

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

**COURSE CURRICULUM
COURSE TITLE: PROJECT-I
(COURSE CODE: 3350305)**

Diploma Programmes in which this course is offered	Semester in which offered
Biomedical engineering	5 th Semester

1. RATIONALE

The students are required to prepare a small project in field of Bio-Medical engineering, which is not studied so far but may be extension of the topics of the subject studied or collections of data related to recent advancements in the area of Bio-Medical engineering. Also they can develop their technical ability of developing and maintaining the biomedical equipments.

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 competency:

- i. Creating the technical ability in field of Bio-medical engineering.**

3. Course Outcomes

At the end of the course, student will able to

- i. Develop the technical ability in biomedical engineering.**

4. Teaching and Examination Scheme

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	PA	ESE	PA	150
0	0	06	06	00	00	60	90	

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

5. SUGGESTED LIST OF EXERCISES/PRACTICALS/PROJECTS.

The practical/exercises should be properly designed and implemented with an attempt to develop different types of cognitive and practical skills (**Outcomes in cognitive, psychomotor and affective domain**) so that students are able to acquire the competencies. 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 **Programme Outcomes/Course Outcomes in affective domain** as given in a common list at the beginning of curriculum document for this programme. Faculty should refer to that common list and should ensure that students also acquire those Programme Outcomes/Course Outcomes related to affective domain

*** Prepare a small project from below listed fields. Also a project may be a part of final semester subject project-II.**

S. No.	Unit No.	Practical Exercises (Outcomes' in Psychomotor Domain)	Hrs. required
1		General Medical Instrumentation.	
2		Electronic models of Anatomical structure of human body.	
3		Rehabilitation Engineering.	
4		Processor and controllers.	
5		Critical Care Instrumentation.	
6		Diagnostic Instrumentation.	
7		Advance communication in Medical field.	
8		Computer based Instrumentation & Software systems.	
9		Advancement in Medical Transducers.	
10		Virtual Instrumentation.	
Total			

6. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like:

- i. Student should make a small project by implement their ideas.
- ii. Student should prepare the project report and power point presentation.

7. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

- i. Arranging Industrial visit.
- ii. Medical instruments study.
- iii. Lab work (Project workshop).

8. SUGGESTED LEARNING RESOURCES

A) List of Major Equipment/ Instrument with Broad Specifications

- 1) CRO/DSO.
- 2) Computer.
- 3) Project tools.

B) List of Software/Learning Websites

<http://www.electronics-tutorials.com/>

<http://www.efymag.com/>

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE Faculty Members from Polytechnics

- **Prof. N.D.MAKWANA** ,Lecturer ,Dept of Biomedical engineering,
G.P.Gandhinagar
- **Prof. A.K.BULA** ,Lecturer ,Dept of Instrumentation engineering,
G.P.Gandhinagar
- **Prof. S.S.MALKAN** ,Lecturer ,Dept of Biomedical engineering,
G.G.P.Ahmedabad

Coordinator and Faculty Members from NITTTR Bhopal

- **Dr. S.K.Gupta**, NITTTR, Bhopal.