COURSE INFORMATION

Course Prefix/Number: SUR 102
Course Title: Applied Surgical Technology
Lecture Hours/Week: 3.0
Lab Hours/Week: 6.0
Credit Hours/Semester: 5.0

VA Statement/Distance Learning Attendance
Textbook Information
Student Code and Grievance Policy
Attendance Statement (3-30-4000.1)

COURSE DESCRIPTION

This course covers the principles and application of aseptic technique, the perioperative role, and medical/legal aspects.

COURSE COMPETENCIES

Upon completion of this course, a student will be competent to:

Module 1: Principles, Practice, Application of Aseptic Techniques, and Case Routines
- Recite the standards and recommendations related to aseptic technique.
- Define terms related to aseptic technique, and the principles of asepsis.
- Explain the concept of barriers and containment.
- Explain “Surgical Conscience”, and how it relates to evidence based practice.
- List and describe the principles of aseptic technique.
- Explain the relationship between personal hygiene and asepsis.
- Describe and explain the importance of surgical attire.
- Practice hand washing, and the surgical scrub.
- Demonstrate proper gowing and gloving techniques.
- Explain how to open a sterile tray of instruments.
- List and define common terms used in surgical technique.
- Discuss the elements of a case plan.
- Explain the four types of surgery and list questions you should ask yourself for planning the procedure.
- Discuss preoperative case preparation.
- Describe the steps of sterile and nonsterile case setups.
- Describe the correct procedure for performing the surgical counts.
- Discuss the guidelines for preventing lost and retained items.
- Define the purpose and procedure for Universal Protocol.
• Demonstrate instrument handling and passing techniques, including neutral zone (no-hands) technique.
• Identify different specimen types.
• Discuss specimen management during a surgical procedure, including the consequences of losing, mislabeling or misidentifying a specimen.
• Identify care of specimens both on the sterile field and in preparation for transport.
• Explain the post operative role of the surgical technologist.

Module 2: Diagnostics, the Surgical Patient, and Medical Legal Aspects
• Describe the proper procedure for taking vital signs and accurate documentation.
• Describe the use of the electrocardiograph.
• List and define commonly used imaging studies.
• Explain the basic blood and urine chemistry test results to overall patient health.
• Discuss cancer screenings and the effects of malignancy on the body.
• Describe the different methods of tissue biopsy.
• Define patient-centered care and outcome-oriented care.
• Discuss concepts of patient care that apply to the surgical technologist.
• List the domains of Maslow’s hierarchy.
• Describe the role of the technologist in each of the domains of Maslow’s hierarchy.
• Describe some common patient fears and their origins.
• Discuss why patients feel a loss of security as a result of illness and surgery.
• Apply the concept of body image to disfigurement.
• Discuss and practice therapeutic communication.
• Describe therapeutic touch in health care.
• Define cultural competence and discuss its importance in ethics and health care.
• Define spirituality as it applies to patient care.
• List the developmental stages of the pediatric patient and describe pediatric patient’s beliefs about surgery according to their developmental stage.
• Discuss the physiological risks of the elderly patient.
• Discuss how to communicate with an elderly patient.
• Discuss the impaired patient and how to provide support to this patient group.
• List patient groups who are at high risk in the event of surgery such as:
  o Immunosuppressed, HIV/AIDS
  o Sensory impaired
  o Malnourished
  o Diabetic
  o Trauma
• Differentiate between ethics, law, standards of practice, and codes of conduct.
• Define and discuss ethical dilemma.
• Apply evidence-based practice in all areas of clinical duty.
• Explain the difference between licensure, certification, and registration.
• Explain legal doctrines in the perioperative environment.
• Define a Sentinel event.
• Identify common areas of negligence in perioperative practice.
• Discuss why documentation is important in the perioperative setting.
• Explain the difference between the different types of surgical consent.
• Describe and give examples of an incident report.
• Describe the advance directive and the living will.
Module 3: Positioning, Prepping & Draping of the Surgical Patient
• Use the correct procedure to identify a patient.
• List and discuss the principles of safe patient transport and transfer.
• Demonstrate professional communication skills.
• Use safe body mechanics during patient transportation, transferring, and positioning.
• Discuss common methods of patient transport and moving devices.
• Describe safe transport guidelines for special patient populations.
• Describe the surgical technologist’s role in patient positioning.
• Identify the common operating table accessories and their function.
• Describe the principles of safe patient positioning.
• Identify the different positions used in surgery.
• Discuss the safety precautions for each.
• Review the standards of practice for surgical prepping and draping.
• Review the guidelines for patient hygiene before surgery.
• Describe urinary catheterization, safety guidelines, risks, and required supplies.
• Discuss the protocols for hair removal and skin marking.
• List the FDA’s approved antiseptics for skin prep.
• List the surgical supplies needed for the skin prep and describe the characteristics of common surgical prep solutions.
• Identify necessary precautions to prevent injury associated with the skin prep.
• Describe the fundamental steps in surgical skin prep.
• Demonstrate various skin prep techniques.
• Identify the proper technique for surgical draping.
• Discuss how to maintain asepsis during draping.
• Demonstrate draping techniques of the surgical site.
• Discuss how to remove drapes at the end of a procedure.

