CHEM 2906

Division: Natural Science and Mathematics
Department: Chemistry
Course: CHEM 2906
Title: In-depth Investigations in chemistry
Catalog Description:

This course is designed to give students an in-depth look at a chemistry related topic. It includes weekly reading assignments, meetings, group discussions, and excursions to pertinent sites. Students will be expected to show self motivation and participate as part of a group learning dynamic. Monetary funds for excursions, supplies, and texts will be provided by the students, with some possible help from the institution.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 1; Lecture: 1; Lab: 0
Clock/Hour Requirements: 0
Offered for Non-Credit: No
Prerequisites: Instructor approval

Justification:

This course will serve to help the chemistry department maintain a pocket of academic excellence. A special investigations class such as this does that by providing a unique, exciting, student-enticing, and teacher-fulfilling experience. In short, it draws attention to what we do best at Snow College - that being the provision of academic experiences that lingers in our students minds for life. The institution does not guarantee monetary funding, but each instructor wishing to offer the course may apply to their department head and division dean who may find justification and provide such funds.

Student Learning Outcomes:

Students will be able to explain the historical basis and current context of the chosen topic either orally or in written form. Students will demonstrate the chemical reactions and transformations involved in the topic by drawing and explaining the reactions and the chemical processes involved. Students will formulate fact based opinions and be able to defend their positions orally. Students will describe the societal impact and future possibilities that the topic holds. Finally, students will empathize with those making moral decisions and those being affected by them in association with the topic of study.

Content:

The content will be determined on a semester basis and be formulated by the instructor. The topics will be timely, have social as well as chemical impact, and be in line with the interest of those that participate in the course. Each time the course is offered, the instructor will design outcomes and assessment that will match the current topic. The course is designed to be flexible so that each instructor desiring to offer the course can tailor it to their personal expertise or interest. One purpose of this course is to enhance current educational practices by including a depth component to the breadth component of an associate degree. An example of this would be a course on the development and deployment of the atomic bomb. In this course, students would read texts that

describe the history of this project and the chemical reactions involved. They would then visit the sites in New Mexico where the major event took place. Afterwards, continued reading and discussion concerning the history an

General Education Outcomes:

1) Read effectively, constructively, and critically.
Students will demonstrate the ability to read both historical and chemical documents by participating in group discussions where they provide critical evaluations of this reading. An example is conduction a group critique of a website that offers an opinion concerning the use of atomic bombs.

2) Write clearly, informatively, and persuasively.
Students will demonstrate writing ability by constructing a research based report on their acquired knowledge associated with the investigation that they pursue. This will be graded against a rubric created by the instructor for the assignment.

5) Apply a cultural and historical awareness to a variety of phenomena.
Students will express orally and in writing the relationship between historical events and the future impact the topic will have on civilization and the environment.

7) Apply scientific reasoning to a variety of contexts.
Students will use acquired understanding of chemistry as well as historical knowledge to formulate opinions as to the future impact and precautions that society should consider in the context of the course.

Key Performance Indicators:
Text reading: (15 20 %) An appropriate text will be used for each topic and course Meeting Attendance: (15-20 %) Weekly meetings will be held for instruction, student discussion and for student presentations. Journal writing: (10 15 %) A journal entry will be made at the end of each meeting and at pertinent times during excursions. These entries will focus on student learning and on their individual feelings about the events discussed. Report: (15 20 %) Students will compose a written report on an associated topic. Presentation: (15 20 %) Students will present material or lead a discussion during one of the meetings. Excursion: (15 - 20%) A site visit that can provide more direct learning will be a crowning point in the course.

Representative Text and/or Supplies:
Texts will be chosen by the instructor to match the topic of study

Optimum Class Size: 12
Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

_____

, ,

I hereby find this course consistent with the goals and resources of the Chemistry Department:

_____

Mark Wathen, PhD, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

_____

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

_____

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

_____

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)