Course Syllabus

Second Semester – 2013/2014

General Information

Course name	Course code	Credits	Contact hours
Medical Equipment Management and Maintenance	BMTS474	1 lecture+1 lab	1 lecture+2 lab

Instructors/ Coordinators

	Instructor	Coordinator
Name	Mr. Arimardan Singh	Dr. Hedi Guesmi
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Text Book

Title	Biomedical Equipment: Use, Maintenance and Management
Author/Year	Joseph J. Carr / 1991

Supplemental materials

Recommended Textbooks and Reference Material	
Title	Maintenance and Repair of Laboratory, Diagnostic Imaging, and Hospital Equipment
Author/Year	World Health Organization / 1994
Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)	
Web sites	www.frankshospitalworkshop.com
	http://www.health.mp.gov.in/drug/Medical%20equip-Maint%20Manual.pdf

Specific Course Information

a. Brief description of the content of the course (Catalog Description)

This course contains an introduction to printed circuits boards, different design of electronic circuits, troubleshooting. instrument control program, preventive maintenance, failure reporting and recall, instrument selection and evaluation criteria, risk management techniques and resources, part inventory and control, equipment planning for medical facilities, application of computers in maintenance management

b. Prerequisites (P) or Co-requisites (C)

(P) Biomedical Mechanical Equipment 2 - BMTS365

c. Course type (Mandatory or Elective)

Mandatory

Specific Goals

a. Specific outcomes of instruction
By the end of this course, the student should be able to: - Recognize and apply different maintenance protocols for the biomedical equipment. (a) - Select appropriate testing instruments to troubleshoot electronic boards. (a) - Calibrate various biomedical equipment applying special tools and procedures. (c) - Participate in group to troubleshoot and service medical equipment. (e) - Lead a group to organize a hospital maintenance management program. (e) - Conduct troubleshooting procedure for electronic and electromechanical biomedical devices. (f) - Appraise the importance of maintenance management and its improvement. (k)

b. Student outcomes addressed by the course										
a	b	c	d	e	f	g	h	i	j	k
✓		✓		✓	✓					✓

Brief list of topics to be covered

Topics	No of Weeks	Contact hours
Medical equipment maintenance: Introduction and Role of BME. Inspection and preventive maintenance (IPM), PM protocols, Calibrations, corrective maintenance.	2	6
Biomedical test equipment and tools: Electronic testing devices Introduction to some special testing tools in medical equipment and their use. Maintenance and service tools	2	6
Inspection and Preventive Maintenance Procedures for some Biomedical Instruments	3	9
Troubleshooting: Troubleshooting methods, Components checking, Basics of troubleshooting using block / layout diagrams and service manuals, trouble -shooting model for some instrument and case studies in troubleshooting.	3	9
Medical equipment maintenance management: Maintaining equipment failure, maintenance, service and calibration reports and logs, spare part inventory and control, application of computers in maintenance management.	2	6
Equipment Control & Asset Management: Instrument selection and evaluation criteria: policies and procedures govern activities such as the selection, planning, and acquisition of medical devices through to the incoming inspection, acceptance, maintenance, and eventual retirement and disposal of medical equipment. Establish an equipment control / asset number against which maintenance actions are recorded.	2	6
Risk management techniques and resources	1	3