Module 4: Information Technology, Physics, and Energy Sources in Surgery
• Correlate the relationship between technology and medicine.
• Describe the importance of atoms, molecules, elements, and matter.
• Describe the elements of motion.
• List the properties of waves.
• Discuss the principles of electricity and its application to surgery.
• Discuss alternating and direct current.
• Describe the principles of light.
• Discuss the methods of heat transfer and how they relate to patient safety.
• List and describe the properties of sound.
• Discuss how computers are used in the perioperative environment.
• Identify the physical components of a computer.
• Demonstrate computer motor skills.
• Discuss how computer networks and the Internet are used in a professional medical setting.
• Review the concepts of conduction, frequency, and impedance.
• Describe the relationship between electricity and some body functions.
• Describe the use and components of electrosurgery.
• Distinguish between monopolar and bipolar circuits used in electrosurgery.
• Discuss the safe use of the patient return electrode.
• List the primary hazards of electrosurgery and explain how to prevent accidents.
• Distinguish between capacitive coupling and indirect coupling.
• Describe the materials in a smoke plume and how to reduce exposure to the smoke plume.
• Describe how lasers are used in surgery.
• Recognize the different types of laser media.
• Discuss safety precautions used during laser surgery.

Module 5: Disasters and Environmental Hazards
• Discuss the different types of disasters, and the common features of disasters.
• Explain the role of the government agencies during a disaster.
• Define NIMS and explain its relationship to the state emergency response.
• Define the four phases of the disaster cycle.
• Make a home disaster plan.
• Describe the main components and strategy used by communities to prepare a local disaster plan.
• Define the Incident Command System, and how it works.
• Describe the basic human needs in a disaster.
• List the components of a healthcare facility disaster plan.
• Discuss the ethical dilemmas that accompany disasters.
• Explain the possible roles of the surgical technologist during a disaster.
• Identify the types of risk present in the OR.
• Explain the importance of the fire triangle.
• Discuss fuels and sources of ignition commonly found in the operating room.
• Describe how to respond appropriately to a patient fire.
• Identify methods associated with preventing fires in the operating room.
• Describe measures to safely store, transport, and use compressed gas cylinders.
• Discuss the principles of electricity in the OR and precautions to prevent patient burns resulting from electrical equipment.
• Identify precautions to prevent exposure to ionizing radiation.
• Describe methods to avoid chemical injury.
• Describe toxic substances in smoke plume.
• Identify safe use of the smoke evacuator.
• Identify the practice of Standard Precautions.
• Discuss various techniques to prevent sharps injuries.
• Identify the practice for transmission-based precautions.
• Identify methods to properly handle and dispose of hazardous waste in the operating room.
• Describe true latex allergy symptoms, and necessary precautions to prevent a latex reaction in allergic patients.
• Describe proper body mechanics.

METHODS OF INSTRUCTION

Instruction will consist of lecture, lab, multimedia, demonstrations, and role-play.
MINIMAL STANDARDS

Students must have a final average of 80% or better in lecture and a final average of 80% or better in the laboratory component of this course. If either the lecture or the lab average is below 80%, the student will not successfully complete this course. The student must earn a satisfactory final grade (80% or higher) in this course to continue in the Surgical Technology Program.

COURSE REQUIREMENTS

In order to successfully complete SUR 102, the student is required to fulfill the following requirements:

- Complete all reading assignments prior to class sessions.
- Successfully complete all competency-based exams, quizzes, assignments and lab assignments with a minimum average grade of 80%.
- See SUR 102 Addendum for further requirements.

Additional Attendance Requirements (Late Arrivals/Early Departures)
Attendance in a class meeting requires being in the classroom and prepared for class at the time the class is scheduled to begin and remaining in the classroom until the instructor concludes the class session. Students are expected to arrive to class meetings at or before the scheduled start time and stay for the entire class session. Three (3) late arrivals and/or early departures will equal one (1) absence. Students are required to phone the instructor for all absences and late arrivals.

Academic Integrity
The policies stated in the York Technical College Catalog & Handbook will be enforced. Any student violating these policies will be subject to academic discipline.

EVALUATION STRATEGIES/GRADING PROCEDURES

Grades will be based on performance on written competency-based exams, class work, homework, quizzes and lab grades. Exam material will come from textbook, lecture material, handouts, and class/lab discussion.

Evaluation of Performance
Module Exams ………………………… 50%
Lab Grade …………………………… 20%
Final Exam …………………………… 20%
Classwork/Homework……………….. 10%

Surgical Technology Grade Scale

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<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
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<tr>
<td>B</td>
<td>85 - 92</td>
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<tr>
<td>C</td>
<td>80 - 84</td>
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<tr>
<td>D</td>
<td>75 - 79</td>
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<tr>
<td>F</td>
<td>Below 75</td>
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Lab Grade Scale

<table>
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<tr>
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Exams
There will be 5 Modular Exams and a Final Exam.

Lab Grade
The SUR 102 lab grade will be the grade earned on the Master Skills Check-off. If a student is unsuccessful on the first attempt the student will meet with program faculty to discuss deficiencies and areas for improvement and have a 2\textsuperscript{nd} attempt at successful completion. If the student is successful on the second attempt they will earn the grade of 80.

ENTRY LEVEL SKILLS
A student entering SUR 102 should have appropriate entrance scores for the Surgical Technology Program and the ability and willingness to read, comprehend, and communicate effectively.

PREREQUISITES
None

CO-REQUISITES
SUR 101 is a co-requisite for SUR 102 in the Surgical Technology Diploma Program. Failure of either course will result in dismissal from the Surgical Technology Program. If you seek reentry into the Surgical Technology Program, simultaneous, successful completion of SUR 101 and SUR 102 will be required.

Disabilities Statement
Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.