

Immersion in Real World Chemistry

Bangkok, Thailand

Contact information:

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General description:

Immersion in Real World Chemistry course will explore the ways chemistry impacts our lives every day. Topics will examine the ways in which chemists look at the world and apply chemical principles within the framework of social and environmental issues. This course allows students, including chemistry and non-chemistry majors, to experience the connections between chemistry and society. It also allows students to develop basic chemical knowledge, critical thinking ability and competence to better assess risks and benefits, and make informed and reasonable decisions about chemistry based issues.

Main objectives and goals:

In addition to developing student's critical thinking and global orientation competencies, this course is intended to assist students to:

- See the relevance of chemistry to everyday life and understand how chemistry enables materials to be used in the service of humankind
- Understand the major issues such as environmental pollution
- Be aware of the impact which chemistry has in our world and the responsibility that chemistry be used for the good of the society and for the sustainability of the environment
- Understand and apply the scientific method
- Make use of chemical principles and terminology in communicating chemistry related social and environmental topics in written and oral formats
- Enhance their ability to interact with cultural differences, understand and consider issues from diverse perspectives.

Student assessment:

This course has three main components:

- i. A pre-departure component with readings and a preparatory assignment.
- ii. A study-abroad component that involves travel and project assignments in Bangkok, Thailand.
- iii. Final Exam.
- iv. A self-study component designed to produce a project paper and oral presentation.

Student pre-departure preparation.

Students are provided reading materials and a preparatory assignment before the departure to Thailand.

Student Grade:

To earn 3 hour credits, students are graded based on a chronicle of the entire study abroad experience in the form of:

- i. Field journal.
- ii. Project assignments in Bangkok, Thailand.
- iii. Final Exam.
- iv. Final project paper and presentation.

Field journal - include a photo essay with text, PowerPoint slides for a visual presentation plus a documented paper. Students will record observations on project assignments from their field trips. Journals will serve as a reference for the final project.

Case Study and Project assignments – student shall select topics of interest with relevance to chemistry with respect to architecture, food, medical sciences, pollution, cultural, social and environmental issues or any area of a specific interest in Thailand. With the goal of developing a learner-centered approach, this course will apply Bloom's Taxonomy (knowledge, comprehension, application, analysis, synthesis and evaluation) to design guided question categories in project assignments.

Final project paper and oral presentation – Topics might include observations that pertain to any topic of interest with relevance to chemistry in Thailand and how they are similar or differ from the USA.

Prerequisites and credit equivalency:

CHEM 400 Integrated Studies – a liberal arts general education course (3 credit hours)

Prerequisites – College Algebra and a general education course in Introductory Chemistry (or high school chemistry)

or

CHEM 491 Selected Topics (3 credit hours)

Prerequisites – College Algebra, General Chemistry and Organic Chemistry

Syllabus: Grading Scale

- i. Pre-departure work (10%):***
 - a. Reading and preparatory assignments***
- ii. In-country work (65%):***
 - a. Project assignments***
 - b. Field journal***
 - c. Guided question assignments***
- iii. Post-program project (25%)***
 - a. Final written paper and oral presentation***
 - b. Final Exam.***