

COURSE IMPLEMENTATION DATE: [ ]  
 COURSE REVISED IMPLEMENTATION DATE: [ ]  
 COURSE TO BE REVIEWED DATE: [ ]

September 2002

September 2006

(Four years after implementation date)

**OFFICIAL COURSE OUTLINE INFORMATION**

Students are advised to keep course outlines in personal files for future use.

Shaded headings are subject to change at the discretion of the department and material will vary - see course syllabus available from instructor

 FACULTY/DEPARTMENT: CHEMISTRY

<b>CHEM 114</b>		<b>4</b>
<u>COURSE NAME/NUMBER</u>	<u>FORMER COURSE NUMBER</u>	<u>UCFV CREDITS</u>

PRINCIPLES OF CHEMISTRY II
COURSE DESCRIPTIVE TITLE

**CALENDAR DESCRIPTION:** This course is an introduction to principles of chemistry thermodynamics with application to aqueous equilibria and electrochemistry; fundamentals of structure and nomenclature of organic compounds, their isomerism and reactivity. Work performed in the laboratory complements lecture material. With Chemistry 113, this course will satisfy requirements for students wishing to pursue an honours or majors program in science.

**PREREQUISITES:** CHEM 113
**COREQUISITES:** None
**SYNONYMOUS COURSE(S)**

(a) Replaces: CHEM 112  
(Course #)

(b) Cannot take CHEM 112 for further credit  
(Course #)

**SERVICE COURSE TO:**
(Department / Program)
(Department / Program)
**TOTAL HOURS PER TERM:** 78
**STRUCTURE OF HOURS:**

Lectures:	45	hrs
Seminar:		hrs
Laboratory:	33	hrs
Field Experience:		hrs
Student Directed Learning:		hrs
Other (Specify):		hrs

**TRAINING DAY-BASED INSTRUCTION**

LENGTH OF COURSE: \_\_\_\_\_

HOURS PER DAY: \_\_\_\_\_

**MAXIMUM ENROLMENT:** 36
**EXPECTED FREQUENCY OF COURSE OFFERING:** \_\_\_\_\_

**WILL TRANSFER CREDIT BE REQUESTED?** (lower-level courses only)    YES X    NO \_\_\_\_\_

**WILL TRANSFER CREDIT BE REQUESTED?** (upper-level requested by department)    YES \_\_\_\_\_    NO \_\_\_\_\_

**TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:**    YES \_\_\_\_\_    NO X
**AUTHORIZATION SIGNATURES:**

 Course designer(s): Noham Weinberg

 Chairperson: \_\_\_\_\_  
(Curriculum Committee)

 Department Head: Noham Weinberg

 Dean: J. Snodgrass

PAC Approval in Principle Date: \_\_\_\_\_

 PAC Final Approval Date: December 7, 2001

**CHEM 114**


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 COURSE NAME / NUMBER
 

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**LEARNING OBJECTIVES / GOALS / OUTCOMES/ LEARNING OUTCOMES:**

Students will become familiar with the basic concepts of chemical thermodynamics and the principles of aqueous equilibria. They will understand the structure and isomerism of organic compounds and their reactivity. They will be able to display their expertise in understanding the lecture material and handling the laboratory equipment.

**METHODS:**

Lectures, labs, group problem-solving sessions.

**PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):**

Credit can be awarded for this course through PLAR YES \_\_\_\_\_ NO   X  

**METHODS OF OBTAINING PLAR:****TEXTBOOKS, REFERENCES, MATERIALS:**

Brown and LeMay, *Chemistry*

**SUPPLIES / MATERIALS:****STUDENT EVALUATION:**

Labs 20%  
Assignments and tests 80%

**COURSE CONTENT:**

- Principles of thermodynamics. First and second laws. Enthalpy, entropy, and Gibbs energy. Nernst equation. Electrochemistry.
- Equilibria. Aqueous equilibria. Solubility. Acids and bases. Buffers.
- Alkanes: structure, isomerism, reactivity.
- Stereochemistry of cyclic and acyclic alkanes.
- Alkenes: structure, isomerism, reactivity.
- Alkynes: structure and reactivity.
- Aromatic hydrocarbons: structure and reactivity.