Course Name: Microbiology for Surgical Technologists

Course Number: SUR* E109

Credits: 2

Catalog description: This course will give a broad overview of general microbiology and the clinical microbiology most necessary for the surgical technologist to understand. It will emphasize the importance of sterile technique and infection control in the operating room while covering basic information such as bacterial staining, microscopy, how bacteria can be cultivated and identified in the laboratory, the most significant human pathogens and how the immune system responds to them. Co-requisite to SUR 110 and SUR 111.

Prerequisite: ENG*E101, BIO*E119, both with C+ or higher.

Corequisite, or Parallel:

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

☒ **SCI** **Science elective**

Course objectives:

General Education Goals and Outcomes:

None

Course Specific Objectives:

1. Correlate the impact of Microbiology on the practice of sterile technique and infection control in the operative setting.
2. Compare and contrast the structure and characteristics of different microorganisms.
3. Analyze the various immune responses that occur in the body as defenses against invasion by pathogens and the wound healing process.
4. Relate the infectious process to surgical practice.
5. Discuss the most significant healthcare-associated pathogens and how they can be controlled.

COURSE CONTENT

Brief history of microbiology and microbiology today
Prokaryotic versus Eukaryotic cell structure
Introduction to the Microscope, Use and Care
Gram Stain and Acid-Fast Stain
Types of Growth Media
Growth Factors affecting Microorganisms
Types of Microorganisms
How Bacteria are identified in the Clinical Lab
Common Causes of Infection in Humans
Immunology and Vaccination
How Microbes Infect Humans
Control of Microbes in the Environment
Treatment of Infections
Epidemiology
Types of Wounds and Wound Healing

Teaching Methods: Lecture, Demonstration & Return Demonstration, Audio-Visual Aids, Observation, Assigned Readings, and Handouts

Grading: Exams: Quizzes 80%, Final Examination 20%

Date Course Created: 3/2017

Date of Last Revision: 08/30/2017