GUJARATTECHNOLOGICALUNIVERSITY,AHMEDABAD,GUJARAT

Competency-focusedOutcome-basedGreenCurriculum-2021
(COGC-2021)

CourseTitle:Project-II
(CourseCode: 4360604)

Diploma Programme in which this course is offered	Semesterinwhichoffered
CivilEngineering	6thSemester

1. RATIONALE

In order to help the studentsdevelopment, live project challenges should be offered to them as often as possible. For the students to be able to use and apply engineering-based knowledge and skills to address real world challenges, they must have first-hand experience and confidence. The selected pursuits should be relevant to student's academic interests and of professional relevance to organizations in the industrial sphere. So as to participate and manage a large civil engineering projects in future.

The Project and Seminar are both combined with the goal of developing a specific set of communication skills (report preparation, survey report writing, lab experiment results writing, participating in group discussions, verbally defending the project in the form of Seminar, etc.).

2. COMPETENCY

Thegoal of this project is to enhance capabilities among the students for comprehensive analysis and practices in a systemic way todevelopdifferenttypesof skills sothat students areableto acquirefollowingcompetencies:

1. Apply the theoretical and practical knowledge and abilities which have learned in disciplines and courses to a project that will work in a real-world working context, ideally one that is industrial
2. Describe the functioning of the industrial setting and its working practices.
3. Explain what entrepreneurship is and how to become an entrepreneur
4. Determine and compare the gap between the technical knowledge gained through the curriculum and the real industrial requirement and to make up for it by acquiring additional knowledge as needed
5. Field computing and gaining practical experience in the planning, designing and execution of civil engineering projects.

3. COURSEOUTCOMES

Upon successful completion of this course, students will be able to;

CO.1 Apply principles of basic science and engineering fundamental in analysis, design and

operation of civil engineering systems.

CO.2 Assess societal needs and plan suitable infrastructure

CO.3 Analyze and design components of civil engineering projects

CO.4 Develop team spirit and inter-personal dynamics for effective execution and management of projects

CO.5 Engage in lifelong learning and adapt to changing professional and societal needs

4. TEACHINGANDEXAMINATIONSCHEME

TeachingScheme (In Hours)			TotalCredits (L+T/2+P/2)	ExaminationScheme				
				TheoryMarks		PracticalMarks		Total Marks
L	**T**	**P**	**C**	**E**	**M**	**I**	**V**	
0	0	6	3	0	0	60	40	100

Legends: L-Lecture; **T**–Tutorial, **P**–Practical, **E**–Theory External, **M** - Theory Internal, **I**–Practical Internal, **V** - Practical External

5. COURSEDETAILS

The project is offered to the students of 5th and 6th semester in order to inculcate innovation and attitude to develop skills. A group of four to eight students (maximum of fifteen students) work as a team for major project work.
The project should be selected such that it could be completed within 5th and 6th semester.

Project work should be distributed in below mentioned phases (6th Sem)
   1. Approval of PRC (6th Sem) :- At commencement of 6th semester students should get approval to continue the ongoing project work of 5th semester form PRC.
   2. There should be at least two review for project work during semester

Note: Students should continue their 5th semester project in the 6th semester.

6. GUIDELINEFORTHEPROJECT–II, FORDIPLOMAENGINEERING

Project–II: 6th Semester (Marks:100), L:T:P – 0:0:6, Credits:3

o   Out of 100 marks, 60 marks are to be given as Practical Internal as per scheme suggested.
o   The college through internal assessment will assess the User Defined Problems (UDP)/Industry Defined Problems (IDP), submitted by students as per time limit prescribed by the university in the sixth semester.
o   The remaining 40 marks are for the Practical External which shall be conducted by the GTU.
o   Each defined project needs to be from Industry /Research organization/ Govt.organization/ socio-technical issues and according to the need of time for

o solving reallifeproblems.
o There should be one Project Review Committee(PRC) in consists of following members
  • Head of Department (HOD)
  • Faculty member from the department-Project In charge
  • Internal faculty/Industry resource person

