Project- III Guidelines – 2024

BCA, Eighth Semester

Course title: Project III (3 Cr.)
Course Code: CACS452
Year/Semester: IV / VIII
Class Load: Hrs/Week (Practical: 12 Hrs.)

Compiled by

Research & Extension Committee

United College

Kumaripati, Lalitpur, Nepal

December 2024

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Outlines

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Course description

This final year project is a practical course where students are expected to implement the concepts learnt during four years of their study so as to build a system. The course includes realization of project management, software development, and programming.

Course objectives

The objective of this course is to make students able to design and develop software applications by following appropriate development methodologies.

Course details

Nature of internship

Students should develop a complete functioning system. The system should not be limited to the basic CRUD operations only. Being a final year project, students are highly recommended to implement appropriate algorithms relevant to the project. The project should include precise system analysis, design, implementation and result analysis. The students can work in group of a most two members. The students can choose appropriate language terminologies that they have learnt till eight semesters, however, it is not limited. While implementing the project, students should be able to write their own program modules rather than relying on predefined APIs or Plugins except in some unavoidable circumstances.

Phases of internship

The following are the phases of project work:

Phase-1	**Proposal submission**	Students must submit and present project proposal after 3rd week of start of the eighth semester.
Phase-2	**Mid-term**	Students must submit progress report and defend mid-term progress of their project work in the 12th week of the eighth semester.
Phase-3	**Final submission**	▪ Students must submit and orally defend the project work during last week of the eighth semester but before final board examination. ▪ Students must have to submit the project final report to their respective department before at least ten days of final defense date. ▪ The report should be submitted in standard format as prescribed. ▪ The hard/soft copy of report should be made available to the external expert before a week of presentation date. ▪ A viva voice will be conducted by evaluation committee.

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Provision of supervision

There should be a regular faculty of campus/college assigned as a supervisor. The role of supervisor is to guide he student throughout the project and provide constructive suggestions. A supervisor can supervisor at most four groups of the project in a class section. The supervisor should rigorously supervise, monitor and feedback the project groups under supervision.

Evaluation scheme

1	**Proposal defense**	Proposal defense of 10% of total marks based on project proposal and its presentation. ▪ The 10 marks of the proposal defense will be evaluated by the research committee formed by HOD/ Coordinator/ as a part of proposal defense.
2	**Midterm**	Midterm of 70% of total marks based on: **A. Work done 60%** 1. System analysis and design 2. Implementation 3. Understanding of methods used in project 4. Ability to work with others 5. Ability to identify problems 6. Amount of work performed **B. Documentation 10%** 1. Report organization 2. Writing style 3. Completeness of report 4. Readability 5. Organization and analysis of data and results ▪ Out of 70 marks; ➢ The supervisor will evaluate for 60 marks, ➢ The internal examiner will evaluate for 10 marks.
3	**Final defense**	Final defense 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 the project developed. The project should be ready to run for the demo session. ▪ The remaining 20 marks of final defense will be evaluated by the external examiner from the university.

Evaluation committee

- Project supervisor
- HOD/Coordinator
- External examiner (Regular Faculty)
- External examiner

Focus of the evaluation

- Presentation skills
- Project demonstration
- Project report
- Viva/question answer
- Level of work and understanding
- Teamwork and contribution

Examination scheme			
Internal assessment		**External assessment**	**Total**
Proposal defense	Midterm defense	Final defense	**100 marks**
10	**70**	**20**	

Teaching methods

The major teaching methods that can be followed for this course includes class lectures, laboratory activity, group discussions, presentations, and demonstrations.

Final report submission

- Number of copies: 3 (College library + Self + Dean office)
- Cover page: Golden embracing with black binding

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

Technical guidelines

S/N	Particular	Descriptions			
1	**Chapter heading**	Font: Times New Roman		Size: 16	Align: Center
2	**Sub-heading**	Font: Times New Roman		Size: 14	Align: Left
3	**Body part**	Font: Times New Roman		Size: 12	Align: Justification
4	**Margin**	Left: 1.25	Right: 1	Top: 1	Bottom:1
5	**Spacing:**	1.5			
6	**Alignment**	Justification			
7	**Page number**	Font: Roman numeral for preliminary Arabic number for main body		Size: 12	Align: Lower center of the page
8	**Figures and tables**	Position of figures and tables should be aligned center. The figure should be centered below the figure and table should be centered above the table. All the captions should be bold face with 12 font size.			

