

NORTH AMERICAN UNIVERSITY

COMPUTER SCIENCE DEPARTMENT

CAPSTONE PROJECT MANUAL



NORTH AMERICAN
U N I V E R S I T Y
INSPIRATION INNOVATION GLOBAL COMPETENCE

COMPUTER SCIENCE DEPARTMENT

NORTH AMERICAN UNIVERSITY

STAFFORD, TEXAS

A THE CAPSTONE PROJECT

Each master student in the Computer Science Department must execute a Capstone project. It is a one-semester project. This manual outlines a methodology for writing the capstone project report. It contains the policy, acceptable word processing specifications, project procedures and the necessary project forms.

1.0 Capstone Project Policy

All seniors in the Computer Science Department are required to select and execute a theoretical or experimental design project under the supervision of a faculty. Students are also required to make an oral presentation and submit a written report about the project.

2.0 Elements of the Capstone Project

The various elements of the student's curriculum are brought together in the "Capstone Project". It is built around a comprehensive, technical, and open-ended problem having a variety of acceptable solutions with many design constraints which must be addressed, including, but not limited to, economic factors, safety, reliability, ethics, and societal impact.

B. CAPSTONE PROJECT GUIDELINES

The following guidelines are to be followed when conducting a Capstone Project in the Computer Science Department. Computer Science students must do their Capstone Project last semester in the Capstone course.

1.0 Capstone Class (COMP 5393) Requirements

1.1 Preparation for a Capstone Project

At the first meeting of the Capstone Class, the Capstone Project Policy and procedures will be discussed in detail. The Project Approval Form and the Project Milestones Checklist Form will be distributed and discussed.

1.2 Project Advisor

a. NAU Advisor

Each student will select a Project Advisor (faculty) and meet or communicate with him/her by no later than the second week of the semester to outline a program of work, set major milestones.

b. Industrial Advisor

Industrial sponsored projects are encouraged. A student may select an advisor from industry. An Industrial Advisor must be approved by the student's Project Advisor.

1.3 Topic Approval

Each student must prepare and submit a Capstone Project Approval Form to the Project Advisor and to the Chair for approval of the Capstone topic. Submission of the Capstone Project Approval Form will take place no later than the third week of the class.

1.4 Progress Reports

Each student must submit Progress Report Form bi-weekly to the Project Advisor.

C. CAPSTONE PROJECT GUIDELINES

1.0 Class (COMP 5393) Requirements (Continued)

It is the responsibility of the student to ensure that each chapter is free of all grammatical errors, misspelled words. **A chapter is not complete if grammatical errors exist or misspelled words are present.**

1.1 Abstract

A one-page, abstract, approved by the Project Advisor, is to be submitted to the course advisor on the date indicated on the Milestone Checklist.

1.2 Final Oral Presentation

The final oral presentation must be presented using Power Point. If the final oral presentation is not given, a grade of zero will be given for the final oral.

1.3 Final Written Report

The student must submit to the course instructor, one bound copy of an approved final report on or before the date indicated on the Milestone Checklist. The final project report must follow the format outlined in this document. The written report must be word processed according to the **word processing** specification, which is presented in this document.

2.0 GRADING

Research Paper	20%
Weekly Reports	25%
Final Project Report	25%
Deliverables	10%
Final Presentation and DEMO	20%

Please note the following:

- A grade of "I" will not be given except according to the policy described in the current University Catalog.

3.0 PROJECT FORMS

The forms, which are listed below, will be used to monitor the progress of the project. They will also be used in the evaluation process:

- **(links will be provided)**
- **CAPSTONE PROJECT APPROVAL FORM**
- **SENIOR I MILESTONE CHECK LIST**
- **SENIOR II MILESTONE CHECK LIST**
- **WRITTEN REPORT EVALUATION FORM**
- **ORAL REPORT EVALUATION FORM**

D CAPSTONE PROJECT SPECIFICATIONS FOR WORD PROCESSING

1.0 PAPER

Use 8 ½ x 11 sheet size.

