

**SRTC 105**  
**Surgical Technological Sciences**  
2 Credits

Community College of Baltimore County  
Common Course Outline

**Description**

**SRTC 105 – Surgical Technological Sciences:** introduces students to the function of technology and science as it applies to the surgical technologist. Students examine the principles and effects of electricity and physics in surgical procedures. Students explore the role of the surgical technologist in discussing the purpose of the equipment and tools needed in minimally invasive surgery (MIS), robotic surgery, and the impact of computers in the field.

**Pre-requisites:** Admission to the Surgical Technology program

**Overall Course Objectives**

Upon completion of this course, students will be able to:

1. define the surgical importance of atoms, molecules, elements, and matter;
2. list the principles of electricity and its application to surgery;
3. discuss computers and their use in the perioperative environment;
4. state the relationship between electricity and surgery;
5. define the use and components of electrosurgery;
6. state how lasers are used in surgery and associated precautions;
7. define the preparation of the surgical patient for MIS;
8. describe the structure and function of a flexible endoscope;
9. define the principles of robotic surgery; and
10. identify roles of the surgical team in MIS procedures.

**Major Topics**

- I. Physics, related to the surgical environment
  - a. Matter
  - b. Electricity
  - c. Light
  - d. Heat
  - e. Sound
- II. Computers in the surgical environment
  - a. Hardware
  - b. Software
  - c. Identification
- III. Energy sources in surgery
  - a. Electrical energy
  - b. Electrical hazards
- IV. Minimally invasive surgery (MIS)

The Common Course Outline (CCO) determines the essential nature of each course.  
For more information, see your professor's syllabus.

- a. MIS instruments
- b. Flexile endoscopy
- c. Robotic surgery
- d. Special roles of the surgical team

### **Course Requirements**

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Weekly assignments
- Weekly quizzes
- Weekly discussion boards
- Three exams
- Professionalism
- Comprehensive final examination

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