

Chemistry 5250/7250 Fall 2010
Advanced Contemporary Chemistry

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Website: <http://classes.uleth.ca/201003/chem7250a/>

Text Book

No text is required. Any learning materials will be made available as class hand-outs, posted on the website or emailed.

Overview

There are many extremely important skills involved in being a scientist that have little to do directly with the particular field of study. It is one thing to do good science, but one must also be able to disseminate the results effectively. This involves writing clear, concise papers and grant proposals, preparing engaging and informative posters and presenting work orally in a professional manner.

Keeping abreast of developments in your field by adequately surveying the literature in your area is critically important. Coupled with this is the acquisition and storage of such information in such a manner that it is accessible and easily incorporated into publications and theses. Just as important is the ability to critically evaluate what appears in the literature. Not all of it is of equal quality, and not all of it is correct. There are times when skepticism can be very healthy indeed.

The newspapers are full of celebrated examples of people who have been found guilty of misconduct in their schoolwork or in their profession. We will discuss ethics and conflicts of interest as they pertain to doing science.

Classes

Classes will involve:

- presentations from visiting scientists, fellow students and our own faculty
- discussions of the presentations and the related papers (distributed prior to the lectures)
- guest lectures on specific topics (Library, CV development, ethics, grantsmanship)
- presentations (by class members), discussions and analyses of papers of interest from the scientific literature

Prerequisites

You must be enrolled in an MSc. or PhD. program.

Assessment

Attendance/Class Participation

10

You are expected to attend all classes and seminars. Repeated, unexcused absences will strongly affect the class participation portion of your grade. Class participation is essential in seminar-based course, so you will be assessed on your participation in class discussions following seminars and presentations. In particular, you will be expected to ask pertinent questions at these presentations.

Library assignment

10

Shelley Ross, the chemistry librarian, will be lecturing on the use of various library resources, particularly online resources, and how they can be used to extract information. Scifinder Scholar, Web of Science, eBooks, online journals and the Library's own online system will be on the agenda. Shelley will set an assignment based on the use of the various tools.

CV

5

We hope to have a guest lecturer from the Career Resource Centre give a workshop on developing a good Curriculum Vitae. We'll look at several examples and examine the differences between an academic CV and one designed for those seeking jobs in government or industry. Since you may (and should) have a CV, your CV will constitute an assignment.

Papers (1 per student)

10

An approximately 1500-word critical review (good or bad) of a paper in the literature. A presentation based on this paper will also be given (see below). Papers should be approved by the instructor in advance. Specific instructions will be made available.

Presentations (2 per student)

20

Each student will give a twenty-minute presentation based on their paper and a thirty-minute presentation based on their research proposal. Detailed instructions will be posted on the website.

Literature Review**20**

A review of the literature that pertains directly to your graduate work. Think of this as an opportunity to get an early start on the introduction to your thesis.

Research Proposal**25**

You will be asked to prepare an original research proposal. For PhD students, this will be based on work that is not directly related to your specific area of your graduate research. MSc students may base their proposal on their graduate project. These will be done using the NSERC format for both forms 100 (10 marks) and 101 (15 marks). Your graduate supervisor will be asked to vet your topic and assess the scientific merit of your proposal.

Exams

There will be no exams in this course.

Late penalties

All papers are due within one week of the presentation. Late submission will be subject to a penalty of 10% per day. The same will apply to the literature review and the grant proposal. Deadlines for these will be posted.

Seminar Schedule and Presentation Schedule

See the course website at <http://classes.uleth.ca/201003/chem7250a/> for updated information. Already set are:

Cheating:

IF YOU ARE CAUGHT CHEATING YOU WILL BE ASSIGNED A GRADE OF F INSTANTLY AND A LETTER DESCRIBING YOUR OFFENSE WILL BE PLACED IN YOUR STUDENT FILE. TWO SUCH LETTERS IS GROUNDS FOR EXPULSION FROM THE UNIVERSITY. STUDENTS WHO CHEAT, CHEAT THEIR FELLOW STUDENTS.

It is important that you understand what constitutes plagiarism. Plagiarism is defined as the taking of someone else's thoughts, writings or inventions and using them as one's own. When you are writing a paper on some topic, you must read up on the topic, get the necessary information and then present it IN YOUR OWN WORDS. If you use a sequence

of text verbatim (i.e. exactly) from someone else's work, THAT IS A QUOTE and must be cited (to give proper credit to the author) in a particular way. If you use an idea or data from someone else's work, then that work must be cited specifically as a reference, and/or in your paper's bibliography. Beware of information that is found on the web -- it is rarely primary source information. IF, IN THE COURSE OF WRITING A PAPER, YOU EXECUTE A CUT AND PASTE FROM A WEBSITE OR OTHER SOURCE without any citation, YOU HAVE COMMITTED PLAGIARISM.

There is a difference between working together with a friend and plagiarism. If, after conferring with others, what you write down is based on your understanding of the topic and is in your own words, then that is acceptable. If, however, you look at a friend's answer to a question, and then simply write (essentially) the same thing on your assignment, then you have committed plagiarism. PLAGIARISM IS CHEATING and is subject to discipline as described in the university calendar. If you are unclear about this issue, then speak to your instructor.