7. PROJECT GUIDELINE FOR STUDENT:

- After getting approval student should assign to the project guide in the beginning of 6^{th}semester and students may work on areas approved under the supervision of allotted supervisorsame as per 5th semester. In exceptional cases if it is required to be changed then it should be duly approved by PRC.
- There should be at least two project review presentation during the semester against PRC.The suggestions given by PRC have to be incorporated before completingthe project.
- They may have to show their progress periodically to their supervisor as per directions given by supervisor.
- The students may submit their final project report as per specified formats as provided in this syllabus and duly signed/approved by their supervisor to the department at the end of semester.
- The internal assessment marks will be evaluated based on progressive evaluation and oral presentation by the internal supervisor

8. ROLE OF PROJECT REVIEW COMMITTEE:

- There should be one Project Review Committee(PRC),whichconsists of following members
  o Head of Department (HOD)
  o Faculty member from the department-Project In charge
  o Internal faculty/Industry resource person
- PRC will arrange two reviews for the project in semester
  o One review for finalizing project titles/proposals and allotment of supervisor for each group of students
  o One midterm review.
- The PRC will give suggestions for improving quality of each project.

9. ROLE OF SUPERVISOR/GUIDE:

- The supervisor will supervise/guide the group of students allotted to him throughout the semester.
- He/she will assess the students individually as per stipulated assessment guidelines and keep record of it.
- Suggest resources to the students.
- Guide students on how to address issues on environmental and sustainability. Environment friendly and having low or zero carbon emission projects will be given priority.
- Motivate continuously students allotted to him for doing best projects.

10. ASSESSMENTCRITERIAFOREFFECTIVEEVALUATION OFTHEPROJECT:

The Diploma 6th Semester student's project-II will be evaluated as per the scheme suggested below.

60 Marks are for Progressive Assessment to be evaluated by Institute concern Faculty / Supervisor for the Project-II only based on following criteria.

Sr.No.	Description	Marks
1	Identification of problem and Framing of Problem Statement	5%
2	Problem Analysis	10%
3	Feasibility of proposed solution	10%
4	Adherence to Action plan	10%
5	Content appropriateness	5%
6	Technical knowledge and awareness related to the project	10%
7	Project Report and Presentation	5%
8	Question-Answer Technique	5%
	TOTAL	**60**

11. PO-CO MAPPING:

Semester:	Project-II (Course Code: 4350603)									
V	POs and PSOs									
Competency &Course Outcomes	PO:1 Basic & Discipline knowledge	PO:2 Problem Analysis	PO:3 Design/ development of solutions	PO:4 Engineering Tools, Experimentation &Testing	PO:5 Engineering practices for society, sustainability & environment	PO:6 Project Management	PO:7 Life-long learning	PSO:1	PSO: 2	PSO: 3
CO:1	3	3	3	3	3	3	3	-	-	-
CO:2	-	3	3	2	3	2	-	-	-	-
CO:3	3	3	3	3	2	2	3	-	-	-
CO:4	-	-	-	-	3	3	3	-	-	-
CO:5	-	-	3	3	3			-	-	-

Legend: '3' for high,'2' for medium, '1' for low or '-'for the relevant correlation of each competency, CO, with PO/ PSO

Note: These is suggested mapping, supervisor should change these mapping according to the type of project and assess accordingly.

12.   SAMPLE EVALUATION RUBRICS:

Title and Feasibility (Problem Identification)

Parameters	Excellent	Adequate	Average	Satisfactory
Identification of problem & Framing of Problem Statement	Detailed and extensive explanation of the purpose and need of the project	Good explanation of the purpose and need of the project	Average explanation of the purpose and need of the project	Moderate explanation of the purpose and need of the project
Problem Analysis	Compete explanation of the key concepts , strong descriptions of the technical requirements of the projects	Compete explanation of the key concepts , Insufficient description of the technical requirements of the projects	Compete explanation of the key concepts but little relevance to literature , Insufficient description of the technical requirements of the projects	All key concepts are not explain and very little relevance to literature , Insufficient description of the technical requirements of the projects
Feasibility of proposed solution	Detailed and extensive explanation/ analysis of content	Collects a great deal of information and good study of the content	Collects a great deal of information and moderate study of the content	Collects information and satisfactory study of the content
Adherence to Action plan	Strictly adhered to the Action Plan prepared in advance and achieved all the mile stones within specified time limit.	Adhered to the Action Plan prepared in advance and achieved all the mile stones within time limit.	Followed the Action Plan prepared in advance but delayed in achieving one or two of them but ultimately completed the project within time limit.	Carried out the activities randomly without following the Action Plan but ultimately completed the project within time limit.

