

## Associate of Applied Science in Surgical Technology

### Course Descriptions and Learning Outcomes

#### TERM 1

##### SRG101: Surgical Technology Theory I – 3 credits

This course introduces concepts fundamental to the practice of surgical technology across each phase of operative patient care. Perioperative case management topics include operating room attire, personal protective equipment, surgical instrumentation, operative equipment and supplies, sterile and aseptic techniques, operative counts, professionalism and legal concepts, communication, and healthcare facility organization. Medical terminology related to the surgical specialties is emphasized throughout the course.

Upon completion of this course, the learner will be able to:

- Apply basic knowledge of medical and surgical terminology to perioperative patient care and operative interventions
- Identify the role and responsibilities of the surgical technologist in perioperative case management
- Describe various options for operating room attire and personal protective equipment and the application for each
- Identify basic operating room equipment, medical supplies, and surgical instrumentation and uses for each
- Identify environmental controls and physical layout of the operating suite and related areas of the surgical services department
- Recognize the principles of asepsis and sterile technique with regard to perioperative patient safety and infection control in the operative environment
- Explain the purpose and application of surgical hand hygiene techniques
- Indicate the use and application of surgical draping materials
- Review professional concepts related to the practice of surgical technology, including professionalism, risk management, ethical practices, and legal implications of practice

##### SRG111: Surgical Technology Theory I Lab – 2 credits

This laboratory course accompanies SRG101: Surgical Technology Theory 1. Laboratory skills emphasize the application of perioperative patient care concepts, including operating room attire and personal protective equipment; handling of surgical instrumentation, equipment, and supplies; preparing the operating room and opening the sterile field; scrubbing, gowning, and gloving for surgery; establishing the sterile field; setting up the back table; operative counts; and draping the patient.

Upon completion of this course, the learner will be able to:

- Don appropriate operating room attire and personal protective equipment
- Prepare basic operating room equipment, medical supplies, and surgical instrumentation for surgery
- Apply the principles of asepsis and sterile technique with regard to perioperative patient safety and infection control in the operative environment
- Perform surgical hand hygiene techniques

- Demonstrate closed gloving techniques and assist others entering the sterile field
- Perform preoperative counts to ensure patient safety and reduce the risk of retained surgical items
- Drape the patient and extend the sterile field in anticipation for the surgical procedure

### **SRG102: Perioperative Patient Care – 2 credits**

The role and responsibilities of the surgical technologist in the assistant circulator role are explored in this course. Patient care and safety concepts are discussed within the context of perioperative practice. Topics include pathophysiology leading to surgical intervention, patient care concepts, preoperative patient preparation, and perianesthesia care.

Upon completion of this course, the learner will be able to:

- Apply the A Positive Care Approach to the biopsychosocial needs of the surgical patient
- Evaluate operative documentation and basic diagnostic information related to surgical intervention
- Relate moral, ethical, and legal patient care concepts to perioperative patient care
- Recognize the need for urinary catheterization and the techniques utilized to achieve catheterization
- Relate patient positioning concepts to the preparation of the surgical patient
- Identify the need for patient skin preparation and review related techniques
- Review the role of the surgical technologist during perianesthesia patient care
- Analyze the responsibilities of the surgical technologist in the assistant circulator role

### **SRG112: Perioperative Patient Care Lab – 1 credit**

This laboratory course accompanies SRG102: Perioperative Patient Care. Students in this course will apply perioperative patient care concepts to practice in the assistant circulator role. Laboratory skills include medication handling and labeling, patient vital signs, patient transport and transfer, perianesthesia care, urinary catheterization, surgical patient positioning, and preoperative skin preparation.

Upon completion of this course, the learner will be able to:

- Review operative documentation and basic diagnostic information related to surgical intervention
- Perform urinary catheterization safely and sterilely to minimize the risk of postoperative injury or infection
- Demonstrate proper patient positioning to ensure patient safety and access to the operative site
- Perform patient skin preparation using sterile technique to minimize the risk of postoperative wound infection
- Assist in the preparation of the surgical patient for general anesthesia
- Monitor patient vital signs before and during the surgical procedure
- Mix, prepare, and label medications for use in the operating room
- Apply the responsibilities of the surgical technologist to the assistant circulator role

## TERM 2

### SRG103: Surgical Technology Theory II – 3 credits

Building on the theories of surgical technology practice presented in SRG101: Surgical Technology Theory I, this course introduces students to intraoperative case management skills. Topics include wound exposure, hemostasis, specimen care and handling, drains and catheters, surgical dressings, and all-hazards preparation.

