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.

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
Credit/Clock Comments: Repeatable for credit.
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--the provision of academic experiences that linger in our students minds for life.

Student Learning Outcomes:

Students will be able to explain the historical basis and current context of the chosen topic orally and/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. 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 for each session 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 his or her 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. Afterward, continued reading and discussion concerning the history and science associated with the atomic bomb project would take place. Evaluation of student learning would be a ccomplished by the method best fitting the course content.

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 readings. An example is conducting a group critique of a website that offers an opinion concerning the use of atomic bombs.

7) Apply scientific reasoning to a variety of contexts.

Students will acquire an understanding of the chemistry and the historical background associated with the topic be ing studied. They will examine how the scientific method plays into discoveries in science. Their understanding of the use and implication of the scientific method will be assessed by evaluation of student writing assignments and oral class discussions.

Key Performance Indicators:

Each instructor will determine how to assess student learning, but generally these assessments will include written responses, special projects, exams, quizzes, and class discussion.

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:

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Dan Black, EdD, Associate Professor

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

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Mark Wathen, PhD, Assistant Professor, Chair

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

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Dan Black, EdD, Associate Professor, Dean

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

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

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)