BCA – 4th Semester

Learning and Development Plan

CS4009: Project Course Credit: 2

Course Objective: To learn and follow the tasks involved in SDLC and develop the project as per the requirements determined.

Course Outcomes: Upon completion of the course, the student shall be able to

CO1: Plan, design, implement and test a useful and robust application.
CO2: Apply database management systems concepts to organize, store and retrieve data.
CO3: Demonstrate the ability to work as a team member and/or leader.
CO4: Apply appropriate model to build effective application.
CO5: Communicate effectively with a range of audiences.

Programme Outcomes:

PO1: Ability to understand the concepts of key areas in computer science.
PO2: Ability to design and develop system, component, or process and test and maintain it to provide promising solutions to industry and society.
PO3: Effective communication and presentation skills.
PO4: Ability to understand professional and ethical responsibility.
PO5: Recognition of the need for life-long learning.

Programme Outcomes and Course Outcomes mapping:

Course Outcomes	Programme Outcomes				
	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓			✓
CO2	✓	✓			✓
CO3			✓	✓	✓
CO4				✓	
CO5			✓		✓

Table 1 Program and Course Outcome Mapping

Semester Skills Set:

- Learning Skill: Social (Interpersonal)
- Creativity Skill: Deliberate, Spontaneous
- Writing Skill: Narrative
- Communication Skill: Physical Non-verbal
- Courses' based on technical skills

Project Guidelines:

- Students must continue with the same team and project definition as per their third Semester.
- Project work execution shall be in parallel with other course teaching-learning activities. Assessments of project work shall also be in parallel with remaining courses' assessments.
- Guide shall be allocated to the teams by Project committee in the first Week of the Semester.
- Project can be accomplished by using concepts, tools and/or technologies of the students' courses during their earlier semesters or any other course beyond the curriculum.

- The project team must refine the requirements analyzed in the previous Semester, freeze the project requirements with tools and technologies, submit the same document dually signed by students, and guide the project committee before the second Week of the Semester.

Project Hours:

- Approximately 100 hours are to be spent by students on project work.

Support and guidance team for Project:

- A support and Guidance Team is created so students or guides can receive additional support for respective project work.

System Analysis and Design	BAD,JBU,PBG,ADP,GCP,GKP
Database Design	ADP,UJP,BAD,SHC
System Testing	PBG,BAD,PHP,GKP
Web-based Development	JHT,MMS,RBP,APA
Mobile-based Development	JHT,UJP,PHP
Content Management over Web Application	MMS,PBG,UJP
Data Analytics	JVN,MMS,JHT,PGB,ASP
IoT based Development	MMS,JHT,ADP
Project Development Support	Respective Guide

Table 2 Support and Guidance team for a project

Project Progress and Evaluation

- Rubric based continues evaluation shall be conducted based on the following parameters:
  - Requirements freezing with tools and technology
  - Project work-sufficiency
  - Project work-related documentation
  - Project work-related presentation
- To determine the progress of the project work, the following parameters must be considered :

Assessment Code	Assessment Type	Occurrence	Each Of Marks	Weightage in CIE of marks(50)	Evaluated By	Tentative Dates
A1	Requirement Freezing with tools and Technology	1	10	1x5=5	Guide	31/1/2024
A2	Document and Presentation-1	1	60	1x10=10	Panel decided by the Project Committee	10/2/2024
A3	Internal Documents and Presentation	1	30	1X10=10	Guide	9/3/2024
A4	Semester End Examination	1	60	25X1=25	Panel decided by the Project Committee	

Table 3 Assessment types with specification

- Each team will be given at least thirty minutes of project presentation for assessment A2 and forty-five minutes for assessment A3, A4 followed by approximately ten minutes of the viva.

A1: Requirement freezing with tools and technology

- There shall be Requirement Freezing with tools and technology, which the guide shall evaluate.
- Tools are assign by project committee to all is same, apart from them, students can chose the latest tools with concern to guide.
- They prohibit further changes to the requirements once submitted to the project committee.
- Keep all points in consideration with system clarity that suggestions are got in the previous Semester.
- Project Requirement Freezing with tools and technology must be submitted to project committee and evaluated by a guide based on following criteria :

Parameter	Weightage %
Freezing of Requirement	50
Student Reporting	20
Requirement Understanding	30

Table 4 Parameters and marks for Requirement Freezing with tools and technology

A2: Document and Presentation-1:

