UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2

COURSE IMPLEMENTATION DATE:[**September 2000**
Revised: September 1999
COURSE TO BE REVIEWED DATE:[**September 2004**
(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 241		**4**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

ANALYTICAL CHEMISTRY
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

An introduction to analytical chemistry with an emphasis on analysis of solutions. Lecture material includes data and sample handling, principles of titrimetry and electrochemical methods, as well as an introduction to chromatography. Laboratory experiments illustrate lecture material.

PREREQUISITES: CHEM 111 and 112, or CHEM 101 and 102 with B+ or higher

COREQUISITES: None

SYNONYMOUS COURSE(S)

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

(b) Cannot take N/A for further credit
(Course #)

SERVICE COURSE TO:

(Department / Program)

(Department / Program)

TOTAL HOURS PER TERM: **90**

STRUCTURE OF HOURS:

Lectures:	45	hrs
Seminar:	12	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: **24**

EXPECTED FREQUENCY OF COURSE OFFERING:

WILL TRANSFER CREDIT BE REQUESTED? **YES** X **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: K. Wayne Welsh

PAC Approval in Principle Date:

PAC Final Approval Date: September 29, 1999

CHEM 241

COURSE NAME / NUMBER

LEARNING OBJECTIVES / GOALS / OUTCOMES/ LEARNING OUTCOMES:

Students will become competent with a variety of analytical techniques. 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:

D.C. Harris, *Quantitative Chemistry Analysis*, 5th ed., Freeman, 1999.

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

Labs	30%
Midterms	30%
Final	40%

COURSE CONTENT:

1. Data and sample handling.
2. Principles of solution equilibria.
3. Gravimetric analysis.
4. Titrimetry: neutralization, redox, precipitation, and complex-formation.
5. Introduction to electrochemistry.
6. Electrochemical methods: potentiometry, conductometry, coulometry, voltammetry, amperometry.
7. Introduction to chromatography.

LABORATORY EXPERIMENTS:

1. Gravimetric Lab.
2. Standard solutions
3. Neutralization titration lab.
4. Redox titration lab.
5. pH titration lab.
6. Potentiometric precipitation titration.
7. Conductometric titration lab.
8. TLC lab.
9. GC labs.

CHEM 241

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COURSE NAME / NUMBER

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