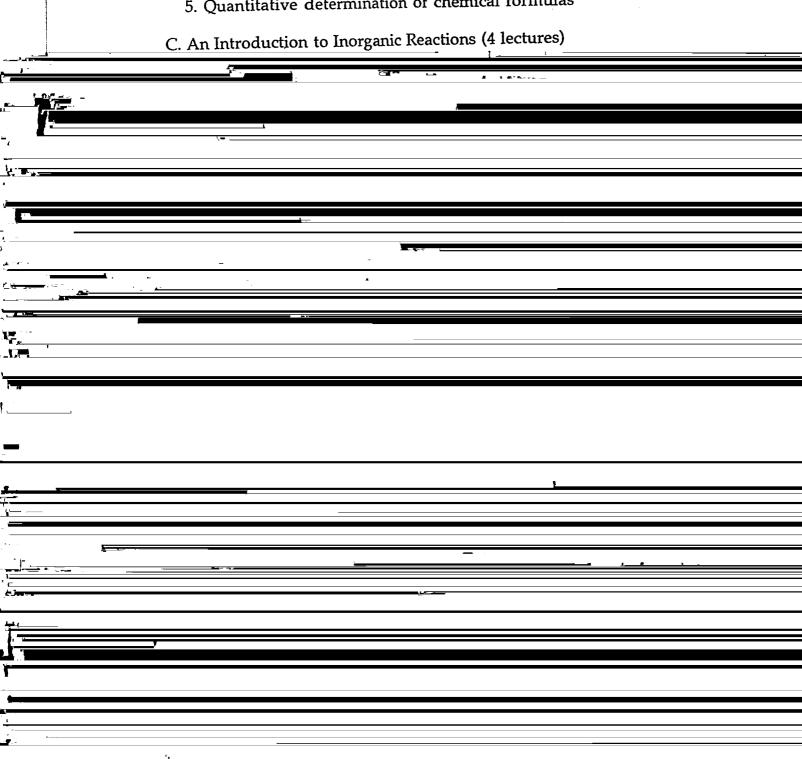
- 4) Hydrates
- 5) Acid-Base Titration
- 6) Precipitates
- 7) Qualitative Analysis
- 8) Zinc and Hydrochloric Acid
- 9) Dissolution Reactions
- 10) KOH & HCl
- 11) Chromatography
- 12) VSEPR Model
- 13) Molecular Models on a Computer
- 14) Check-Out and Final Quiz

P	art 11. 2. Summary of the proposed revisions.
<u> </u>	
	*,
<u>-</u>	
ť	
11 5	
-	
A	-
	An introductory course for chemistry majors. Topics covered include atomic theory, an

	Course Proposals for Chemistry Program Revisions	
• •	Part II. 4. Old syllahus of record.	
•		
<i>B</i> .	ı	
	COURSE SYLLABUS	
	I. Catalog Description	
• :	CH 113 - Concepts in Chemistry 4 credits 3 lecture hours	
. 1		
	·	
		<u> </u>
` <u>`</u>		
1		1
1_		
·		

III. COURSE OUTLINE

- A. Some Useful Ideas and Tools of Chemistry (1 lecture)
 - 1. Scientific measurement systems and units
 - 2. Problem-solving techniques
- B. Atoms, Molecules and Ions (4 lectures)
 - 1. Simple models of the atom
 - 2. The "mole" in chemistry
 - 3. The periodic table of the elements
 - 4. Chemical formulas and nomenclature
 - 5. Quantitative determination of chemical formulas



- 3. Properties of bonds
- 4. Molecular shape (VSEPR model)
- J. Further Concepts of Chemical Bonding (3 lectures)
 - 1. Valence bond theory
 - 2. Hybrid atomic orbitals
- K. Gases and Their Behavior (4 lectures)

- 2. The Ideal Gas Law
- V-16. C. Weleveler Allevent In Chili

- L. Intermolecular Forces, Liquids, and Solids (3 lectures)
 - 1. KMT and Intermolecular Forces
 - 2. Properties of Liquids
 - 3. Properties of Solids
- M. Solutions and Their Behavior (3 lectures)
 - 1. Units of Concentration
 - 2. The Solution Process
 - 3. Colligative Properties

