

WRIT 1111-43: Hollywood Science: Fact or Fiction
Autumn 2006

Instructor Information

Dr. Keith Miller
Chemistry and Biochemistry
Seeley G. Mudd 105
303.871.7721
kmiller3@du.edu

Class meetings: MW 2:00 – 3:50 PM, Boettcher Center East 102
Office hours: By arrangement

Required Course Items

- Saferstein, R. (2007). *Criminalistics: An introduction to forensic science* 9th ed. (available for purchase in DU Bookstore).
- Crichton, M. (2004). *State of Fear*. (available for purchase in DU Bookstore).
- An inexpensive calculator is required. It should have the capabilities for square roots, logarithms, and exponential (scientific) notation operations. You are responsible for understanding how to perform each of the operations on your calculator. **Remember to bring your calculator (or laptop) with you to every class.**
- You will be required to read the Tuesday edition of *The New York Times*, specifically the science section. As students, you can receive a copy of this paper free around campus.

COURSE DESCRIPTION

The portrayal of science in modern cinema, television, and literature impacts the way many individuals view science and its relationship to society. However, producers and/or authors invoke their “literary or artistic license”, skewing the “real” science from which the center themes of these genres are based. Unfortunately, this leaves many with an incorrect perception of the actual science. This first year seminar is designed to introduce students to the scientific principles and potential ramifications of trace gas increases on global warming, and the basic principles surrounding forensic science.

CLASS MEETINGS

The seminar will be predominately conducted in an active-learning environment. Students are expected to come to each class prepared to discuss the assigned topic and participate in integrated activities. These activities will include discussions, exercises and laboratory experiments that have been specifically designed to re-enforce the course material. I will also lecture on material that may not be found in the assigned readings. I frequently will ask you to work with other students to solve problems or answer questions. I encourage you to make the most of these interactions. Experience has shown that other students often succeed in describing concepts where professors and instructors fail. Group participation is expected, and thus portions of these group activities will be graded. Groups will be assigned for specific activities by the instructor.

Class attendance and participation is mandatory. A significant portion of your final grade will be assigned to each. You will be allowed one (1) excused absence for the quarter. Every absence after that (and any unexcused absence) will result in the automatic lowering of one grade level (e.g., A to A-).

READINGS AND DAILY ASSIGNMENTS

Assignments for each topic will be completed prior to class. These assignments will be from the assigned texts or supplemental material. When a reading is assigned, you are expected to come to the next class prepared to discuss the material. To facilitate these discussions, you will be required to turn in a typed paragraph describing your reaction to the assigned reading (when appropriate), and three (3) thoughtful questions. The paragraph should not merely be a summary of the material. Each of these daily assignments will be evaluated and returned to the student. One of the goals for this seminar is to help each of you learn how to critical evaluate a piece of scientific writing and convey your evaluation in a concise, written manner. I therefore expect to you improve throughout the quarter, and the grading of your these short assignments will be reflective of this expectation.

QUIZZES

I will periodically give a brief quiz at the beginning of the period. The quiz will be unannounced, but you will be able to use any notes you have taken while reading your assignments. You will not, however, be able to reference the text of the assigned reading during the quiz.

COMMUNITY SERVICE PROJECT

As part of the seminar, you will be expected to perform a minimum of 15 hours of community service assisting elementary school students, preferably in math and/or science. There are many different opportunities that you have to fulfill this requirement, and a presentation of these opportunities will be given during the first week of class. You will be required to keep a journal of your activities and complete a short reflection piece at the end of the quarter.

WRITING ASSIGNMENTS/ORAL PRESENTATION

You will be required to complete a minimum of four (4) writing assignments during the quarter. Two of the assignments will be to compose a short (2 pages) reaction paper on a current scientific topic found in *The New York Times*. One of the assignments will be to compose a summary/reaction paper of a cultural event held on the DU campus (And no, I don't consider a hockey game culture!). The final assignment will be a reflection paper from your service project. In addition to the short writing assignments, each of you will be required to give the class an 8-10 minute presentation on your community service project. Specific format of the presentations will be decided in class. Additional guidelines will be provided for each of these assignments.