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Outlines of project proposal

1. Title page
2. Table of contents
3. Introduction
4. Problem statement
5. Objectives
6. Methodology
   a. Requirement identification
   - Study of existing system
   - Literature review
   - Requirement analysis

   b. Feasibility study
   - Technical
   - Operational
   - Economic

   c. High level design of system (Methodology of the proposed system/Flow chart/ working mechanism of proposed system/Description of algorithm)
7. Gantt chart (showing the project timeline)
8. Expected outcome
9. References

Outlines of project report

A. Preliminary section

1. Cover page
2. Title page
3. Declaration
4. Supervisor's recommendation
5. Internal and external examiners' approval letter
6. Acknowledgement
7. Abstract / Executive summary
8. Table of contents
9. List of tables
10. List of figures
11. List of abbreviations

B. Main report

Chapter 1: Introduction

1.1 Introduction

1.2 Problem statement

1.3 Objectives

1.4 Scope and limitation
1.5 Development methodology
1.6 Report organization

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 and results by other researchers)

Chapter 3: System analysis and design

3.1 system analysis
3.1.1 Requirement analysis
- Functional requirements (Illustrated using use case diagram and use case descriptions)
- Nonfunctional requirements

3.1.2 Feasibility analysis
- Technical
- Operational
- Economic
- Schedule

3.1.3 Object modeling using class and object diagrams
3.1.4 Dynamic modeling using state and sequence diagrams
3.1.5 process modeling using activity diagrams
3.2 System design
3.2.1 Refinement of class, object, state, sequence, and activity diagram
3.2.2 Component diagrams
3.2.3 Deployment diagrams
3.3 Algorithm details (if any)

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 (Descriptions of classes/procedures/functions/ Methods/algorithms)
4.2 Testing
4.2.1 Test cases for unit testing
4.2.2 Test cases for system testing
4.3 Result analysis

Chapter 5: Conclusion and future recommendation

5.1 Conclusion

5.2 Future recommendations

References

The citation and referencing standard should be IEEE referencing standard.

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

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Annex 1: Cover page

Tribhuvan University

Faculty of Humanities and Social Sciences

Bachelors of Computer Application

Project III Report on

……..

Submitted to Department of Computer Application
United College,
Kumaripati,
Lalitpur

In partial fulfillment of the requirement for the Bachelors of Computer Application

Submitted by

<Full Name>

Exam Roll No.:……..

TU Regd. No:……

Month, Year

Under the Supervision of

<Supervisor Name>

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Annex 2: Title page

Tribhuvan University

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Exam Roll No.:……..

TU Regd. No:……

Month, Year

Under the Supervision of

<Supervisor Name>

United College

Annex – 3: Student's self-declaration

Declaration

I hereby declare that the Project III report titled "<title of internship>" submitted by me to the Faculty of Humanities and Social Sciences, in partial fulfillment of the requirements for the Bachelor of Computer Applications (BCA) degree, is an authentic record of my own work carried out under the supervision of <Supervisor's Name>, during the period of <Start Date> to <End Date>. This report has not been submitted previously, either in part or in full, for the award of a degree or any other similar academic qualification in any other institution or university. I affirm that all the information, data, and findings presented in this report are true to the best of my knowledge and belief.

<Name of student>

Date:

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Annex – 4: Supervisor's recommendation

Tribhuvan University Faculty of Humanities and Social Sciences

United College

Supervisor's Recommendation

I hereby recommend that this Project III report prepared under my supervision by <name of student> entitled <Title of internship> in the partial fulfillment of the requirements for the degree of Bachelor of Computer Application (BCA) is recommended for the final evaluation.

.....

<Name of Supervisor>

Supervisor

United College

Kumaripati, Lalitpur

Table of contents

- Operational
- Economic
- Schedule

3.1.3 Object modeling using class and object diagrams
3.1.4 Dynamic modeling using state and sequence diagrams
3.1.5 process modeling using activity diagrams
3.2 System design
3.2.1 Refinement of class, object, state, sequence, and activity diagram
3.2.2 Component diagrams
3.2.3 Deployment diagrams
3.3 Algorithm details (if any)

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 (Descriptions of classes/Procedures /Functions/Methods/Algorithms)
4.2 Testing
4.2.1 Test cases for unit testing
4.2.2 Test cases for system testing
4.3 Result analysis

Chapter 5: Conclusion and future recommendation
5.1 Conclusion
5.2 Future recommendations

References

Closing note:

While preparing the Project III report, students must work closely with their concerned supervisor, who is responsible for guiding them throughout the process. Supervisor should ensure that the report follows the prescribed guidelines regarding structure, content, and formatting. Adherence to this guideline is crucial for maintaining the quality and consistency of the report, ensuring it aligns with academic and institutional requirements. This collaborative approach helps students present their work effectively and meet the expected academic standards.

Dr. Binod Lingden
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Kumaripati, Lalitpur