

UNIVERSITY OF CALGARY  
FACULTY OF SCIENCE  
DEPARTMENT OF CHEMISTRY  
COURSE SYLLABUS  
Spring-Summer 2020

**Course: CHEMISTRY 502, Research in Chemistry**

Instructor: Individual Supervisor

**Coordinator:** Dr. Gregory C. Welch, [gregory.welch@ucalgary.ca](mailto:gregory.welch@ucalgary.ca), EEEL 546, 403-210-7603

To avoid IT problems, it is recommended that the students use their U of C account for all course correspondence.

Desire 2 Learn (D2L): CHEM 502  
<https://d2l.ucalgary.ca/d2l/home/171384>

Departmental Office: Room SA 229, Tel: (403) 220-5341, e-mail: [chem.undergrad@ucalgary.ca](mailto:chem.undergrad@ucalgary.ca)

**The following procedures have been established for this course. Note that it is a full course and requires a strong commitment over both the Fall and Winter sessions.**

**1. Selection of Committee Member**

In consultation with your supervisor, another faculty member must be identified to serve on your supervisory committee and then determine if that person is willing to serve in this capacity. This individual should have research interests that are related to your project and thus should be able to provide advice to you over the course of your project. Email the course coordinator the name of the committee member.

The deadline is:  
**May 18, 2020**

**2. Literature Review/Proposal and Outline of Remote Learning Project**

An approximately 10-page summary (typed, 12 point, double-spaced), including a review of the prior published literature, the relevant research carried out in your group, your research goals/objectives/hypothesis and how these relate to past work, and a few pages covering the methods/approaches/techniques you expect to use during your work. A clear outline of how this work will be carried out remotely, i.e. with no access to the research laboratory must be detailed. Three copies are required, one for your supervisor, one for your committee member, and one for the Course Coordinator.

The deadline is:  
**May 25, 2020.**  
(Value: 25% of Final Grade)

**3. Midterm Research Progress Meeting**

A meeting will be held on with your supervisor and your committee member, and open to the course coordinator, fellow 502 students, and chemistry department members if you choose. Supervisor and committee member to assess your progress during the first half of the course. This meeting must be held prior to **June 29, 2020**. During this meeting, a brief progress report must be given by the student in the form of a 15-20-minute talk (*this can also be quite informal, using few or no slides, and if remote learning is in place via an online platform*). This presentation should include a clear indication of the objectives of your research project and a description of what has been done and observed to date. Also, a brief description of the work that is planned for the remaining months should be provided. You should then be prepared to discuss your work with your committee members. You will be assigned a grade on the first semester's work by the committee members, based on the degree of motivation shown, the quality of results obtained, the clarity of your talk, and your knowledge and understanding of the project.  
(Value: 25% of Final Grade)

**4. Written Report**

A written report must be submitted to the course coordinator, your supervisor, and the other member of your committee. The Chemistry 502 report is to be written as if it were being submitted for publication to a scientific journal. Therefore, the report must be in typed form using a journal manuscript preparation template and all figures and tables must be clearly and carefully drafted according to the standards set by your chosen journal. While the report should be written in the style of a paper for a scientific journal, it could be somewhat more detailed. Regarding

format, you will be required to download the "Instructions to Authors" for the journal most suited for your work and follow them explicitly in writing your report. The original copy of your report, as well as all photocopies, should be bound (soft cover coil type binding would be adequate). Your supervisor will keep the original copy of your report. You may also be required to submit to your supervisor an electronic copy of the final report, your lab notebook and any data acquired during the project (e.g. spectra, X-ray data, etc.). Discuss these requirements with your supervisor. The Final Report is one of the key components of the course and should be like a Final Examination. It MUST be handed in by the prescribed date or you will lose marks (10% deducted for each day late).

The deadline is:

**August 12, 2020.**

**(Value: 25% of Final Grade)**

#### **5. Final Oral Presentation**

The final oral presentations must be made prior to the last day of the exam period, **August 18, 2020** at a time convenient for you and the members of your committee. The presentation should be approximately 20-30 minutes in length and will be followed by a discussion period of up to 30 minutes. A maximum of ONE hour will be available for the presentation plus the question period. The presentation is to meet with current standards of professionalism, e.g., utilizing PowerPoint presentation software. Times can be arranged by the course coordinator if you choose. They will be open to the department and it will be recommended you attend your fellow 502 students' presentations. If remote learning is still in place this presentation will be carried out using an online platform (e.g. Zoom, MS Teams).

**The oral presentations will be evaluated using the following criteria:**

(i) Organization of material

(ii) Clarity of the presentation

(iii) Quality of slides

(iv) Conclusions

(v) Handling of questions and discussion (knowledge and understanding of project)

**(Value: 25% of Final Grade)**

All grades due to the course coordinator on or before August 28, 2020.

Department Approval: Approved by Department Head

Date: May 2020.