Upon completion of this course, the learner will be able to:

- Evaluate the responsibilities of the surgical technologist in the scrub role during intraoperative and postoperative case management
- Analyze the concept of anticipation with regard to the needs of the patient and surgical team
- Review techniques for handling and passing surgical instruments and supplies
- Review concepts of tissue handling and operative wound exposure as related to the performance of invasive surgical procedures
- Describe various wound dressing materials and techniques for postoperative wound care and management
- Identify possible emergency and all-hazards situations and discuss the role of the surgical technologist during each

### SRG113: Surgical Technology Theory II Lab – 2 credits

This laboratory course accompanies SRG113: Surgical Technology Theory II. Students will apply the concepts of intraoperative surgical case management to laboratory skills including operative time-out, handling and passing surgical instruments and supplies, anticipating the needs of the surgeon and patient, and breaking down the sterile field.

Upon completion of this course, the learner will be able to:

- Participate in universal protocol practices, including the preoperative time-out
- Develop the ability to anticipate the needs of patient and surgical team during operative case management
- Identify situations in which contamination of the sterile field may occur and demonstrate proper application of sterile technique
- Handle and pass surgical instruments and supplies following standards for safety and sterile technique
- Perform proper tissue handling and operative wound exposure techniques
- Apply postoperative wound dressings and properly care for surgical drains, catheters, and tubes
- Demonstrate the ability to properly manage perioperative emergency and all-hazards situations within the role of the surgical technologist
- Break down the sterile field and perform related postoperative case management duties

### SRG104: Surgical Sciences – 2 credits

This course explores basic surgical sciences and introduces students to operative technologies including surgical microbiology, electricity, robotics, wound closure methods, wound healing, and related operative equipment. Foundational concepts related to the sterilization and disinfection of medical devices are also presented.

Upon completion of this course, the learner will be able to:

- Review concepts of microbiology related to surgical wound healing, sterilization, disinfection, and infection control practices in the perioperative environment
- Explain the concept of universal precautions review related safety practices
- Explore the use of electricity in surgical practice and articulate related safety standards and guidelines
- Discuss the use of information technology to facilitate patient medical record-keeping, ordering and supply chain management, and interdepartmental communication
- Describe the use of robots in surgery and review related scientific concepts
- Explore various lasers used in the surgical environment and describe associated safety practices
- Classify surgical wounds and identify the phases of wound healing, possible wound healing complications, and methods used to achieve wound closure
- Review sterilization and disinfection concepts related to the processing of surgical instruments, supplies, and equipment

#### **SRG114: Surgical Sciences Lab – 1 credit**

This laboratory course accompanies SRG104: Surgical Sciences. Students will apply basic principles of surgical science to the practice of suture material handling, preparation, and passing; operating room turnover and disinfection; surgical instrument processing and sterilization; and immediate-use sterilization.

Upon completion of this course, the learner will be able to:

- Apply standards for universal precautions to the preparation, handling, and passing of sharps and suture materials
- Prepare, handle, and pass surgical scalpels, reels, free ties, ties on a pass, and various specialty stapling devices
- Ensure electrical safety when preparing the patient for surgery
- Apply principles of sterilization and disinfection to the preparation of surgical instruments, equipment, and supplies
- Prepare surgical instruments for sterilization using proper wrapping, peel-packing, and rigid container assembly techniques
- Operate an immediate-use sterilizer and transfer processed items safely and aseptically to the sterile field
- Demonstrate proper turn-over and terminal cleaning of the operating room suite

### **TERM 3**

#### **SRG105: Surgical Procedures I – 4 credits**

Basic surgical specialties are surveyed in this course with an emphasis on perioperative case management, surgical patient care, operative anatomy, and related terminology and pathophysiology. Specific operative interventions include surgical procedures in diagnostic, general, obstetric and gynecologic, genitourinary, otorhinolaryngologic, and orthopedic surgery.

Upon completion of this course, the learner will be able to:

- Relate relevant regional anatomy and pathophysiology to the performance of operative procedures in the diagnostic, general, OB/Gyn, genitourinary, otorhinolaryngologic, and orthopedic specialties
- Review patient preparation considerations, operative steps, pharmacologic needs, and postoperative patient care concepts related to surgical procedures performed in the diagnostic, general, OB/Gyn, genitourinary, otorhinolaryngologic, and orthopedic specialties
- Explore specialty surgical instrumentation, equipment, and supplies
- Analyze the needs of the surgical patient and the role of the surgical technologist in specialty surgical procedures

### **SRG115: Comprehensive Laboratory Experience I – 2 credits**

This course provides students an opportunity to apply surgical technology theory and knowledge of perioperative case management within the context of a comprehensive mock surgery experience. Students will be evaluated based on their performance in the scrub, assistant circulator, and second assistant roles.

