

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 or CHEM 213; 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: _____ December 4, 2002

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