



Western Technical College

10605100 Introduction to Bio-Medical Technology

Course Outcome Summary

Course Information

Description	The introductory material will give the student a perspective of the bio-medical field. The concepts of the human-instrument system and the problems encountered in obtaining measurements from or treating a living body will be introduced. Medical terminology, hospital safety, accepted practices, ethics, medical instrumentation, the role of a BMET, creative thinking, teamwork and study skills will be an integral part of this course.
Career Cluster	Science, Technology, Engineering and Mathematics
Instructional Level	Associate Degree Courses
Total Credits	1
Total Hours	18

Textbooks

No textbook required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability
6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically
8. Refine Professionalism: Improve Critical Thinking
9. Refine Professionalism: Participate Collaboratively
10. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. Manage medical equipment and systems.
2. Identify the function and operation of various types of imaging equipment.
3. Demonstrate a competency with computers and networks used in medical equipment.
4. Apply principles of anatomy, physiology, and medical terminology.
5. Demonstrate safety precautions and practices with medical equipment.
6. Demonstrate professionalism.

Course Competencies

1. Explore the job of a Biomedical Technician.

Assessment Strategies

- 1.1. Class participation
- 1.2. Homework assignments
- 1.3. Objective tests

Criteria

You will know you are successful when

- 1.1. You explain a Med. Eq. Database (Inventory Control System).
- 1.2. You explain HIPAA.
- 1.3. You recognize terms & acronyms.
- 1.4. You list the tasks that a biomed technician performs.
- 1.5. You recognize the roll of various organizations related to the biomed field.
- 1.6. You recognize biomed certifications.
- 1.7. You list rules to which a biomed tech must adhere.
- 1.8. You reflect upon your individual fit for a biomed career.

Learning Objectives

- 1.a. Explain the tasks that a biomed technician performs
- 1.b. Define a variety of biomedical Terms & acronyms
- 1.c. Describe organizations related to the biomedical field
- 1.d. Describe the various Certifications that biomed technicians can obtain
- 1.e. Analyze ones individual fit for the biomed field

2. Explore clinical aspects of the biomedical field.

Assessment Strategies

- 2.1. Class participation
- 2.2. Homework assignments
- 2.3. Objective tests

Criteria

You will know you are successful when

- 2.1. You briefly describe different jobs in the clinical environment.
- 2.2. You describe a variety of departments in the clinical environment.
- 2.3. You distinguish between diagnostic and therapeutic medical equipment.
- 2.4. You describe different levels of care of medical equipment.
- 2.5. You identify a range of medical devices.
- 2.6. You list the applications of a range of medical devices.
- 2.7. You explain the types of Transducers used to acquire data from the human body.
- 2.8. You explain the need for Safety features to be implemented in medical equipment to avoid injuring subject.
- 2.9. You list the Types of Data Obtainable from the human body.
- 2.10. You describe the Human body as a signal source.

Learning Objectives

- 2.a. Describe various Goals of the healthcare environment
- 2.b. Explain the roles within the healthcare environment
- 2.c. Explain the application of a variety of Medical Equipment
- 2.d. Classify medical equipment based on different criteria
- 2.e. Explain the machine/physiology interface

3. Apply appropriate study skills.

Assessment Strategies

- 3.1. Class participation
- 3.2. Homework assignments
- 3.3. Objective tests

Criteria

You will know you are successful when

- 3.1. You attend class regularly.
- 3.2. You are attentive during presentations.
- 3.3. You take notes appropriately.
- 3.4. You complete homework assignments.
- 3.5. You contribute during classroom activities.
- 3.6. You collaborate with classmates in class activities.
- 3.7. You pass objective tests with 50% or higher score.
- 3.8. You organize class materials.
- 3.9. You practice study skills.

Learning Objectives

- 3.a. Implement organization of course materials
- 3.b. Plan effective time management for the current semester
- 3.c. Describe learning styles
- 3.d. Investigate textbook reading strategies
- 3.e. Investigate note taking strategies
- 3.f. Investigate test taking strategies

4. Investigate workplace job skills in general and to the biomedical field in specific.

Assessment Strategies

- 4.1. Class participation
- 4.2. Homework assignments
- 4.3. Objective tests

Criteria

You will know you are successful when

- 4.1. You describe the high level of integrity needed in the biomed field.
- 4.2. You list work ethic violations that are likely to be unacceptable in the workplace.
- 4.3. You send an acceptable e-mail.
- 4.4. You practice appropriate business greetings.

Learning Objectives

- 4.a. Demonstrate Teamwork
- 4.b. Describe Integrity
- 4.c. Implement the ideas of Diversity acceptance within the course
- 4.d. Explain expected Work Ethic skills
- 4.e. Explain practices that are particularly helpful in the Biomed field
- 4.f. Practice communication suited to the business environment