Upon completion of this course, the learner will be able to:

- Perform assigned mock surgical cases in preparation for clinical experiences
- Set up operative equipment, instruments, and supplies efficiently and effectively to facilitate performance of each assigned mock surgical procedure
- Ensure adherence to the principles of asepsis and identify and correct breaks in sterile technique
- Demonstrate proper performance of perioperative skills required of the surgical technologist in the scrub role (e.g., establishment of the sterile field, surgical scrub, closed gloving, patient draping)
- Prepare, handle, and pass surgical instruments, supplies, and pharmacologic agents while employing proper aseptic technique and adhering to safety standards
- Anticipate the needs of the patient and surgical team during assigned mock surgical procedures in the role of the scrub, second assistant, and assistant circulator
- Perform postoperative surgical technologist duties, including sterile field breakdown and operating room suite turn-over

### **SRG106: Central Service & Sterile Processing – 2 credits**

In this hybrid lecture/laboratory course, students will learn the foundational principles and practices needed to function as a member of the central service department team. Topics presented include infection control practices in the perioperative setting, surgical equipment maintenance and processing, surgical instrumentation reprocessing and sterilization, endoscope reprocessing, and sterile storage and distribution concepts.

Upon completion of this course, the learner will be able to:

- Review sterile processing concepts and terminology related to sterilization, disinfection, and decontamination
- Discuss the use and application of high-heat and low-heat sterilization methods
- Analyze the parameters and processes required to render an item decontaminated, disinfected, or sterile
- Compare and contrast various methods of sterilization and disinfection
- Perform methods of sterilization preparation, packaging, and storage

- Assess methods of sterilization process monitoring
- Explore concepts of supply chain management and distribution within the context of the central service department

#### **TERM 4**

##### **SRG107: Surgical Procedures II – 4 credits**

Specialty surgical procedures are surveyed in this course with an emphasis on perioperative case management, surgical patient care, operative anatomy, and related terminology and pathophysiology. Specific operative interventions include oral and maxillofacial, plastic and reconstructive, ophthalmic, cardiothoracic, peripheral vascular, and neurologic surgical procedures.

Upon completion of this course, the learner will be able to:

- Relate relevant regional anatomy and pathophysiology to the performance of operative procedures in the oral and maxillofacial, plastic and reconstructive, ophthalmic, cardiothoracic, peripheral vascular, and neurosurgical specialties
- Review patient preparation considerations, operative steps, pharmacologic needs, and postoperative patient care concepts related to surgical procedures performed in the oral and maxillofacial, plastic and reconstructive, ophthalmic, cardiothoracic, peripheral vascular, and neurosurgical specialties
- Explore specialty surgical instrumentation, equipment, and supplies
- Analyze the needs of the surgical patient and the role of the surgical technologist in specialty surgical procedures

##### **SRG117: Comprehensive Laboratory Experience II – 2 credits**

This course provides students a continuing opportunity to apply surgical technology theory and knowledge of perioperative case management within the context of a comprehensive mock surgery experience. Students will continue to be evaluated based on their performance in the scrub, assistant circulator, and second assistant roles in preparation for clinical practice.

Upon completion of this course, the learner will be able to:

- Perform assigned mock surgical cases in preparation for clinical experiences
- Set up operative equipment, instruments, and supplies efficiently and effectively to facilitate performance of each assigned mock surgical procedure
- Ensure adherence to the principles of asepsis and identify and correct breaks in sterile technique
- Demonstrate proper performance of perioperative skills required of the surgical technologist in the scrub role (e.g., establishment of the sterile field, surgical scrub, closed gloving, patient draping)
- Prepare, handle, and pass surgical instruments, supplies, and pharmacologic agents while employing proper aseptic technique and adhering to safety standards
- Anticipate the needs of the patient and surgical team during assigned mock surgical procedures in the role of the scrub, second assistant, and assistant circulator
- Perform postoperative surgical technologist duties, including sterile field breakdown and operating room suite turn-over

## TERM 5

### SRG108: Surgical Pharmacology & Anesthesia – 2 credits

This course explores the handling, preparation, and administration of medications and anesthetic agents during surgical intervention. Concepts are presented within the context of perioperative case management. Topics include patient assessment and intraoperative monitoring, general and local anesthesia, care and handling of pharmacologic agents and solutions, management of drug complications, and interventions for perioperative patient emergencies.

