

GUJARAT TECHNOLOGICAL UNIVERSITY

BIO MEDICAL ENGINEERING (31) MEDICAL ETHICS AND STANDARDS

SUBJECT CODE: 2743103

SEMESTER: IV

Type of course: Major Elective

Prerequisite: Basic knowledge of knowledge of human biology or biomechanics

Rationale: Achieve familiarity with some basic ethical framework & understand how these ethical frameworks can help us to think through contemporary questions in medical ethics. Students will be able to know about the legal and ethical principles and application of these principles in health care settings & gain knowledge about the medical standards that to be followed in hospitals.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
L	T	P		Theory Marks		Practical Marks				
			ESE (E)	PA (M)	PA (V)		PA (M)			
					ESE	OEP	PA	RP		
3	2#	0	4	70	30	30	0	10	10	150

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1	INTRODUCTION TO MEDICAL ETHICS Definition of Medical ethics, Scope of ethics in medicine, American medical Association code of ethics, CMA code of ethics- Fundamental Responsibilities ,The Doctor And The Patient, The Doctor And The Profession, Professional Independence, The Doctor And Society.	10	18
2	ETHICAL THEORIES & MORAL PRINCIPLES Theories-Deontology & Utilitarianism, Casuist theory, Virtue theory, The Right Theory. Principles-NonMaleficence, malfecence Beneficence, Autonomy, Veracity, Justice. Autonomy & Confidentiality issues in medical practice, Ethical Issues in biomedical research ,Bioethical issues in Human Genetics & Reproductive Medicine	10	22
3	HOSPITAL ACCREDITATION STANDRADS 9 Accrediation- JCI Accreditation & its Policies. Patient centered standards, Healthcare Organization management standards.	10	20
4	HOSPITAL SAFETY STANDARDS 10 Life Safety Standards-Protecting Occupants, Protecting the Hospital From Fire, Smoke, and Heat, Protecting Individuals From Fire and Smoke, Providing and Maintaining Fire Alarm Systems, Systems for Extinguishing Fires Environment of Care Standards-Minimizing EC Risks, Smoking Prohibitions, Managing Hazardous Material and Waste, Maintaining Fire Safety Equipment, Features, Testing, Maintaining, and Inspecting Medical Equipment.	10	20

5	MEDICAL EQUIPMENT SAFETY STANDARDS 9 General requirements for basic safety & essential performance of medical equipments.IEC 60601 standards- Base Standard-general requirement of electrical medical devices, Collateral StandardsEMC radiation protection &programmable medical device system, Particular Standards-type of medical device	8	20
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Reference Books:

1. Domiel A Vallero “Biomedical Ethics for Engineers”, Elsevier Pub.1st edition, 2007
 2. Biomedical Ethics: A Canadian Focus. Johnna Fisher (ed.), Oxford University Press Canada (2009)
 3. Robert M Veatch” Basics of Bio Ethics”, Second Edition. Prentice- Hall,Inc 2003
 4. Physical Environment Online: A Guide to The Joint Commission’s Safety Standards is published by HCPro, Inc. 2010
 5. Joint Commission Accreditation Standards for Hospitals ,2nd edition 2003
 6. Bioethics-“An Introduction for the biosciences”, 2nd edition 2008, Ben Mepham, Oxford.
- OUTCOMES:

Course Outcome:

By the end of this course students will be expected to learn:

1. Upon completion of this course the student should be able to demonstrate a measurable increase in their knowledge, skills and abilities related to:
 - a. Legal and professional guidelines for the health professions
 - b. Public duties and consent
 - c. Guidelines to obtain medical standards in hospitals

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website.