UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2

COURSE IMPLEMENTATION DATE:[**September 2001**
COURSE TO BE REVIEWED DATE:[**September 2005**
(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 341		**4**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

INSTRUMENTAL ANALYSIS / APPLIED SPECTROSCOPY
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

An introduction to instrumental analysis with the emphasis on spectroscopic methods. Lecture material covers principles of chromatography and applied spectroscopy. Laboratory experiments illustrate lecture material.

PREREQUISITES: CHEM 211 and CHEM 241

COREQUISITES: None

SYNONYMOUS COURSE(S)

(a) Replaces: N/A
(Course #)

(b) Cannot take 441 for further credit
(Course #)

SERVICE COURSE TO:

(Department / Program)

(Department / Program)

TOTAL HOURS PER TERM: **86**

STRUCTURE OF HOURS:

Lectures:	42	hrs
Seminar:		hrs
Laboratory:	32	hrs
Field Experience:		hrs
Student Directed Learning:		hrs
Other (Specify):		hrs
Tests and Seminars	12	

TRAINING DAY-BASED INSTRUCTION

LENGTH OF COURSE:

HOURS PER DAY:

MAXIMUM ENROLMENT: **24**

EXPECTED FREQUENCY OF COURSE OFFERING:

WILL TRANSFER CREDIT BE REQUESTED? **YES** _____ **NO** **X**

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: October 25, 2000

CHEM 341

COURSE NAME / NUMBER

LEARNING OBJECTIVES / GOALS / OUTCOMES/ LEARNING OUTCOMES:

Students will become competent with a variety of techniques of instrumental analysis. They will be able to display their expertise in understanding the lecture material and handling the laboratory experiments.

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:

Skoog & West, *Fundamentals of Analytical Chemistry*

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

Labs	30%
Midterms	30%
Final	40%

COURSE CONTENT:

1. Data and sample handling.
2. Principles of chromatography
3. Atomic spectra. AAS.
4. Electronic spectra. UV/Vis spectroscopy
5. Vibrational spectra. IR and Raman spectroscopy
6. Principles of NMR
7. Principles of mass spectroscopy

Laboratory Experiments:

1. TLC lab
2. GC lab
3. HPLC lab
4. AAS lab
5. UV/Vis lab
6. IR lab
7. NMR lab
8. Lab exam