Project Work - Syllabus

Embark on a profound academic exploration as you delve into the Project Work course (project) within the distinguished Tribhuvan university's CSIT department. Aligned with the 2074 Syllabus, this course (CSC412) seamlessly merges theoretical frameworks with practical sessions, ensuring a comprehensive understanding of the subject. Rigorous assessment based on a 80+20 marks system, coupled with a challenging passing threshold of , propels students to strive for excellence, fostering a deeper grasp of the course content.

This 3 credit-hour journey unfolds as a holistic learning experience, bridging theory and application. Beyond theoretical comprehension, students actively engage in practical sessions, acquiring valuable skills for real-world scenarios. Immerse yourself in this well-structured course, where each element, from the course description to interactive sessions, is meticulously crafted to shape a well-rounded and insightful academic experience.

Course Description: This course covers theoretical and practical concepts needed to develop a real world software system. The course focuses on enabling students with the skills related to software development. The course includes practicing the abilities pertaining to the planning, analysis, design, implementation and testing of software applications.

Course Objectives: The objective of this course is to develop theoretical and practical skills needed to develop real world software applications using different software development tools and techniques.

Course Details:

Nature of Project:

The project work should include development of an application/system software. Students are highly recommended to implement relevant algorithms, theories and concepts that they have learned. The project should be practiced by following analysis, design, implementation and testing phases. The project can be done in group with at most three member in each group. For the implementation of the project, students can choose appropriate language technologies as per comfort and skills. 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 Project:

The following are the phases of project work:

1. Proposal Submission and Presentation: Students must submit and present project proposal on 3rd to 4th week of start of the seventh semester.

2. Mid-Term: Students must submit progress report and defend midterm progress of their project work on the 10th to 11th week of the seventh semester.

3. Final Submission: Students must submit and defend the project work during last week of the seventh semester but before final board examination. The final defense will include a viva voice followed by a demonstration of the project. The final defense will be conducted by an evaluation committee with an external from the university. Students must have to submit the project final report to their respective department of college/campus before at least 10 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 before a week of presentation date.

Provision of Supervision:

The supervisor should be a regular faculty of the campus/college. The role of supervisor is to provide appropriate guidance to the students throughout the project. A supervisor can supervise at most three groups of the project in a section. The supervisor should rigorously supervise, monitor, feedback and evaluate the project groups under his/her supervision.

Evaluation Scheme:

1. Proposal Defense - 10% Marks of 100 (2 Marks Head/Program Coordinator + 6 Marks Supervisor + 2 Marks Internal Examiner)

2. Midterm - 20% Marks of 100 (3 Marks Head/Program Coordinator + 14 Marks Supervisor + 3 Marks Internal Examiner)

3. Final Defense - 70% Marks of 100 (5 Marks Head/Program Coordinator + 40 Marks Supervisor + 5 Marks Internal Examiner + 20 Marks External Examiner)

The evaluation committee and evaluation criteria should be as follow;

a. Evaluation committee

- HOD/Coordinator of the campus/college

- Project Supervisor (Regular faculty of the campus/college)

- Internal Examiner (Regular faculty of the campus/college)

- External Examiner (Allocated from university at the final defense)

b. Marks Allocation:

- Head / Program Coordinator â “ 10

- Project Supervisor â “ 60

- Internal Examiner â “ 10

- External Examiner â “ 20

Total â “ 100

c. Focus of the evaluation:

- Presentation Skills

- Level of Work and Understanding(Level of Analysis, Design, Implementation, Testing, Result Analysis done for the project)

- Project Report

- Viva/Question Answer

- Demonstration of the project

- Teamwork and Contribution

Roles and Responsibilities:

- HOD/Coordinator: The role of HOD/Coordinator is to coordinate with supervisor,

internal examiner, external examiner and students. The HOD/Coordinator should monitor the studentsâ ™ project progress in coordination with the respective supervisors. The HOD/Coordinator is responsible for arranging the proposal defense, midterm and final defense. The HOD/Coordinator should participate and evaluate proposal defense, midterm, and final defense.

- Project Supervisor: The role of project supervisor is to supervise studentsâ ™ project throughout the semester. The supervisor should rigorously feedback and guide the students. Supervisor is to participate and evaluate proposal defense, midterm, and final defense. The supervisor should monitor the progress of projects under supervision.