CRIME INVESTIGATION

The class will be broken down into three (3) to five (5) CSI units for the duration of the course. Initially, you will work together to understand the principles behind conducting scientific investigations, using the study of ice cores and climate data to help understand climate change. Groups may be re-assigned prior to the crime investigation assignment. During the 5th week of the quarter, each CSI group will be assigned a "crime" to solve by the end of the quarter. Some role-playing will be required, so enjoy "playing the part"!!! You will be required to submit progress reports, as a group, to me (the Chief of the DU Crime Lab) periodically. During the Final Examination period, your group will be required to present the findings of your case to the entire

class (and invited guests!!). This project will count for 30% of your final grade. Participation grades for the group will be partially determined by peer evaluation, and will be factored into your course participation grade.

GRADES

At the end of the quarter, you will be graded according to your performance on the assigned work, class attendance, and class participation. I encourage teamwork; thus, I grade on an absolute scale. Your final grade will be determined by the following scale:

Class attendance	<i>see earlier guidance</i>
Class participation/Quizzes	20%
Crime Scene Investigation	30%
Writing Assignments	20%
Service project/Oral presentation	30%
Total	100%

DINNER WITH THE CHANCELLOR

Every Autumn quarter, Chancellor Coombe host all first-year students and their mentors for dinner in the Gottesfeld Room at the Ritchie Center. The dinner is from 6:00 to 8:00 PM, and is a great experience. Please plan to attend the event. If you cannot attend on our assigned date, another date that fits your schedule can be arranged. **Our date is Monday, November 6, 2006. Please mark it on your calendars now!!**

CELLULAR PHONE AND PAGER POLICY

I respect the need for each individual to stay in contact with family and friends. The use of cellular phones and pagers, however, is disrupting to the learning environment. Thus, I request that the ringers of all cellular phones and pagers be muted during class. If an emergency arises, and you need to make a call on your phone, I request that you quietly leave the room and conduct your conversation out in the hallway.

LECTURE ACCOMODATIONS

We will make every effort to accommodate students diagnosed with a learning disability. We will do this in complete confidence. We do, however, request that any student requiring these accommodations inform me the first week of class. For further information, please see the University Disability Services' website at <http://www.du.edu/disability/dsp/index.html>.

ACADEMIC DISHONESTY

While we advocate collaborative learning and teamwork, we also firmly believe that each individual should maintain the highest ethical standards in all of life's endeavors. As such, we support and will strictly enforce the Honor Code of the University of Denver. For your reference, we have included the links for the Honor Code Statement and Honor Code Procedures for Students below. For further information, please see the Office of Citizenship & Community Standards' website at <http://www.du.edu/honorcode/statement.htm> for the Honor Code Statement and at <http://www.du.edu/honorcode/studentprocedure.htm> for the Honor Code Procedures for Students.

Tentative Course Outline

Week 1	Introduction; assign <i>State of Fear</i> ; RCI Assessment; Discoveries assessment Global warming basics; greenhouse gases: the available data
Week 2	Creation and destruction of greenhouse gases in the atmosphere Discussions of <i>State of Fear</i> ; outreach projects
Week 3	Ice core data (data and assigned readings) Ice core continued; carbon cycle
Week 4	View movie (<i>The Day After Tomorrow</i>) Discussions on <i>The Day After Tomorrow</i> ; outreach projects
Week 5	Forensic science introduction; crime scene investigations Assign crimes to teams; trace evidence
Week 6	Principles of chemical detection; blood/fluid toxicology Lab experience: fingerprints; outreach projects
Week 7	View <i>CSI</i> episode; discussion Lab experience: toxicology tests of body fluid
Week 8	DNA analysis; outreach projects Lab experience: DNA sequencing
Week 9	Arson analysis Lab experience: arson investigation
Week 10	Oral Presentations Concluding thoughts; Review
Finals Week	Monday, November 20 – 1:00 to 2:50 PM