Upon completion of this course, the learner will be able to:

- Apply terminology related to the use of pharmacologic agents in the perioperative setting
- Review the concepts of pharmacokinetics and pharmacodynamics as they related to the use of pharmacologic agents in surgery
- Apply basic mathematical functions to calculate medication dosage and patient weight, temperature, measurement, and time conversions
- Discuss the preparation and handling of medications and solutions in the perioperative setting
- Describe the use of pharmacologic agents to achieve local, regional, and general anesthesia and discuss related safety considerations
- Analyze possible patient complications that may result from the use of anesthetics and other pharmacologic agents in the perioperative setting

### SRG222: Surgical Technology Internship I – 4 credits (256 clinical hours)

Students in this course will perform operative skills within the scrub role under the supervision of university faculty, clinical preceptors, and other professionals in the operating room. Students will be assigned to a clinical rotation in an area hospital or surgery center and participate in multispecialty operative procedures intended to augment their skill and understanding with regard to surgical practice.

Upon completion of this course, the learner will be able to:

- Use proper medical terminology and directional terms within the clinical setting
- Demonstrate knowledge of operative anatomy, physiology, pathophysiology, and body organization
- Employ proper aseptic technique to ensure operative patient safety and lower the risk of nosocomial infection
- Respond appropriately to the biopsychosocial needs of the patient while demonstrating empathy and compassionate care
- Practice surgical technology with an emphasis on safe, moral, ethical, and legal conduct
- Demonstrate knowledge of operative techniques and anticipate the needs of the patient and surgical team
- Identify, prepare, handle, and pass surgical instruments, supplies, equipment, and pharmacologic agents safely and aseptically
- Perform patient draping using proper sterile technique
- Recognize breaks in asepsis and properly establish/reestablish the sterile field
- Respond appropriately to patient complications and emergency situations using sound moral and ethical judgment within the scope of the surgical technologist
- Demonstrate professionalism with regard to accountability, teamwork, communication, safety, and patient privacy

## TERM 6

### [SRG224: Surgical Technology Internship II, 4 credits \(256 clinical hours\)](#)

Students in this course will continue to perform operative skills within the scrub role under the supervision of university faculty, clinical preceptors, and other professionals in the operating room. Students will be assigned to a clinical rotation in an area hospital or surgery center and participate in multidisciplinary operative procedures intended to augment their skill and understanding with regard to surgical practice in preparation for graduation and future employment and as a surgical technologist.

Upon completion of this course, the learner will be able to:

- Use proper medical terminology and directional terms within the clinical setting
- Demonstrate knowledge of operative anatomy, physiology, pathophysiology, and body organization
- Employ proper aseptic technique to ensure operative patient safety and lower the risk of nosocomial infection
- Respond appropriately to the biopsychosocial needs of the patient while demonstrating empathy and compassionate care
- Practice surgical technology with an emphasis on safe, moral, ethical, and legal conduct
- Demonstrate knowledge of operative techniques and anticipate the needs of the patient and surgical team
- Identify, prepare, handle, and pass surgical instruments, supplies, equipment, and pharmacologic agents safely and aseptically
- Perform patient draping using proper sterile technique
- Recognize breaks in asepsis and properly establish/reestablish the sterile field
- Respond appropriately to patient complications and emergency situations using sound moral and ethical judgment within the scope of the surgical technologist
- Demonstrate professionalism with regard to accountability, teamwork, communication, safety, and patient privacy
- Demonstrate ability to adapt appropriately to the requirements of increased responsibility within the context of the surgical technologist internship

### [SRG205: Surgical Technology Board Review, 1 credit](#)

In this course, students will participate in a comprehensive review of the Core Curriculum for Surgical Technology in preparation for the Certified Surgical Technologist (CST) examination offered through the National Board of Surgical Technology and Surgical Assisting (NBSTSA). Specific review topics will be chosen in accordance with the NBSTSA CST examination content outline.

Upon completion of this course, the learner will be able to:

- Review all components of the Core Curriculum indicated in the National Board of Surgical Technology and Surgical Assisting's (NBSTSA) Certified Surgical Technologist (CST) examination content outline
- Critique surgical technologist practice within the clinical setting
- Prepare for the Certified Surgical Technologist (CST) examination by demonstrating proficiency on practice assessments and related assignments
- Review test-taking strategies and best practices for board certification preparation
- Develop job application, resume, and interview skills in anticipation for the transition from school to the career setting