University of Arkansas – Fort Smith
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General Syllabus

CHEM 4401 Instructional Methods I

Credit Hours: 1 Lecture Hours: 0 Laboratory Hours: 3

Prerequisite: CHEM 1414 College Chemistry II

Effective: 2018-2019

I. Course Information

A. Catalog Description

Field experience in local junior or senior high school working as tutor in chemistry related content. Students work in assigned school two hours per week and meet on campus one hour per week to discuss strategies and compare experiences. 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 and age level experience at a relatively early point in the pursuit of the degree. The hour each week that the class meets as a group will be a set scheduled time on the UAFS campus. The two hours in the assigned school will be arranged between the student and that school. If this class is repeated for credit, it will be considered elective credit. If the class is repeated, effort will be made to ensure that the student is placed in the level (junior or senior high) and school system not experienced when the course was taken originally.

II. Student Learning Outcomes

A. Subject Matter

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

1. Evaluate specific areas of chemistry that secondary education students find particularly confusing or difficult to master.
2. Assess specific challenges that a teacher of secondary education students faces in assisting those students in learning chemistry.

3. Apply what is observed in working with secondary education students to multiple approaches in presentation of material in the physical sciences.
4. Evaluate a personal interpretation of a difficult concept of secondary education students in their study of physical sciences.
5. Analyze and develop simple materials that would aid a secondary education student in the understanding of physical sciences.

B. University Learning Outcomes

Instructional Methods I enhances student abilities in the following 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 basic topics in chemistry will be touched upon as the students act as tutors.
B. Learning styles of secondary education students.
C. Student-teacher relationships and interactions.
D. Multiple methods of approaching a concept or problem.