

# Dakota County Technical College

## **BMET 1231: Biomedical Instrumentation II**

### **A. COURSE DESCRIPTION**

Credits: 4

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course provides a foundation in the theory and operation of medical test equipment. The student will use various types of test equipment to test and measure the performance of diagnostic, monitoring and surgical equipment. Each class will have a lecture component on a specific type of instrumentation following the syllabus. Prerequisites: BMET1220.

**B. COURSE EFFECTIVE DATES:** 08/21/2006 - Present

### **C. OUTLINE OF MAJOR CONTENT AREAS**

### **D. LEARNING OUTCOMES (General)**

1. Demonstrate fiber optic light sources
2. Demonstrate how ultrasound can detect blood flow by Doppler effect
3. Describe hematocrit procedures using centrifuges
4. Discuss basic laboratory centrifuges and how they're used
5. Discuss common battery types and management in medical settings
6. Discuss how gel is effectively an impedance matching medium
7. Discuss range of battery technologies used in medical devices
8. Discuss where and how fiber optic devices are often used in a hospital
9. Draw block diagram of basic x-ray system
10. Introduce basic doppler ultrasound used for blood flow detection
11. Introduce basic radiology and nuclear medicine devices
12. Introduce nuclear medicine concepts
13. Introduction to basic radiology systems
14. Perform a preventive maintenance check on a light source

### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

### **G. SPECIAL INFORMATION**

None noted