

GUIDE FOR THE PREPARATION OF BACHELOR'S ESSAY
CHEMISTRY 499

Course Description Statement in College of Charleston Catalog

“A year-long research and writing project done during the senior year under the close supervision of a tutor from the department. The student must take the initiative in seeking a tutor to help in both the design and the supervision of the project. A project proposal must be submitted in writing and approved by the department prior to registration for the course.”

Departmental Directives:

The writing phase of this project is not to be initiated during the last semester prior to spring semester graduation. If laboratory research is involved, the project must be approved during the fall semester, and preferably before November 1. The completed first copy should be ready for review and correction by March 1, and the final copy should be completed by April 1. Departmental approval of the completed manuscript must be obtained before the end of the Spring semester. The final determination of deadlines and target dates will be made by the research director, when the results of a laboratory research project become the focus of a Bachelor's Essay manuscript.

The guidelines are presented on the following pages in the following sections: I. Introduction
II. General Requirements III. Technical Instructions IV. Format

I. INTRODUCTION

A Bachelor's Essay is a permanent record of information gained through study and research. It is the final culmination of the student's efforts, coupled with those of his/her advisor and the department. The Bachelor's Essay reflects upon the credibility of all those concerned and upon the College of Charleston as well.

This guide for preparation of a Bachelor's Essay is designed to assist the student in the organization and presentation of his/her material. Further, it ensures reasonable consistency of format and complete and coherent reporting of the research.

It is preferred that an Essay be prepared in the format of the intended journal of publication of a research project or projects. This may require some alteration of the requirements stated herein; however, any deviation in presentation requirements must be with the approval of the advisor and department.

II. GENERAL REQUIREMENTS

Number of Copies:

Each participant shall submit five quality complete and signed copies of his/her Bachelor's Essay to the Department and Advisor as follows:

- Copy 1 - College of Charleston Chemistry Department
- Copies 2 and 3 - Bachelor's Essay Advisor
- Copy 4 - Student
- Copy 5 - College of Charleston Library

Format for Bachelor's Essay:

The Bachelor's Essay shall consist of the following components in the order listed below:

1. Cover Sheet
2. Title and Approval Page
3. Acknowledgments
4. Table of Contents
5. List of Tables
6. List of Figures/Diagrams/Pictures (when applicable)/Scheme Drawings of Chemical Structural Formulas [It is not necessary to list single structural formulas or organic chemical equations. The formula must be clearly numbered and described in the narrative text. Equations should also be numbered.]
7. Abstract
8. Text
 - a. Introduction
 - b. Results and Discussion
 - c. Summary and/or Conclusion
 - d. Experimental Section
9. Literature Cited
10. Appendices (where appropriate)

Details pertinent to each of these items are included.

III. TECHNICAL INSTRUCTIONS

Original Manuscript: The original manuscript shall be prepared, using 21.6 x 28 cm (8.5x11 inches) white bond paper of twenty (20) pound weight, 100% rag content. The utilization of a word processor and laser printer is quite acceptable and highly recommended.

Copies: The additional copies to be presented must be clean, clear photocopies on at least 20% rag content, acid-free paper. Laser printed copies are certainly acceptable and highly recommended.

Type: ChemDraw and WordPerfect and other word processing programs are available, and they are highly recommended. Manuscripts may be typewritten or printed, pica (10) or elite(12) pitch only, Roman, Times New Roman and of medium weight and proportion. If typewritten, the manuscript must be typed on an electric office-style typewriter with black carbon-film ribbon. If printed the manuscript must be printed in letter quality type.

Appearance: Clean copies, free of strike-overs, or obvious erasures must be submitted. Special symbols may be added using India or permanent black ink. All signatures must be in permanent black ink. The utilization of a work processor and laser printer would ensure quality presentation of material, and both are highly recommended.

Margins: The left-hand margin, the binding margin, must be 3.65 cm (1.5 inches). The top and bottom margins must be 2.5 cm (1 inch) except the top margin of the first page of each new section which must be 5 cm (2 inches). The right-hand margin must be approximately 2.5 cm (1 inch). The right margin must not be justified.

Spacing: All material in the manuscript text (including abstract), literature cited, table headings and figure legends will be double-spaced, if a typewriter is used, or 1.5 spaced if ChemDraw or other appropriate word processing is used. Each section will begin a new page. All headings must be centered, with all words capitalized.

Each paragraph must be indented five (5) spaces. Do not end a line of text with a hyphen.

Pagination: Each page except the cover sheet has a number (whether it appears or not). The Title page is page one (lowercase Roman numeral one), not expressed. All preliminary pages are lowercase Roman numeral, numbered in sequence. The Introduction of the text is page 1, Arabic, not expressed. All subsequent page numbers appear, except on the first page of each new section. All numbers shall be centered at the bottom of the page 11.25 cm (0.5 inch) from bottom, set off with hyphens, e.g., -5-.

