

University of Arkansas – Fort Smith
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General Syllabus

CHEM 4421 Instructional Methods II

Credit Hours: 1

Lecture Hours: 0

Laboratory Hours: 3

Prerequisite: CHEM 4401 Instructional Methods I

Effective: 2018-2019

I. Course Information:

A. Catalog Description

Field experience in tutoring students in lower-level college chemistry courses. Students work in assigned labs two hours per week and meet with peers one hour per week to discuss strategies and compare experiences. Class may be repeated for a total of two hours.

B. Additional Information

This course is intended for majors in the physical/earth science secondary education degree program. The intent is to provide the student with specific content area experience at a relatively early point in the pursuit of the degree. Tutoring will be in CHEM 1203, 1304, 1314, 1404, and 1414. Other than CHEM 1404, 1414, the courses being tutored involve students with no chemistry background. By tutoring in these courses and in CHEM 1404, 1414 the student will develop an understanding of what difficulties students experience in studying physical sciences as they progress from high school to college. It will also provide them with experience concerning the range in level of retention of material exhibited by students. The hour that the class meets as a group will be a set scheduled time on the UAFS campus. The two hours of tutoring will be arranged to fit the schedule of the student and tutor groups. If the course is repeated for credit it will be considered elective credit. If the class is repeated, effort will be made to ensure that the same course and/or instructor are not reassigned.

II. Student Learning Outcomes

A. Subject Matter

Upon completion of this course, the student should be able to:

1. Evaluate specific challenges that a teacher faces in assisting students in learning

- chemistry and in the retention of material as students' progress in their studies.
2. Analyze specific areas of chemistry that students find particularly confusing or difficult to master.
 3. Document observations of students and propose multiple approaches to present material in the physical sciences.
 4. Assess a personal interpretation of a difficult concept of students studying physical sciences. Explanation should be appropriate to grade level.
 5. Apply and develop simple materials that would aid student in the understanding of physical sciences.

B. University Learning Outcomes

Instructional Methods II enhances student abilities in the following general education areas:

Analytical Skills

Critical Thinking Skills: Students will identify a problem or issue and will research, evaluate, and compare information from varying sources in order to evaluate authority, accuracy, recency, and bias relevant to the problems/issues. The student will generate solutions/analysis of problems/issues evaluated and will assess and justify the solutions and/or analysis.

Communication Skills (written and oral)

Students will communicate proficiently. The student will compose coherent documents appropriate to the intended audience and effectively communicate orally in a public setting.

Ethical Decision Making

Students will model ethical decision-making processes. The students will identify ethical dilemmas and affected parties and will apply ethical frameworks to resolve a variety of ethical dilemmas.

Global & Cultural Perspectives

Students will reflect upon cultural differences and their implications for interacting with people from cultures other than their own. The students will demonstrate understanding or application of their discipline in a global environment and will demonstrate how their discipline impacts or is impacted by different cultures.

III. Major Course Topics:

- A. Many of the topics in chemistry will be touched upon as the students act as tutors.
- B. Learning styles of, preparedness level of, and difficulties faced by students as they transition into college.
- C. Student-teacher relationships and interactions.
- D. Multiple methods of approaching a concept or problem.