2.0 NUMBER OF COPIES

A total of three Capstone Project reports are required.

3.0 BINDING

The three copies are to be spiral bound with a clear plastic front cover and a hardback cover. The student is responsible for getting all three copies bound.

4.0 WORD PROCESSING

- 4.1 The project shall be word-processed single column using Times New Roman 12 font using a near letter quality printer.
- 4.2 The text shall be double-spaced, except for long quotations and abstracts, which are single-spaced. **Footnotes are not permitted.**
- 4.3 Margins shall be one and one-half inches at the top and left margins, and one inch at the bottom and right margins. The top margin on the first page of each chapter should be two inches.
- 4.4 Text, tables, and figures shall be neat, clear and without error. The same word processor must be used throughout.
- 4.5 Reference numbers must be placed in square brackets behind the last word of the citation.
- 4.6 If figures and tables are to be included, reproductions must be of good quality. Reproductions must be referenced. Tables and figures must be referenced in the text.

5.0 PAGINATION

Assign a number to every page, except on the title page which is not numbered. Preliminary pages are numbered with small Roman numerals (ii, iii, iv, etc.) and are centered at the bottom of the page on the fifth line above the edge. The numbering begins with: "ii", the title page counts as "i", but is not numbered. Arabic numerals should be used in numbering pages of the main text, and no periods or dashes should be used before or after the number. The first page of a chapter should be numbered in the center at the bottom. The appendices, bibliography, and references should be numbered continuously with the text. Roman numerals are used to designate chapters.

Page numbers are at the center bottom and should be placed five spaces from the bottom of the page. Number in the upper right corner should be 3/4 inches from the top and 1 inch from the right side of the page. However, page numbers can be placed using the pagination feature found in the word processor. Placement of page numbers on the appendices, bibliography, references, and abstract are the same as for the text.

6.0 ARRANGEMENT: The design/technical project report should be arranged as follows:

6.1 Preliminaries

1. Title page
2. Signature Page
3. Abstract
4. Dedication
5. Acknowledgement
6. Table of Contents
7. List of Figures
8. List of Tables
9. Nomenclature (optional)

6.2 Text

1. Introduction
2. Main body of report
3. Conclusion(s) / Recommendation(s) (if any)

6.3 Reference Matter

1. Appendix
2. References
3. Bibliography

6.4 Other Matter

1. Resume

7.0 BRIEF DESCRIPTION OF EACH REPORT PART

- 7.1 **Title Page**- The title page should conform exactly to the sample shown.
- 7.2 **Signature Page**- The signature page should conform exactly to the sample.
- 7.3 **Abstract**-A precise and concise summary of what was done, stating the significant results and the significance of the significant results.
- 7.4 **Dedication and Acknowledgement**- The form of the acknowledgement and dedication should conform to the sample shown.
- 7.5 **Table of Contents** - Outline of report, which lists in order, the major parts of the report and their corresponding page numbers.
- 7.6 **List of Figures** - The figure number, name and corresponding page number must be the same as in the text. (See example)
- 7.7 **List of Tables** -The table number, name and corresponding page number must be the same as in the text. (See example)
- 7.8 **Introduction** - Statement of the purpose(s), objectives(s), and the scope of the investigation. A literature survey is included if appropriate. Last paragraph should give a brief summary of each chapter in the text.
- 7.9 **Conclusions** - A precise statement of the results that answer the project objective(s).

- 7.10 **Recommendations** - Precise statement of what is advised. Must contain precise action suggested, identify the responsible person to carry it out, and appropriate dates for the suggested action.
- 7.11 **Appendix** - Supplementary material that is referred to in the report.
- 7.12 **References** - Sources used for any verbatim facts, information, or concepts contained in the paper.
- 7.13 **Bibliography**
- Sources used for general information or concepts, which do not appear verbatim in the paper. The bibliography is presented in alphabetical order, by the first letter of the author's or editor's last name. Second line of bibliography citation must be indented five spaces.
- 7.14 **Resume**
- At the end of each investigative paper, the student author is to include a one-page resume.