

COURSE IMPLEMENTATION DATE: September 2000  
COURSE REVISED IMPLEMENTATION DATE: September 2006  
COURSE TO BE REVIEWED: December 2009  
(Four years after UPAC final approval date) (MONTH YEAR)

**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 the material will vary - see course syllabus available from instructor**

FACULTY/DEPARTMENT:	<b>CHEMISTRY</b>	
<b>CHEM 409</b>		<b>6</b>
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS
<b>UNDERGRADUATE RESEARCH IN CHEMISTRY</b>		
COURSE DESCRIPTIVE TITLE		

**CALENDAR DESCRIPTION:**

This course is for students pursuing a major in chemistry and involves the completion of a research project designed in consultation with a supervisor. Normally this course will be taken during the fourth year of study. It can be completed in either one or two semesters.

**PREREQUISITES:** At least six upper-level chemistry credits and permission of the department head.  
**Note:** As of September 2007, a grade of B or better in three 300-level chemistry courses and permission of the department head will be required.

**COREQUISITES:**

SYNONYMOUS COURSE(S)	<b>SERVICE COURSE TO:</b>
(a) Replaces: <b>N/A</b> (Course #)	(Department/Program)
(b) Cannot take: <b>N/A</b> for further credit. (Course #)	(Department/Program)

TOTAL HOURS PER TERM: <b>180</b>	TRAINING DAY-BASED INSTRUCTION
<b>STRUCTURE OF HOURS:</b>	LENGTH OF COURSE: _____
Lectures: _____ Hrs	HOURS PER DAY: _____
Seminar: _____ Hrs	
Laboratory: _____ Hrs	
Field Experience: _____ Hrs	
Student Directed Learning: <b>180</b> Hrs	
Other (Specify): _____ Hrs	

MAXIMUM ENROLLMENT:	<b>5</b>
EXPECTED FREQUENCY OF COURSE OFFERINGS:	<b>Every year</b>
<b>WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**AUTHORIZATION SIGNATURES:**

Course Designer(s): \_\_\_\_\_ Chairperson: \_\_\_\_\_  
Chemistry Curriculum Committee Gillian Mimmack (*Curriculum Committee*)

Department Head: \_\_\_\_\_ Dean: \_\_\_\_\_  
Arthur Last Jackie Snodgrass

UPAC Approval in Principle Date: \_\_\_\_\_ UPAC Final Approval Date: December 7, 2005

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

Upon completion of the course, a successful student will have demonstrated the ability to:

- Carry out a literature search on their chosen research topic.
- Formulate a written research proposal in which the rationale for their choice of research topic is presented.
- Perform the necessary experimental work and/or use the relevant computer software in order to complete the project in a timely, safe, and effective manner.
- Handle all necessary equipment and chemicals in a safe and effective manner.
- Master any specific techniques required to complete the chosen project.
- Produce a written report on their research, written in a clear and scholarly way, and in the style of a major scientific journal.
- Present the results of their research by means of a seminar or other form of presentation approved by the supervisor and department head.

**METHODS:**

Student directed learning. The student will work closely with a faculty member who has expertise in the selected research area.

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

Credit can be awarded for this course through PLAR (Please check:)     Yes                     No

**METHODS OF OBTAINING PLAR:**

N/A

**TEXTBOOKS, REFERENCES, MATERIALS:**

[Textbook selection varies by instructor. An example of texts for this course might be:]

The student will be expected to access the chemical literature using on-line and/or traditional methods.

**SUPPLIES / MATERIALS:**

All necessary laboratory materials and/or computing facilities will be provided.

**STUDENT EVALUATION:**

[An example of student evaluation for this course might be:]

Student proposal	10%
Intermediate report	15%
Intermediate oral presentation	15%
Final report	30%
Oral presentation	30%

**COURSE CONTENT:**

[Course content varies by instructor. An example of course content might be:]

N/A