

CHEM 443 Proposal Guidelines and Format

Approved by the Chemistry Discipline: 10/01/01

A. CHEM 443 - Research for Advanced Credit

The chemistry discipline offers CHEM 443 as an option for advanced chemistry elective credit (1-3 hours) in its ACS-approved program. Enrollment in CHEM 443 requires that the student prepare a research proposal describing the goals and work to be completed. The student then completes the work with guidance from a faculty member and details the results of the project in a written report. This document details the requirements for CHEM 443 and provides some suggestions for successful completion of a CHEM 443 project.

Criteria:

- Enrollment will not be allowed until a research proposal following the format described below has been approved (with or without minor revision)
- The research proposal must be submitted to the Convener by December 1 for consideration for Spring Semester, August 1 for Fall Semester, and May 1 for Summer Semester.
- Work requirements (number of hours per week, etc.) will be determined by the Faculty mentor, but are typically 3-4 hours per week per credit hour.
- The final draft of the research proposal must be submitted to the Convener within fourteen days after the semester begins.
- A copy of the final research report (described below) must be turned in to the research mentor and the Convener before issuance of a final grade.

B. Research Proposal Format

The following must be submitted to the Chemistry Convener before the proposal will be considered:

I. Cover sheet in the following format:

Proposal Title
Student Name
Faculty Mentor

A CHEM 443 proposal to be completed during the _____ term.

II. Project Narrative (six page maximum, double spaced, 12 point font)

- Purpose:** State the purpose of the project.
- Background:** Provide a brief discussion of the relevant background of this particular project including a concise analysis of the literature, if appropriate, and previous work that has been done in preparation for this project. Any literature citations should be referenced in the format of the *Journal of the American Chemical Society*.
- Importance of the Project:** Explain the importance of the project to your discipline, and to a broader audience. Who will be affected by the results of this project?

- D. **Objectives:** Describe specific objectives of the current project, in other words, what do you plan to accomplish during the grant period. If this proposal is part of a larger project, explain how the current project builds on or extends previous work.
- E. **Methodology or Procedures:** Describe exactly what procedures or activities will take place during the research period. What specific activities will you undertake?
- F. **Evaluation:** Describe how the effectiveness of this project will be assessed, and what criteria will be used to measure fulfillment of each of the objectives listed in the proposal. This section should be discussed extensively with your mentor so that you clearly understand each other's expectations.
- G. **Timeline:** Include a timeline that sequentially outlines the progression of activities that will take place during the entire research period. The timeline may be presented graphically or in outline form.

Helpful Hints for the Proposal:

- You, the student, should write the proposal, but you will find it very helpful to have your mentor read it and provide suggestions. Have others read it as well (faculty, classmates, etc.). The more feedback you get, the better your proposal will be.
- DON'T PROCRASTINATE! Waiting until the night before the proposal is due before beginning virtually guarantees a poor job!
- Here are some common questions reviewers ask themselves as they read proposals. Keep these in mind as you write your proposal.
 - ♦ Is the overall goal of the project well conceived?
 - ♦ Are the specific objectives clearly stated?
 - ♦ Can the project be completed in the time allowed?
 - ♦ Are the necessary resources available?
- Talk to your mentor frequently before and during the research process! Be sure that your mentor is kept up to speed on the project.

C. Final Research Report

A final research report must be submitted to your research mentor and the Chemistry Convenor before a final grade will be issued. Guidelines for this report have been prepared by the Committee on Professional Training of the American Chemical Society and are posted on the following website:

<http://www.chemistry.org>
(search for "research report guidelines")

Helpful Hints for the Research Report: see **Helpful Hints for the Proposal** (substitute the word "report" for "proposal").