- There shall be 2 documentation reports submitted during the Semester.
- Students must verify the document, sign it by guide, and submit it to the project committee.
- Project Document -1 will be a partial document and Project Document -2 will be full spiral-bound copy of document.
- If a student fails to meet the deadlines, he/she shall receive zero marks in a particular parameter.
- As Project Document- 2, the student shall have to submit a spiral-bound copy of project documents compulsorily in the prescribed format in Semester End Presentation with the approval of internal guide as well as signed certificates from the Institute and shall incorporate all changes /modification given by guide in internal document and presentation.
- Marks weightage of Document report are as given below:

Parameters	Weightage %	Topics for partial submission from the project report
GUI design	30	Up to Activity 6
Data dictionary	20	
Coding specification	30	
Handle application session management.	10	
Timeliness	10	

Table 6 Evaluation parameters for Document Report – 1

Parameter	Weightage %
Technical presentation Skill	10
Linguistic skill	10
Requirement Understanding	10
Implementation	30
Coding Specification and GUI	10

Table 7 Evaluation parameters for Presentation-1

A3: Internal Document and Presentation:

- There shall be one presentation, which shall be evaluated by project guide.

- During presentation, a student has to bring log book and document.
- Students shall use presentation slides to explain the project work.
- No make-up work shall be accepted for missed or failed presentations.
- The presentation marks weightage is as below:

Parameters	Weightage %	Topics for submission from project report
Implementation of Working demo	40	Up to activity 7
Validation and testing	20	
Dashboard and reports	20	
Incorporation of Suggestions given in 1st project document progress report	10	
Reporting	05	
Viva	05	

Table 8 Evaluation parameters for Internal Document Report – 2

Parameter	Weightage %
Technical Presentation skills	20
Linguistic skill	20
Data Management	20
Incorporate suggestion given in Presentation 1	20
Implementation with Validation	20

Table 9 Evaluation parameters for Internal Presentation-2

- **Presentation -1 must consist of the following:**
  - Project title, team member names, enrolment numbers, guide name
  - Project problem definition with functionalities
  - Data dictionary
  - GUI design
  - System Demonstration
- **Presentation - 2 must consist of the following:**
  - Project problem definition with functionalities
  - Data dictionary
  - User Interface design (Screenshot of functionality implemented and reports generated)
  - Critical code of project
  - Reports
  - Test cases (Screenshots of validation performed in project)
  - System Demonstration

Activity Plan:

- The following are the activities to be carried out to complete project work for the defined objectives.

Sr. No.	Activity	CO Mapped	Skill Set Mapped	Execution Week of the Semester	Responsible Person	Assessment
1.	Project Requirement Finalization with implementation tools and technologies	CO1	Learning, Analysis	1st -2nd Week	Student	**A1**
2.	Proposed System Requirement Analysis Document	CO1	Analysis, Writing	2nd Week	Student	

	- Purpose
	- Scope
	- Functional requirements
	- Non-functional requirements
	- Users of the system with their characteristics
	- Summary
	  – Number of functional and non-functional requirements
	  – Number of users					

3.	Refinement in Database Design according to finalized requirements
	- Use Case and Activity Diagram
	- System Development model
	- The table with description includes attributes, data type, size, and constraints
	  – Purpose of the table with description.
	  – A normal form of a database schema
	- Summary
	  – Number of tables
		CO2	Creativity, Technical	3rd Week	Student	

4.	Presentation regarding "Modularity in project management"	CO4	Learning, Inquiry	4th Week	Project Committee	

5.	Refinement in User Interface Design according to finalized requirements
	- Screenshot of Homepage
	  – Used navigation control with justification
	- Screenshot of UI (Add following details below the each screenshots)
	  – Purpose of the UI
	  – Used control with justification
	  – Associated tables
	  – Data In and Out
	  – Data validation (if any)
		CO1	Creativity, Technical, Analysis	4th Week	Student	

6.	Implementation of Functionality - Business logic of implemented functionality with justification - Description of External Libraries [List and describe used APIs, libraries, plug-ins, web services and algorithms.]	CO3, CO4	Creativity, Technical	5th Week (Implementation of 40% of specified functionalities)	Student	**A2 Document – Presentation – 1**

