

CHEM 187S
Science Gateway Seminar I
2011 is the International Year of Chemistry
Professor Michelle Foster
Fall 2011
Wed and Fri 11:00 – 11:50
S-02-063

We will be using the Blackboard Learning System for this Course

<https://login.umassonline.net/boston.cfm>

As well as a group page in WikiSpaces

<http://chem187-f11.wikispaces.umb.edu/>

Professor Michelle Foster

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Office Hours: Tuesday 1:30-2:30pm; Thursday 1:00-2:30pm; Friday 1:00-2:00pm; or by appointment

Peer Mentors: {Office Hours to be determined}

Taraneh Farhangmehr: Taraneh.Farhangme001@umb.edu

Daniel Kosilla: Daniel.Kosilla001@umb.edu

Corey Pasakarnis: cpclp2468@gmail.com

Reading Material

The Disappearing Spoon, by Sam Kean

The Joy of Chemistry, by Cathy Cobb & Monty L. Fetterolf.

Both are available in paperback from online vendors such as Amazon.com.

Course Overview

This is the first course in a two-semester sequence, two credits each semester. Successful completion of the sequence will fulfill the student's First-Year Seminar requirement. Students will be co-developers of this freshman seminar series that will be based primarily on inquiry-based science education with a focus on the discussion of topics with broad societal impact that have important scientific underpinnings – with a particular focus on chemistry. Desired outcomes will focus on students developing discovery skills, becoming self-driven learners, learning to work in groups, and being successful at the university. This course will maximize students' potential for success in the university and the scientific community.

Course Organization

The course will focus on several topics of discussion. Each will occupy two to three weeks of time. Students will have the opportunity to help in selecting topics and in determining the length of time spent on any particular topic. Potential topics include:

Periodic Table – use, trends, elemental discovery, etc.

Materials Chemistry – semiconductors, nanotechnology, plastics and polymers, etc.

Environmental Chemistry – ozone hole, global warming, air and water pollution, etc.

Green Chemistry – sustainability, lifetime analysis, toxicology, etc.

Alternative Energy – electrochemistry, fuel cells, solar power, nuclear power, etc.

Health-Related Chemistry – nutrition, hygiene, medicine

2011 Nobel Prizes - ??? to be announced

Etcetera - student identified science topics in the news

Students will be organized into groups, and work collaboratively on assignments associated with various topics. On-line collaborative tools, particularly the course wiki, will enable joint effort and discussion even at a distance or when logged in at different times. At times, class time will also be devoted to in-person discussion and work on group wiki pages. Over the course of the academic year our students will develop many wiki pages, which can easily be made available to a wide audience if we choose.

In addition to discussion of science topics, class time will also include presentations from a variety of guest speakers who can describe UMass Boston resources for student success.

Grades

Grades follow the traditional scale (>93, A; 90-92, A-; 87-89, B+; 83-86, B; 80-82, B-; etc.) The scales might be lowered, but it will not be raised. Your final score will be calculated in the following manner:

- 20% Class Attendance** – All students are expected to attend and actively participate in each class session.
- 30% Group Assignments** – Each student group member will receive a grade for satisfactory completion of assigned topics. The wiki permits individual contributions to be documented.
- 20% Group Leadership** – Each student will be asked to act as group leader for both development of the wiki page and for the presentation for one topic each semester.
- 30% Individual Assignment** – Each student will be required to produce a 2-page paper coupled with a 10 minute presentation as a final project.

Quizzes

Pop quizzes may occur at any time. They count as extra credit towards your final grade.

Student Conduct

Students are required to adhere to the University Policy on Academic Standards and Cheating, to the University Statement on Plagiarism and the Documentation of Written Work, and to the Code of Student Conduct as delineated in the University Catalog and Student Handbook. The Code is available online at:

http://www.umb.edu/student_affairs/programs/judicial/csc.html

Accommodations

Section 504 of the Americans with Disabilities Act of 1990 offers guidelines for curriculum modifications and adaptations for students with documented disabilities. If applicable, students may obtain adaptation recommendations from the Ross Center for Disability Services, M-1-401, (617-287-7430). The student must present these recommendations and discuss them with each professor within a reasonable period, preferably by the end of Drop/Add period.