Tribhuvan University

Faculty of Humanities and Social Science

Bachelor of Computer Application (BCA)

Course Title: **Project I** **Course Code: CACS256**
Credit Hours: 2 **Year/Sem.: II/IV**
Class Load: 4 Hrs./Week (Practical: 4Hrs.) **FM: 100/ PM: 40**

Course Description: This is fully practical course and expects the practical implementation of the concept learnt by students during first two years of their study. However, it should not be limited to the boundary of syllabus. So, the students can go beyond this and make their project work more realistic and technically sophisticated.

Course Objectives: The general objectives of this project work are to make student able in implementing concepts learnt by fourth semester so that they will be able to develop applications of their own choice. The specific objectives are to make students able to

- lead a software project development
- work in team
- use CASE tools
- write programs and improve programming skill
- write test cases for software testing and improve QA skill
- improve problem solving skill
- improve report writing skill
- improve presentation skill

Thematic Details:

Phases of Project: The students should work individually or in pairs (two people) on minor project of their choice, mostly related to the development of a computer application for a real life situation. The following are the three phases which students have to go though;

1. **Proposal Submission and Defence:** Students must submit and present project proposal with in 20 days from their first class day of the fourth semenster.

2. **Mid-Term Defense:** Students must submit progress report and defend midterm progress of their project work in the 12^{th} week of the fourth semester.

3. **Final Submission and Defense:** Students must submit and orally defend the project work during last week of the fourth semester, before final board examination. Students must have to submit the project final report to their respective department before 10 days of final defence date. The report should be submitted in standard format as prescribed. The report should be made available to the external expert before a week of presentation date. The final presentation will be followed by the demonstration session, where students have to illustrate/simluate the project. A viva voice will be conducted by evaluation committee.

Nature of Project: Students should write programs to build some applications/system. Students should be encouraged to develop desktop based, web based, or mobile based applications using the language technologies of their expertise and comfort. The students can rely on the appropriate language technologies that they have learnt till 4th semester; however it is not limited. Students can develop the applications containing CRUD opertaions or any other sophisticated algorithms, if applicable. Students should use appropriate CASE Tools. Students may work on projects like Information Systems, E-Commerce Portals, Game Applications, etc. While implementing the project, students should be encouraged to write their own modules rather than relying on APIs or Plugins (except in some unavoidable circumstances).

Focus of the Study: Each student in a group should have equal participation in every phase of the project. The students should focus on the following different software development phases during the development of their project work;

1. Problem Identification
2. System Analysis
    a. Feasibility Study
    b. System Requirement Specification (SRS)
3. System Design
    a. Architecture Design
    b. Interface Design
    c. Database/Procedure/Algorithm Design
4. Implementing and Testing

Provision of Supervision: There should be a regular faculty assigned as a supervisor. The role of supervisor is to guide the students through out the project and provide constructive suggestions. The supervisor should also evaluate the project as part of evaluation committee.

Evaluataion Scheme:

a. Term wise marks distribution:

- **First Stage (Proposal Defense)** of 10%. of total marks based on project proposal and presentation.

- **Second Stage** of 70% of total marks based on;
    - **Work Done 50%**
        - System Analysis and Design
        - Implementaion
        - Understanding of methods used in project
        - Ability to work with others
        - Ability to identify problems
        - Amount of work performed
    - **Documentation 20%**
        - Report Organization
        - Writing Style
        - Completeness of Report
        - Readability
        - Organization and analysis of data and results

- **Third Stage (Viva-Voice)** of 20% of total marks based on presentation and project demonstration and viva-voice. Each group member should present about the project followed by the demonstration of project developed.

The 10 marks (first stage of evaluation) will be evaluated by the research committee formed by HOD/Coordinator as a part of proposal defense. The 70 marks (second stage of evaluation) will be evaluated by the supervisor and internal examinar as a part of midterm defense and final defense. Out of the 70 marks, the supervisor will evaluate for 50 marks and internal examinar will evaluate for 20 marks. The remaining 20 marks (third stage of evaluation) will be evaluated by the external examinar from the university.

Out of 100 marks, the 80 marks (First stage evaluation + Second Stage Evaluation) will be considered as internal assessment while the 20 marks (Third Stage Evaluation) will be considered as external assessment. Individual student in the project should get passed in each of the internal and external assessments separately. Any student failing to pass each of the assessments will be counted as fail.

b. Evaluation committee

- Project Supervisor
- HOD/Coordinator
- Internal Examinar (Regular Faculty)
- External Examinar

c. Focus of the evaluation

- Presentation Skills
- Viva/Question Answer
- Project Demonstration
- Project Report
- Level of Work
- Teamwork and Contribution

Report Contents:

1. Prescribed content flow for the project proposal

1. Introduction
2. Problem Statement
3. Objectives
4. Methodology
    a. Requirement Identification
        - Study of existing system
        - Requirement Collection
    b. Feasibility Study
        - Technical
        - Operational
        - Economic

c. High Level Design of System (system flow chart/ methodology of the proposed system/ working mechanism of proposed system)

