



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF CHEMISTRY
CHEM 502 COURSE OUTLINE

1. **Course:** Chemistry 502, Research in Chemistry Session: Spring/Summer 2015
Coordinator: George Shimizu SB 403, 403-220-5347, gshimizu@ucalgary.ca
2. **Prerequisites:** Consent of the Department.
3. **Grading:** The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Written literature review	10%	Due Friday, June 12
Research Progress Meeting	20%	Wednesday, July 8
Research work	25%	
Final written report	25%	Due Wednesday, August 19
Final oral presentation	20%	Wednesday, August 26
	100%	
4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar
5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours.

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.
6. **Course Materials:** As per individual supervisor.
7. **Examination Policy:** There will not be a final examination in this course scheduled by the Registrar, but the final oral presentation will be arranged during the examination period at times convenient for all parties involved.
9. **Writing across the curriculum statement:** e.g. "In this course, the quality of the student's writing will be a factor in the evaluation of those reports." See also [Section E.2](#) of the University Calendar.

11. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

- (a) **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties.

- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following link: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: suypaca@ucalgary.ca
SU Faculty Rep. Phone 403-220-3913 Email: science1@su.ucalgary.ca, science2@ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email ombuds@ucalgary.ca
<http://ucalgary.ca/provost/students/ombuds>
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

The following signature lines should be added to the course outline as appropriate

Department Approval: Approved by Department Head

Date: May 11, 2015

Department of Chemistry
CHEMISTRY 502 Guidelines

Spring/Summer 2015

Course Coordinator: Dr. G. Shimizu
Phone: 220-5347
email: gshimizu@ucalgary.ca

The following procedures have been established for this course. Note that it is a full course and requires nine hours per week (on average) over both the Fall and Winter sessions. Therefore, eighteen hours per week is required over the spring and summer.

1. Selection of Committee Member

After consultation with your supervisor, select another faculty member to serve on your supervisory committee and ask that person if he or she would be willing to act in that capacity. This individual should have research interests which are related to your project and will be available to provide advice to you over the course of your project.

2. Literature Review/Proposal (Value: 10% of Final Grade)

A 10 page summary of the prior published literature and the relevant research carried out in your group, as well as a section concerning your goals and how these relate to past work, due by **Friday, June 12, 2002**. Three copies are required: One for your supervisor, one for your Committee member, one for the Course Coordinator.

3. Research Progress Meeting (Value: 20% of Final Grade)

A meeting must be held between yourself, your supervisor, your committee member and the course coordinator to assess your progress during the first semester. These meetings will be held on **Wednesday, July 8, 2015**. During this meeting a brief progress report must be given in the form of a 15-20 minute talk. This should include a clear indication of the objectives of your research project and a description of what you have done and what you have observed to date. Also, a brief description of the work you plan to carry out in the remaining weeks should be provided. You should then be prepared to discuss your work with your committee members. You will be assigned a grade based on the first semester's work at this point by the faculty members present. Criteria used to arrive at this assessment will be your level of industry, presentation of the chemistry, ability to talk about your results and the quality of the results obtained.

4. Written Report (Value: 25% of Final Grade)

A written report should be submitted to the course coordinator, your supervisor and the other member of your committee by Wednesday, August 19, 2015. The report must be in typed form (double spaced and appropriately indented) and all figures and tables must be clearly and carefully drafted. Check with your committee to see the format they prefer to receive the report.

The report should be written in the style of a paper for a scientific journal, but perhaps be somewhat more detailed. In terms of format, you will be required to download the "Instructions to Authors" for the ACS Journal most suited for your work and follow them explicitly in writing your report. Most journals require basically the following:

Introduction/Background - a clear summary of objectives of work and review of prior relevant literature in the area.

Methods/Experimental - detail of methods, approaches, experiments, equipment, etc. employed.

Results - presentation of relevant data in the form of figures, tables, etc., and a verbal description of the trends observed, and how the data was then manipulated or treated, etc.

Discussion - indicate what the implications of your findings are, how they relate to prior literature, etc. (may be combined with the Results section)

Conclusions - summary of the main findings of your research; perhaps add a section regarding what future work could still be done in the area, etc.

References - a list of all literature referenced using ACS style of citation.

Acknowledgement

The Final Report is a key component of the course and should be considered to be similar to a Final Examination. It MUST be handed in by the prescribed date or you will lose marks (10% deducted, for each day's delay). Please consult the course coordinator if you have any questions regarding any of the above. It may be useful to examine previous Chemistry 502 reports in order to gauge the general layout, length and style of the report.

5. Final Oral Presentation (Value: 20% of Final Grade)

The oral presentation will be made **Wednesday, August 26, 2015**.

The presentation should be approximately 30 to 40 minutes in length and it will be followed by a discussion period. Only ONE hour should be taken in total for the presentation plus question period.

Students will be evaluated on the following:

- (i) Organization of material
- (ii) Clarity of the presentation
- (iii) Quality of slides, transparencies or other aids
- (iv) Conclusions
- (v) Handling of questions and discussion

6. Research Work (Value: 25% of Final Grade)

It is anticipated that your commitment to Chemistry 502 averages to about eighteen hours per week over the Spring and Summer terms. Whenever you are carrying out laboratory research work, be sure that someone else is present in your lab or in a nearby lab, in case of emergency or accident.

Students are graded in this component of Chemistry 502 by their supervisor on the basis of their time commitment, their enthusiasm, their ability to work independently, particularly as the project evolves, their creativity and other contributions to the project and their overall research skills.