- Internal Examiner: The role of internal examiner is to evaluate the studentsâ ™ project during different evaluation phases of the project. The internal examiner should participate and evaluate proposal defense, midterm, and final defense.

- External Examiner: The role of external examiner is to evaluate the studentsâ ™ project during final defense evaluation. The examiner should participate and evaluate viva voce and demonstration session during the final defense.

- Student: The role and responsibilities of student include development of the project, project report preparation, and defending the project work throughout each evaluation phases. Despite of project work being group work, each student should have equal role and responsibilities in the project. Each student will be evaluated individually so student should be able to demonstrate his/her contribution in the project work individually. Students should maintain a log visits with their supervisors at different dates during their work. The log should include technical feedbacks from their supervisors.

Report Contents:

1. Prescribed content flow for the project proposal

    1. Introduction

    2. Problem Statement

    3. Objectives

    4. Methodology

        a.Requirement Identification

            i.Study of Existing System / Literature Review

            ii.Requirement Analysis

        b.Feasibility Study

            i.Technical

            ii.Operational

            iii.Economic

            iv.Schedule (Gantt chart showing the project timeline)

        c.High Level Design of System (Methodology of the proposed system/ Flow Charts/ Working Mechanism of Proposed System / Description of Algorithms)

    5. Expected Outcome

6. References

2. Prescribed content flow for the project report

1. Cover & Title Page

2. Certificate Page

i.Supervisor Recommendation

ii.Head / Program Coordinator, Supervisor, Internal and External Examinersâ ™ Approval Letter

3. Acknowledgement

4. Abstract Page

5. Table of Contents

6. List of Abbreviations, List of Figures, List of Tables

7. Main Report

8. References

9. Bibliography (if any)

10. Appendices (Screenshots + Snippets of major source code components + Log of visits to supervisor)

3. Prescribed chapters in the main report

1. 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

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/relevant projects, theories and results by other researchers)

3. Chapter 3: System Analysis

3.1. System Analysis

3.1.1.Requirement Analysis

i.Functional Requirements (Illustrated using use case diagram/use case descriptions)

ii.Non Functional Requirements

3.1.2. Feasibility Analysis

i.Technical

ii.Operational

iii.Economic

iv.Schedule

3.1.3. Analysis (May be Structured or Object Oriented)

If structured approach:

ï‚· Data modelling using ER Diagrams

ï‚· Process modelling using DFD

If object oriented approach:

ï‚· Object modelling using Class and Object Diagrams,

ï‚· Dynamic modelling using State and Sequence Diagrams

ï‚· Process modelling using Activity Diagrams

4. Chapter 4: System Design

4.1. Design (May be Structured or Object Oriented as per the approach followed in analysis chapter)

If structured approach:

ï‚· Database Design: Transformation of ER to relations and normalizations

ï‚· Forms and Report Design

ï‚· Interface and Dialogue Design

If object oriented approach:

ï‚· Refinement of Class, Object, State, Sequence and Activity diagrams

ï‚· Component Diagrams

ï‚· Deployment Diagrams

4.2. Algorithm Details

5. Chapter 5: Implementation and Testing

5.1. Implementation

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

5.1.2. Implementation Details of Modules (Description of classes/procedures/functions/methods/algorithms)

5.2. Testing

5.2.1. Test Cases for Unit Testing

5.2.2. Test Cases for System Testing

5.3. Result Analysis

6. Chapter 6: Conclusion and Future Recommendations

6.1. Conclusion

6.2. Future Recommendations

While writing above chapters students should avoid basic definitions. They should relate and contextualize the above mentioned concepts with their project work. Citation and Referencing: The listing of references should be listed in the references section. The references contain the list of articles, books, urls, etc. 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 in IEEE style. 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/abbreviations/approvals 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 paper size must be a page size corresponding to A4. The margins must be set as

Top = 1 in (2.54 cm)
Bottom = 1 in (2.54 cm)
Left = 1.25 in (3.17 cm)
Right = 1 in (2.54 cm)
C. Paragraph Style

All paragraphs must be justified and have spacing of 1.5.
D. Text Font of Document

The contents in the 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 headings, 14 for section headings, 12 for 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 table 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, Institute of Science and Technology, Tribhuvan University