Abstract and Depth of Knowledge/Analysis & Result / Implementation & Execution

Parameters	Excellent	Adequate	Average	Satisfactory
Content appropriateness	Appropriate Content and also presented in a logical sequence	Content is moderately relevant, but presented in a logical sequence	Content is moderately relevant, but presented randomly without logical concern	Presented content was partially relevant and also not in logical concern.
Technical knowledge and awareness related to the project	Extensive knowledge related to the project	Adequate knowledge related to the project	Average knowledge related to the project	Lacks sufficient knowledge
Project Report	Project report is according to specified format, reference included	Project report is according to specified format, but reference not included	Project report is partially as per specified format	Project report is not as per specified format

Presentation and viva

Parameters	Excellent	Adequate	Average	Satisfactory
Presentation	Presentations are appropriate and well delivered, Proper eye contact with audience and clear voice with good spoken language	Presentations are appropriate and well delivered, clear voice with good spoken language but less eye contact with audience	Presentations are appropriate but not well delivered, eye contact with few audience and unclear voice	Content of Presentations are not appropriate, eye contact with few audience and unclear voice
Question-Answer Technique	Answered all the questions satisfactorily.	Answered some questions satisfactorily.	Answered 1 or 2 questions satisfactorily.	Unable to answer the questions satisfactorily.

13.   ARRANGEMENT OF CONTENTS IN PROJECT REPORT:

The sequence in which the project report material should be arranged as follows:
1) Cover Page
2) Title Page
3) Certificate
4) Abstract
5) Table of Contents
6) List of Tables
7) List of Figures
8) List of Abbreviations and Nomenclature
9) Chapters
    i. Introduction
    ii. Exhaustive Literature Survey/Review of Literature
    iii. Define the problem.
    iv. Body of project (Developing the main theme of the present investigation project work)
    v. Analysis/Results and Discussions
    vi. Conclusions
    vii. Future Enhancements / Recommendations
10) References
11) Appendices

Each chapter should be given an appropriate title. Tables and figures in a chapter should be placed in the immediate vicinity of the reference where they are cited. Footnotes should be used sparingly. They should be typed single space and placed directly underneath in the very same page, which refers to the material they annotate.

14.   ARRANGEMENT OF PARAGRAPH IN A CHAPTER:

- Each paragraph in a chapter should be properly numbered for example, 1.1, 1.2 etc., where first digit represents the Chapter Number and second digit the paragraph number. There is no need to indicate the number for the first paragraph in a chapter.
- Sub-paragraphs, if any indicated as 1.1.1, 1.1.2 etc. i.e. first digit representing the chapter, the second representing the paragraph and third representing the sub-paragraph.
- **Don't underline the headings or subheadings or side heading**. Instead use the bold letters.

15.   APPENDICES:

- Appendix showing the detailed data, design calculations, derivation etc
- Appendices are provided to give supplementary information, which is included in the main text may serve as a distraction and cloud the central theme.
- Appendices should be numbered using Arabic numerals, e.g. Appendix 1, Appendix 2, etc. Appendices, Tables and References appearing in appendices should be numbered and referred to as appropriate places just as in the case of chapters.
- Appendices shall carry the title of the work reported and the same title shall be made in the contents page also.

16.   **LIST OF REFERENCES**:

- References should be numbered from 1st chapter to the last chapter in ascending order and should be shown in square brackets.
- The bibliography list should be made strictly in alphabetical order of the name of the authors.
- The listing of references should be typed 4 spaces below the heading
- **References**in alphabetical order in single spacing left – justified.
- The reference material should be listed in the alphabetical order of the first author.
- The name of the author/authors should be immediately followed by the year and other details.
- A typical illustrative list given below relates to the citation example quoted above.

[Chapter]Author Name, „Title of the book or paper", Publisher name, (year), Page No

17. **References:**

1. [1] Ariponnammal, S. and Natarajan, S. 'Transport Phenomena of SmSel – X Asx',

   Pramana (1994) – Journal of Physics Vol.42, No.1, pp.421-425.

18.   **TABLE AND FIGURES:**

- In the references by the word Table, is meant tabulated numerical data in the body of the project report as well as in the appendices.
- All other non-verbal materials used in the body of the project work and appendices such as charts, maps, photographs and diagrams may be considered as figures.

19.   **TYPING INSTRUCTIONS:**

- The impression on the typed copies should be black in colour.
- The project report should be submitted in **A4** size (29 cm x 20 cm).
- Good quality or Bond paper should be used for the preparation of the project report.
- Typing should be done on one side of the paper with character font in **size 12** of **Times New Roman.**
- 1.5 line spacing should be used for typing the general text.
- Subheading should be typed in bold Font size 12 and heading bold Font size 14.
- The layout should provide a margin of 1.50 Inches on the left, 1.00 Inches on the top, bottom and right.
- The page numbers should be indicated at the top-middle or bottom-middle of the each page.
- Heading s should be in bold should not underline the heading/subheadings and should not put colons (:) in headings or subheadings.

APPENDIX:1(Coverpage)

(AtypicalSpecimenofCoverPage)<FontStyleTimesNewRomanBold>

TITLEOF PROJECTREPORT

<FontSize18><1.5line spacing>

APROJECTREPORT

<FontSize14>

Submittedby
<FontSize14><Italic>

NAMEOFTHE CANDIDATE(S)
<FontSize16>

In partial fulfillment for the award of the diplomain

<FontSize14><1.5linespacing><Italic>

CIVILENGINEERINGPROGRAMME
<FontSize16>

IN
DEPARTMENTOFCIVILENGINEERING
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logo

NAMEOFTHECOLLEGE
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GUJRAT TECHNOLOGICAL UNIVERSITY
<FontSize16>
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Yearofsubmission:(MONTH&YEAR)
<FontSize14>

APPENDIX: 2(Titlepage)

(AtypicalSpecimenofTitlePage)<FontStyleTimesNewRoman –Bold>
A
Project
Reporton

<TITLEOF THEPROJECTWORK>

Submitted for partial fulfilment of the requirements for the
award of the

DIPLOMAIN CIVIL

ENGINEERING

IN

CIVILENGINEERINGPROGRAMME

BY BATCH

<Mr./Ms.NameoftheStudent(RollNo.)>
<Mr./Ms. Name oftheStudent(RollNo.)>
<Mr./Ms. Name of the Student(RollNo.)>
<Mr./Ms. Name of the Student(RollNo.)>
<Mr./Ms. Name of the Student(RollNo.)>

Undertheguidanceof

<NameoftheStaff with designation>

Civil Engineering Department
.

Departmentof CivilEngineering
<<**NAMEOFINSTITUTE**>>
<<**ADDRESSOFINSTITUTE**>>

(AtypicalspecimenofBonafideCertificate)
<FontStyleTimesNewRoman>

COLLEGE NAME
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CERTIFICATE
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<FontStyleTimesNew Roman –size-14>

It is certifiedthatthisproject report**"……….TITLEOFTHEPROJECT… ...."**

Isthebonafideworkof**"…………..NAMEOFTHECANDIDATE.............................."**

who has carried out the project work under my supervision.

<<SignatureoftheHeadofthe Department>><<SignatureoftheProjectSupervisor>>

SIGNATURE   *SIGNATURE*

<<Name>>   <<Name>>

HEADOFTHE DEPARTMENTPROJECTSUPERVISOR

<<AcademicDesignation>>

<<Department>>DepartmentofCivilEngineering

<<Fulladdressofthe Dept &College>><<FulladdressoftheDept&College>>

External Examiner ....<<Signature,Name,Designation&Address>>........

20. COURSE CURRICULUM DEVELOPMENT COMMITTEE:

GTU Resource Persons

No.	Name and Designation	Institute	Email ID
1	H. T. Patel, Lecturer in Civil Engineering	K D Polytechnic, Patan	htpatel20@gmail.com
2	D. N. Sheth, Lecturer in Civil Engineering	Government Polytechnic, Palanpur	devendra_civil@yahoo.com