

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

**COURSE CURRICULUM
COURSE TITLE: SEMINAR
(Code: 3340306)**

Diploma Programmes in which this course is offered	Semester in which offered
Bio-Medical engineering	4 th Semester

1. RATIONALE

The students are required to prepare and present an advance topic in front of Faculties and colleagues, which is not included in syllabus but extension of the topics of the subject studied or collections of material related to recent advancements in the area of Bio-Medical engineering.

2. LIST OF COMPETENCIES

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:

- **Creating the technical communication ability.**

3. Course Outcomes:

At the end of the course, student will able to

- Develop communication skill with industries.**

4. Teaching and Examination Scheme

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				
L	T	P		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. DETAILED COURSE CONTENT :

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6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY):

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Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1.						
	Total					

Legends:

R = Remembrance; U = Understanding; A = Application and above levels (Revised Bloom's 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.

7. SUGGESTED LIST OF AREAS FOR SEMINAR TOPICS.

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

Sr. No.	Unit No.	Practical Exercises (Outcomes' in Psychomotor Domain)	Hrs. required
1		General Medical Instrumentation	
2		Bio-Materials	
3		Anatomy and Physiology	
4		Medical Imaging Technology	
5		Rehabilitation Engineering	
6		Ophthalmic Instrumentation	
7		Pharmaceutical Instrumentation	
8		Processor and controllers.	
9		Critical Care Instrumentation	
10		Diagnostic Instrumentation	
11		Advance communication in Medical field	
12		Computer based Instrumentation	

13		Advancement in Medical Transducers	
14		Virtual Instrumentation	

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like:

- 7.1. Student should survey technical literature.
- 7.2. Student should visit Industries (Hospitals).
- 7.3. Visits of consultants for advance topics.

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

- i. Seminar/Symposium
- ii. Collection/Records
- iii. Group discussion/Debate
- iv. Survey international level technical literature.

10. SUGGESTED LEARNING ACTIVITIES

A. List of Books: NA

B. List of Major Equipment/ Instrument

I Computer with Internet connectivity

II Projector

C. List of Software/Learning Websites

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

II <http://www.electronicsforu.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. M.H.DAVE** ,Lecturer ,Dept of Biomedical engineering,
G.P.Gandhinagar
- **Prof. S.S.MALKAN** ,Lecturer ,Dept of Biomedical engineering,
G.G.P.Ahmedabad

Co-ordinator and Faculty Members from NITTTR Bhopal

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