5. Gantt Chart (showing the project timeline)
6. Expected Outcome
7. References

2. Prescribed content flow for the project report

1. Cover & Title Page
2. Certificate Page
   i. Supervisor's Certificate
   ii. Internal and External Examiners' Approval
3. Abstract Page
4. Acknowledgement
5. Table of Contents
6. List of Abbriviations, List of Figures, List of Tables
7. Main Report
8. Appendices (Screen Shots/ Source Codes/ *Supervisor Visit Log Sheets*)
9. References
10. Bibliography (if any)

3. Prescribed Chapters in Main Report

1. Chapter 1: Introduction

1.1. Introduction
1.2. Problem Statement
1.3. Objectives
1.4. Scope and Limitation
1.5. Report Organization

2. Chapter 2: Background Study and Literature Review

2.1. Background Study (Description of fundamental theories, general concepts and terminologies related to the project)
2.2. Literature Review (Review of the similar projects, theories done by other researchers)

3. Chapter 3: System Analysis and Design

3.1. System Analysis
   3.1.1. Requirement Analysis
      i. Functional Requirements (Illustrated using use case diagram/list)
      ii. Non Functional Requirements
   3.1.2. Feasiblity Analysis
      i. Technilical
      ii. Operational
      iii. Economic
      iv. Schedule
   3.1.3. Data Modelling (ER-Diagram)

3.1.4. Process Modelling (DFD)

3.2. System Design

3.2.1. Architectural Design

3.2.2. Database Schema Design

3.2.3. Interface Design (UI Interface / Interface Structure Diagrams)

3.2.4. Physical DFD

4. Chapter 4: Implementation and Testing

4.1. Implementation

4.1.1. Tools Used (CASE tools, Programming languages, Database platforms)

4.1.2. Implementation Details of Modules (Description of procedures/functions)

4.2. Testing

4.2.1. Test Cases for Unit Testing

4.2.2. Test Cases for System Testing

5. Chapter 5: Conclusion and Future Recommendations

5.1. Lesson Learnt / Outcome

5.2. Conclusion

5.3. Future Recommendations

While writing above chapters students should avaoid basic definitions. They should relate and contextualize the above mentioned concepts with their project work.

Referencing and Citation:

The listing of references should be listed in the references section. The references contain the list of articles, books, urls that are cited in the document. The books, articles, and others that are studied during the study but are not cited in the document can be listed in the bibliography section.

The citation and referencing standard should be IEEE referencing standard. The text inside the document should be cited accordingly. The IEEE referencing standard can be found in the web.

Report Format Standards

A. Page Number

The pages from certificate page to the list of tables/figures should be numbered in roman starting from i. The pages from chapter 1 onwards should be numbered in numeric starting from 1. The page number should be inserted at bottom, aligned center.

B. Page Size and Margin

- The papersize must be a page size corresponding to A4. The margins must be set as

  Top = 1; Bottom = 1; Right = 1; Left 1.25

C. Paragraph Style

- All paragraphs must be justified with spacing of 1.5.

D. Text Font of Entire Document

- The entire document should be in Times New Roman font
- The font size in the paragraphs of document should be 12

E. Section Headings

- Font size for the headings should be 16 for chapter title, 14 for section headings, 12 for the sub-section headings. All the headings should be bold faced.

F. Figures and Tables

- Position of figures and tables should be aligned center. The figure caption should be centred below the figure and able captions should be centred above the table. All the captions should be of bold face with 12 font size.

Final Report Binding and Submission:

No of Copies: 3 (College Library + Self + Dean Office)

Look and Feel: Golden Embracing with Black Binding

A final approved signed copy of the report should be submitted to the Dean Office, Exam Section, FOHSS.

(A typical Specimen of Cover Page & Title Page)

Tribhuvan University
Faculty of Humanities and Social Science

TITLE OF PROJECT REPORT

A PROJECT REPORT

Submitted to
Department of Computer Application
Name of the College

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by

Names and Roll of the Candidates

Month and Year

Under the Supervision of

Supervisor Name

(A typical Specimen of Certificate)

Tribhuvan University
Faculty of Humanities and Social Science
College Name

Supervisor's Recommendation

I hereby recommend that this project prepared under my supervision by NAME OF THE STUDENT entitled "T**ITLE OF THE PROJECT……..**" in partial fulfillment of the requirements for the degree of Bachelor of Computer Application is recommeded for the final evaluation.

<<Signature of the Supervisor>>

SIGNATURE

<<Name>>

SUPERVISOR

<<Academic Designation>>

<<Department>>

<<Full address of the Dept & College >>

(A typical specimen of Approval)

Tribhuvan University
Faculty of Humanities and Social Science
College Name

LETTER OF APPROVAL

This is to certify that this project prepared by NAME OF THE STUDENT entitled "**TITLE OF THE PROJECT……..**" in partial fulfillment of the requirements for the degree of Bachelor in Compuer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

SIGNATURE of Supervisor Name and Academic designation Department name and full address of the college	**SIGNATURE of HOD/ Coordinator** Name and Academic Designation Department name and full address of the college
SIGNATURE of Internal Examinar **Internal Examinar**	**SIGNATURE of External Examinar** **External Examinar**