



APPROVED COURSE OUTLINE

Credit(s) 3.00
Contact Hours 47.00
Effective Term: Spring 2016 (510)

ETS 1407
Survey of Medical Technology
Engineering and Building Arts Department

Requisites:

Prerequisite: BME 1008 with a minimum grade of C
and
Prerequisite: EET 1084C with a minimum grade of C

Course Description:

This course is an exploration of the technology used in a health care setting. Students will explore technology within the context of the hospital including specialty units. Students will learn the general functions of technology and the related physiological functions addressed. Students will develop a lexicon of terminology associated with health care environment. Particular attention is given to safety and regulatory considerations.

Course Topics:

- None

Learning Outcomes and Objectives:

- 1. Students will be able to describe historical events, technology and processes that have contributed to the development of medical devices by:**
 - a. describing the role of the Federal Drug Administration (FDA) in the medical device industry.
 - b. classifying and describing medical devices according to FDA definitions and classifications.
 - c. comparing legal issues related to the development of medical devices.
- 2. Students will be able to describe the main uses of medical technology in clinical settings by:**
 - a. identifying and comparing the types of medical devices generally used in health care settings.
 - b. describing the application of medical devices in clinical settings.
 - c. identifying basic electrical biomedical systems in and specialty units.
 - d. describing the physiological processes that relate to use of specific types of medical technology.
- 3. Students will be able to describe Federal and State regulations, requirements and issues related to medical devices by:**
 - a. describing the specific safety issues of biomedical technology in clinical settings.
 - b. identifying requirements and steps needed to ensure public and employee safety in a healthcare facility.
 - c. describing and applying electrical safety requirements and national safety standards for medical devices.
- 4. Students will be able to identify and classify both national and local producers of medical devices by:**
 - a. locating and listing major global producers of medical devices and the types of devices produced.
 - b. documenting the location and jobs associated with major global producers of medical devices.
 - c. identifying the location and jobs associated with local producers of medical devices.
- 5. Students will be able to define glossary terms for medical devices with their purpose, manufacturers, uses, and safety issues by:**
 - a. describing specific devices in each identified category or classification of devices.
 - b. describing the diseases and physiological processes addressed by medical devices.
 - c. classifying biomedical imaging devices, imaging methods, purpose, manufactures and related safety issues.
 - d. describing biomedical monitoring devices, methods, purpose, manufactures and related safety issues.
 - e. identifying and summarizing biomedical diagnostic devices, methods, purpose, manufactures and related safety issues.

Criteria Performance Standard:

Student must achieve a grade of a "C" or better.

Representative Textbooks:

• Textbook(s):

1. **Recommended** - Street, Laurence. *Introduction to Biomedical Engineering Technology*, 2nd ed. CRC Press, 2008

Relevant Dates:

C&I Approval: , BOT Approval: 11/17/2015, Effective Term: Spring 2016 (510)

History of Changes:

C&I Approval: , BOT Approval: 11/17/2015, Effective Term: Spring 2016 (510)

Related Programs:

1. Engineering Technology Associate in Science (ENG-AS) (505) (Active)

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