Proofing: Accuracy in proofing is the student's responsibility. Careful proofreading of draft versions, including careful checking of Literature Cited against the text is mandatory. Extra care should be used, to ensure good grammar, punctuation, and

spelling. The student, his/her advisor and one additional faculty member should be involved in proofing/editing manuscripts.

Matters of Rhetoric: Matters of rhetoric must be given careful attention. It is assumed that a student has developed sufficient writing skills to guarantee usage of the English language with clarity and facility. Lack of attention to inflection and syntax may well diminish the value of the Essay and often makes it invalid. Students will find it profitable to refer to (1) a handbook of composition, (2) a dictionary, and (3) a thesaurus. Use of a wordprocessor with spelling and thesaurus capabilities is strongly recommended and encouraged.

IV. FORMAT

Cover Sheet: The cover sheet is a blank sheet which precedes the title page.

Title and Approval Page: The title and approval page should follow the exact format of an appropriate page designed by the student advisor and department chairman. The following should be completely capitalized: Title, Author, Department, Date, and "Approved by." This page is not numbered but is counted in the numbering of subsequent pages.

Acknowledgments: In this section, the student will give credit to persons or organizations who aided in the planning and conduct of the research and Essay preparation and review. Credit should also be given for financial aid such as grants. This section is normally only one concise paragraph.

Table of Contents: This section contains a listing of each major division and any subdivisions which occur indicating the page on which each begins. The divisions should be completely capitalized. Subdivisions should be indented five (5) spaces and only the first letter in each word should be capitalized. The Table of Contents page is numbered using lowercase Roman numerals.

List of Tables: This section contains a listing of all tables included in the Essay and the page on which each is located. The titles of the tables may be shortened versions of the actual title (but avoid exact duplication of title). The list of tables page is numbered using lowercase Roman numerals.

Lists of Figures/Diagrams/Pictures (when applicable)/Drawings of Chemical Structural Formulas: This section contains a listing of all figures, diagrams, etc. included in the Essay and the page on which each is found. The titles of figures, drawings, etc., may be shortened versions of the actual legends (but avoid exact duplication of title). The list of figures/diagrams, etc., page is numbered using lowercase Roman numerals. It is not necessary to list single structural formulas or organic chemical equations. The

formulas, must be clearly numbered and described in the text. Equations should also be numbered.

Abstract: The abstract is a concise, informative summary of the Essay, emphasizing new information and the relevance of the work. It should normally not exceed 3% of text length but the requirements of the journal to which the Essay may be submitted should serve as the primary guide. Normally, an abstract should not exceed a single page.

The Text:

Introduction: The purpose of the introduction is to introduce the reader to the problem. The Introduction is a concise statement of the problem and an outline of the scope, aim, and nature of the research. The significance/importance of the project should be included here. It should also include a review of the literature pertinent to the subject.

Results and Discussion: The results reflect the findings of the student's investigation only, not the findings of other researchers in the area. This is a summarized form of extensive data that may appear in the figures, tables and/or appendices. The discussion is designed for an analysis of the data acquired. In this section, the student may draw comparisons with findings of other researchers in the field, or even speculate to some degree, and, if appropriate, suggest additional research.

Summary and/or Conclusion: The Summary and/or Conclusion is (are) a final brief statement which draws together the objectives and findings of the entire research project. Care should be exercised to draw conclusions pertinent to the problem and to avoid personal bias.

Experimental Section: A trained scientist should be able to reproduce the successful experiments that are germane to the research project. They should be written in a manner acceptable to a standard refereed journal, such as the *Journal of the American Chemical Society*. Obviously, there are differences in format for journals, and the journal format should be stated.

Tables: Text material should not duplicate that in tables. Each table should be on a separate sheet. Each should have a short but amply descriptive title enabling the reader to understand the table without reference to the text.

Figures: A figure legend shall be placed on a separate page from the figure and positioned so that the legend faces the figure. Only the legend page is numbered, with the page number placed at the bottom center of the legend page.

Literature Cited: The style and format of this section will ordinarily depend on the practice of the journal to which the paper based on the Essay is submitted. The Advisor has the option of requesting the inclusion of titles of all references cited.

Appendices: This section may or may not be an appropriate inclusion in the Essay depending upon the individual problem. It provides a section for materials which are inappropriate for the text. It also may include Tables, Figures, etc. If the work contributed to a manuscript that has been submitted for publication, or is in press, then the prepublication manuscript can be included here. This prepublication manuscript can be replaced by a publication reprint at a later date. Its inclusion will be determined by the student and the advisor.