V. Required Texts Lecture:

Chemistry 113 Laboratory Schedule

	_	Labora	atorv Schedule			
	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>				
	Ceneral Tonic	Experiment	<u>. </u>		-	
·						
· · · · · · · · · · · · · · · · · · ·			<u> </u>	· ·		
- 1 "- 		-				
	V					
	-					
R						
	· = =					
	A.4 / , %					
ţ.						
					<u>, </u>	
<u> </u>						
-						
_						
			¥ · ¥		1-1	
	Γ-					
				· ·		-
	÷ .					_
	<u>→</u> .					
١.						
l. 						
1-0-						
١.						
<i>l</i>						

Part II. 5. LIBERAL STUDIES COURSE APPROVAL. PARTS I-III: GENERAL INFORMATION

Us		-	
1			
·			
	I. Please indicate the LS category	(ies) for which you are applying:	
, 1	LEARNING SKILLS:		
	First Composition Course	Second Composition Course	
	Mathematics		
1	KNOWLEDGE AREAS:		
	Humanities: History	Fine Arts	
	Humanities: Philos/Rel Studies	Social Sciences	
İ	Humanities: Literature	Non-Western Cultures	
	X Natural Sci: Laboratory	Health & Wellness	
	Natural Sci: Non-laboratory	Liberal Studies Elective	
			
TT	Places you about marks to indicate which	nh I C anale ara nrimary sacandary incidental ar nat	
•••			
	A		
)	
•			
			
	-		
·			
6 -			
-	<u> </u>		
		£=\$-	
TTE			
.41.			
^31			
<u> </u>			
k			
<u> </u>			
I			
,			

significant contributions of such notable women and minorities as Marie Curie and	
]- - '3	
Stare.	
; 	

CHECK LIST -- NATURAL SCIENCES (Laboratory)

<u>X</u>	Treat concepts, themes and events in sufficient depth to enable students to appreciate the complexity, history and current implications of what is being studied; and not be merely cursory coverage of lists of topics.
<u>x</u> _	Suggest the major intellectual questions/problems which interest practitioners of a discipline and explore critically the important theories and principles presented by the discipline.
<u>X</u> _	Allow students to understand and apply the methods of inquiry and vocabulary commonly used in the discipline.
<u>X</u> _	Encourage students to use and enhance, wherever possible, the composition and mathematics skills built in
atur	al Science Criteria which the course must meet:
	al Science Criteria which the course must meet: Examine a body of knowledge of natural science that will contribute to an understanding of the natural world.
<u>x</u> _	Examine a body of knowledge of natural science that will contribute to an understanding of the natural
x X X	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification.
<u>x</u>	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses.
x x x x	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses. Provide an understanding of some of the "great moments" in the history of natural science and the
x x x x	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses. Provide an understanding of some of the "great moments" in the history of natural science and the individuals, including women and minorities, responsible for them.
X X X atur	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses. Provide an understanding of some of the "great moments" in the history of natural science and the individuals, including women and minorities, responsible for them. Pal Science Laboratory Criteria which the course must meet: Provide students with opportunities to learn and apply data-gathering techniques.
X X X atur	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses. Provide an understanding of some of the "great moments" in the history of natural science and the individuals, including women and minorities, responsible for them. **Tal Science Laboratory Criteria which the course must meet: Provide students with opportunities to learn and apply data-gathering techniques. Provide students with opportunities to develop skills in making accurate observations, in formulating concise and appropriate descriptions of natural phenomena, and in producing meaningful systems of
X X X atur	Examine a body of knowledge of natural science that will contribute to an understanding of the natural world. Provide an understanding of the development of natural science theories and their modification. Teach students to formulate and test hypotheses. Provide an understanding of some of the "great moments" in the history of natural science and the individuals, including women and minorities, responsible for them. **Tal Science Laboratory Criteria which the course must meet: Provide students with opportunities to learn and apply data-gathering techniques. Provide students with opportunities to develop skills in making accurate observations, in formulating concise and appropriate descriptions of natural phenomena, and in producing meaningful systems of classification for natural objects.