	Ex.: MD5 Encryption Algorithm for storing password, Google Location API to fetch current location for particular web page. - Used Coding Standard for Programming, Database design and UI Design			7th Week (Implementation of all specified functionalities)		
7.	Reports and Dashboard Implementation - TPS – User wise screenshot of a report with Input, process, output and related critical business logic indication – Usage of the report - MIS – User wise screenshot of a report with Input, process, output and related critical business logic indication – Usage of the report - Dashboard – Basic Dashboard with count of users or any key indicators of Project	CO3, CO4	Thinking, Technical	8th, 9th Week	Student	**A3 Internal Document – Presentation**
8.	Presentation regarding "Test case designing and validation process"	CO1, CO4	Learning, Inquiry	10th Week	Guide	
9.	Project Testing - Unit Testing: Applied functionalities with its testing description - Test case report of main three functionalities *[Except Login and registration]* - Summary – Number of Test cases	CO1, CO4	Analysis, Technical	10th, 11th Week	Student	
10.	Final Project Document	ALL COs	Learning, Writing	12th Week	Student	**Semester End Exam**

Project Document Report Format: Project Document Report must cover at least following content but should not be limited to it:

- Title Page
- Project Certificate from a guide
- Declaration Certificate
- Work Sufficiency Certificate
- Acknowledgement
- Table of content with page number

- List of Tables, Figures, and Schemes
- References
- Glossary

*Note: Enhancement is preferred in the above specification based on the nature of the project.

Guideline for Report Formatting:

- Use A4 size page with 1" margin all sides.
- The header should include Project tile and the footer should contain page number and enrollment numbers.
- Chapter name should be of Cambria font, 20 points, Bold.
- The main heading should be of Cambria font, 16 points, Bold.
- The subheading should be in Cambria font, 12 points, Bold.
- The subheading should be in Cambria font, 12 points, Bold, and Italic.
- The paragraph should be in Cambria font, 12 points.
- Line spacing - 1.5 lines, before - 0, after - 0.
- No chapter number for references.
- Before chapter 1, give the page number in roman letters (Title Page, Project Certification Form, Acknowledgements, and Table of Contents/Index with page numbering, List of Tables, Figures, Schemes, and Summary/abstract of the project work).
- Each project document must have a Requirements of document freezing format to **Annexure I.**
- Each project document must have a format of front page according to **Annexure II.**
- Each project document must have a declaration certificate page according to **Annexure III.**
- Each project document must have a declaration certificate page according to **Annexure IV**.

<<Institute Name>>

BCA 4th Semester

Course Name: Project **Course Code: CS4009**

Project Team : <<No>> **Project Title:**

Team Number					
Project Title					
Students guide interaction during	Day				Total Hours per week
	Time Duration				
Project Objective and Definition					
4th Semester Proposed system functionalities with description					
Tools and Technology					

Declaration:

We hereby declare that we have read the guidelines uploaded on the website for the above said course and we shall follow those guidelines. We will not change the above-given details for the entire Semester. We have chosen our team members by ourselves. So, we will be responsible for team dispute, if any, during entire Semester, which we will resolve by ourselves. As a team member, if we not doing any contribution then Institute can take action against they and we are ready to accept it.

We are well aware that project work must be prepared by the team members and must not be copied and (or) paid one. We acknowledge that the Institute has the authority for taking punitive actions against us for violation and/or non-compliance of the same.

Enrolment Number	Name	Signature

Team members were made aware by me regarding plagiarism and its consequences.

<Guide Name> Signature

Date: Place:

PROJECT

<<TITLE IN CAPITAL LETTERS>>

Submitted By,

<<Student's Name (Enrollment Number)>>,

<<Student's Name (Enrollment Number)>>,

<<Student's Name (Enrollment Number)>>,

<<Student's Name (Enrollment Number)>>

Guided By,

<<Guide Name>>

for partial fulfillment of the requirements

for the Degree of Bachelor of Computer Application

B. V. Patel Institute of Computer Science,

Uka Tarsadia University.

<Month>, 2023.

Annexure III: Declaration Certificate

DECLARATION

We hereby declare that the project titled "<<*Project Title*>>" is fully implemented by us. It is neither paid nor copied. Even though, later on, in case of any infringement found for this project work, we are solely responsible for the same and understand that as per UGC norms, the University can revoke the degree conferred to us.

Enrolment Number	**Name**	**Signature**

As a guide, I assure you that no plagiarism is found in the submitted document.

<<Guide Name & Signature>>

Date: Place:

Work Sufficiency Certificate

As a guide, I assure you that the project work presented by the team is sufficient according to the specified time duration and team size.

<<Guide Name & Signature>>

Date: Place: