GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: PROJECT-I
(COURSE CODE: 3350609)

Diploma Programme in which this course is offered	Semester in which offered
Civil Engineering	5th Semester

1. RATIONALE

One of the important criteria of "Project " is to develop the ability of "learning to Learn " on its own. This would go a long way helping the students in keeping pace with future changes in technology and in the acquisition of knowledge and skills as and when needed. The course of the "Project" is designed with an aim to all these requirements of the students. Which will include planning of the Programme, which must be completed within the time allocated.

The Project should never have a single solution and process of arriving at a particular solution, the student must be required to make number of decisions after study information as he has gathered from experiments, surveys, analysis etc.

The Project is also included with Seminar with the aim to develop certain set communication skills (preparation of report, writing survey report writing lab. experiment results writing conclusions of the work done and physical phenomenon observed, participating in group discussions, verbally defending the project in the form of Seminar etc.)

The curricula for each course make specific mention of some of the major aims and objectives of the programme as a whole, these should be assigned due importance in the planning of teaching methodologies,

The programme aims at developing in the student, knowledge and skills to match the current and projected needs of industry/ user systems, social awareness and professional attitudes. In relation to the course and topics to be taught, the student will have to constantly update himself and keep pace with the changing technologies and the current and projected needs of user systems. Another important aspect is the development of the attitude of enquiry, the inculcation of sound study and work habits, side by side with the development of the overall personality. as well as positive attitudes .

2. COMPETENCY

The course content should be taught and implemented with the aim to develop different types of skills so that students are able to acquire following competencies:

1 To develop of inquisitive russ, innovative skill and confidence to work independently
2. To participate effectively in group work
3. To collect relevant data
4. To plan and organize the work
5. To analyse and synthesise the data
6. To relate knowledge various courses in lacking a live problem
7. To make appropriate decision
8. To conduct a survey and investigation
9. To solve industry problems
10. To develop ability during field project work

11. To develop cost consideration
12. To design the components on broad lines
13. To prepare a drawings and plans for works
14. To assess the financial implication and feasibility of the scheme
15. To prepare the technical reports

3. COURSE OUTCOMES

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.
The students will be able to

- Know the questions to which he is finding answers through experimental work.
- Perform the practical work with appropriate accuracy.
- Reduce the experimental readings to the form of answers required.
- Understand clearly what the reader will want to know.
- Give brief but clear answers.
- Convince the reader that the answers are valid.
- Present a reasoned discussion of the significance of the answers he offers.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			**Total Credits (L+T+P)**	**Examination Scheme**				
				Theory Marks		**Practical Marks**		**Total Marks**
L	**T**	**P**	**C**	**ESE**	**PA**	**ESE**	**PA**	
0	0	4	4	00	00	40	60	100

Legends: L-Lecture; **T** – Tutorial/Teacher Guided Theory Practice; **P** - Practical; **C** – Credit, **ESE** - End Semester Examination; **PA** - Progressive Assessment

5. COURSE DETAILS

During the semesters, Students will have to write two types of reports.

1. Course-work reports : i.e. reports for communication with your tutor or guide , Technical reports to communicate with a specific individual who might be a 'senior' person in the formats specified by Gujarat Technological University.
2. A summary of work carried out , the readings, calculations, results and answers in numerical or graphical form, and a discussion of the results, answers and conclusions.

The format must include following contents as a guideline, but should be strictly include all essential contents mentioned as per prevailing guidelines of Gujarat Technological University.

- The Certificate format should be as per the format prescribed by GTU time to time.
- The Report will include the following:

1) Certificate (in the Format given in this document below)

2) Acknowledgements

3) Abstract (In One paragraph not more than 150 words)

4) Index

5) Chapter-1 Introduction of the industry

6) Chapter-2 Problem Identification and Definition, process modification; a Literature Survey and Prior Art Search

7) Chapter-3 The description of the Industrial Process/ Product and problem analysis

8) Cgapter-4 The Outline of the solution (with details including drawings, circuits , software, used for or developed for the solution etc. in detail)

9) Chapter-5 For the **Semester V - Project Report**

- One self appraisal form should be attached at the end by the student in his favour regarding the claim of his work relevance , utilities and materialization as well as the gain in terms of cost – benefits , so that teacher can have ease of evaluation.
- The Report should be submitted well before the Exam.

Guideline for the Project– I for Diploma Engineering

Each final year (Fifth and Sixth Semesters) Project will be a Major Project.
It will be divided into two Semesters

Project – I: (Marks: 200) , Credits : 0 – 0 – 4

- Out of 200 marks, 100 marks are to be given as Progressive Assessment as per scheme suggested.
- The college, through Progressive Assessment , will assess the Industry Defined problems, submitted by students as per time limit prescribed by the university in the fifth semester.
- The remaining 100 marks are for the practical exam- ESE which shall be conducted by the GTU.
- Each defined project needs to be from Industry/Research organization/Govt. organization/ socio-technical issues and according to the need of time for solving real life problems.
- Project identification should be based on "Shodh-Yatra" carried out by the students, during summer, just after completion of the 4th Semester Diploma Engineering exam conducted by GTU. The Shodh Yatra should be completed by the end of the first week from the commencement of the fifth semester.
- Problem definition for the project needs to be submitted by every student within prescribed time limit specified by concern project guide as per the submission time limit specified by GTU to the respective faculty guide.
- Each definition will be evaluated and corrected if required by the faculty guide and the consolidated report should be prepared branch wise, in the prescribed format of GTU, by the College.
- Every College should send all the Problem Definitions in the specified format to GTU within prescribed time limit specified by GTU without fail.
- The selection of the topic for the project work must strictly related to the Elective Subjects/ Elective Group taken for the study and exam for 5th and 6th semester, failing to such selection , strict actions may be taken as prescribed and decided by the University.

- The HOD should send all the **Reports on the Problem Definition** to GTU, without delay, in a CD or online ,viewing all aspects and prevailing guidelines.
- Once the Problem is defined and submitted to GTU, the students will start working on the Problem. They have to undergo a rigorous process of Understanding and Analyzing the problem, conducting **a Literature and Prior Art Search through studying patent literature**, Deriving, Discussing and Designing the problem solution. The Implementation part will be completed in Sixth Semester.
- At the end of Fifth Semester , the student will prepare a **'Semester V Project Report'** of the work done during the Semester. An examination will be conducted. **The Principal will invite the industry mentor (in case the project is not based on a UDP) to the examination.** The HOD should send all the **Semester V Project Reports** to GTU, without delay, in a CD or online .

Certificate Format

This is to certify that Mr./Ms._____
From _____College having Enrolment No: _____
has completed **Report on the Problem Definition/ Semester V Project Report/ Final Project Report**
having title _____,
individually/ in a group consisting of _____ persons under the guidance of the Faculty Guide
_____.
The mentor from the industry for the project:
Name: Industry:
Contact Details:

SUGGESTED TYPES OF PROJECTS :

Definition of a project:

" A project should enable a student to exercise some of the knowledge and/or skills developed during programme (upon the time that the particular project is initiated) to a new situation or problem for which there are a number of engineering solutions. The project will include a planning of the programme, which must be completed within the time allocated, the maintenance of a logbook and the preparation of a report. The project should not have a single solution and in the process of arriving at a particular solution, the student must be required to make a number of decisions after studying information he has accumulated from experiments, analysis, survey, etc. The report should contain the reasons for all decisions taken."

Characteristics of project work:

1. Student centered teaching.
2. Active student participation
3. Full freedom with minimum teacher's direction
4. No unique, defined solution.

Types of project:

In general, projects are of the following types;

1. Feasibility study
2. Design

3. Market survey
4. Design, make, test and evaluate
5. Advanced experimental work requiring the development of existing equipment to be used
   and developed.
6. Field work – This could include surveys, using equipment or charting data and information from visual observation.

SUGGESTED TITLES FOR PROJECTS:

1. Water supply project
2. Sanitary project
3. Road project
4. Irrigation project
5. Housing colony project
   · Village planning
   · Village improvement
   · Slum clearance
   · Sector planning…

Assessment criteria for Effective Evaluation of the project:

The Diploma 5th Semester students are to be evaluated for the IDP Part-I (Final Year Project) as per the scheme suggested .

100 Marks are for Progressive Assessment to be evaluated by Institute concern Faculty / Guide for the Part-I only based on following criteria.

Sr. No.	Description	Marks
1.	Innovation / New Technique adopted	16
2.	Utility of the Project for industry/ Academia	08
3.	Related survey (Industrial Shodh Yatra) of Industry / Society / Institutes for Problem Identification	16
4.	Identification of thrust area and defining objectives with outcome	16
5.	Methodology Related Study, literature review adopted	16
6.	Presentation of work Plan / Action Plan and identification of Project	12
7.	Report writing / Documentation of IDP	08
8.	Preliminary Question - Answer and communication Skill	08
TOTAL		100

The Diploma 5th Semester students are to be evaluated for the IDP Part-I (Final Year Project) as per the scheme suggested for 100 Marks for ESE by External GTU appointed Examiner for the Part-I only.]

Sr. No.	Description	Marks
1.	Approach to identify problem, Tools and techniques used	**20**
2.	Quality of idea, Utility, Planning and work distribution	**20**
3.	Complexity of problem, Implementation feasibility	**10**
4.	IDP statement, Expected outcome of design and survey	15
5.	Presentation, Technical knowledge, Involvement of individual, Reporting and documentation	15
8.	Viva Voce – Question & Answer	**20**
TOTAL		**100**

Note:

- The project/ problem wise feedback form prescribed by the Gujarat Technological University should be submitted immediately after evaluation of the project/ problem by the external faculty appointed by the university.
- The above suggested evaluation scheme can be changed by the external faculty accordingly to problem / project following University guidelines.
- The project / problem selected should strictly related to the Elective courses or the group taken for the study and exam in semester 5^{th} and 6^{th} by the student , failing to such selection report must be made by the external faculty to university immediately after conducting exam .

6. SUGGESTED SPECIFICATION TABLE WITH HOURS AND MARKS (THEORY)

NOT APPLICABLE

Legends: R = Remember U = Understand; A = Apply and above levels (Bloom's revised taxonomy)
Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

SUGGESTED LIST OF EXERCISES/PRACTICALS

NOT APPLICABLE

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills **(outcomes in psychomotor and affective domain)** so that students are able to acquire the competencies/programme outcomes. Following is the list of practical exercises for guidance.

***Note**: Here only outcomes in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of certain outcomes in affective domain which would in turn lead to development of **Course Outcomes** related to affective domain. Thus over all development of **Programme Outcomes (**as given in a common list at the beginning of curriculum document for this programme) would be assured.*
Faculty should refer to that common list and should ensure that students also acquire outcomes in affective domain which are required for overall achievement of Programme Outcomes/Course Outcomes.

7. COURSE CURRICULUM DEVELOPMENT COMMITTEE

Faculty Members from Polytechnics

- **Prof A.K.Popat** Sr.lecturer in Civil Engineering , Government Polytechnic, Dahod
- **Prof R.M.Patel** Sr.lecturer in Civil Engineering , Government Polytechnic, Dahod