UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2

COURSE IMPLEMENTATION DATE:[**September 2002**
COURSE REVISED IMPLEMENTATION DATE:[
COURSE TO BE REVIEWED DATE:[**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**

CHEM 113		**4**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

PRINCIPLES OF CHEMISTRY I

COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

An introduction to principles of chemistry with the emphasis on theory of atomic and molecular structure and bonding. Work performed in the laboratory complements lecture material. With Chemistry 114, this course will satisfy requirements for students wishing to pursue an honours or majors program in science.

PREREQUISITES: CHEM 11 and CHEM 12 or UCFV CHEM 093, and Principles of Math 12

COREQUISITES: MATH 111, PHYS 111 or PHYS 101 is strongly recommended.

SYNONYMOUS COURSE(S)

(a) Replaces: CHEM 111 *(Course #)*

(b) Cannot take CHEM 111 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 113

COURSE NAME / NUMBER

LEARNING OBJECTIVES / GOALS / OUTCOMES/ LEARNING OUTCOMES:

Students will become familiar with principles of atomic and molecular structure and chemical bonding. 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:

1. Atomic structure and atomic spectra.
2. Electronic structure of many-electron atoms, periodic trends.
3. Chemical bonding. Ionic and covalent bonds. Lewis diagrams.
4. Molecular structure. VSEPR model. Valence bond and MO theories.
5. Intermolecular interactions. Liquids, solids, gases. Gas stoichiometry.
6. Chemical kinetics.