



Western Technical College

10512126 Surgical Tech Fundamentals 1

Course Outcome Summary

Course Information

Description	Focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as the student moves into the scrub role. Lab practice is included.
Career Cluster	Health Science
Instructional Level	Associate Degree Courses
Total Credits	4
Total Hours	108

Textbooks

Alexander's Surgical Procedures. Copyright 2012. Rothrock, Jane C. Publisher: Elsevier Science. **ISBN-13:** 978-0-323-07555-8. Required. (Part of Western Bundle Package **ISBN-13:** 978-0-323-78016-2)

Suture and Surgical Hemostasis Pocket Guide. Copyright 2006. Pieknik, Rebecca. Publisher: Elsevier Science. **ISBN-13:** 978-1-4160-2247-3. Required. (Part of Western Bundle Package **ISBN-13:** 978-0-323-78016-2)

Pharmacology for Surgical Technologist – with Access. 5th Edition. Copyright 2021. Howe, Tiffany and Angela Burton. Publisher: Elsevier Science. **ISBN-13:** 978-0-323-66121-8. Required. (Part of Western Bundle Package **ISBN-13:** 978-0-323-78016-2)

Surgical Technology for the Surgical Technologist: A Positive Care Approach. 5th Edition. Copyright 2018. Association of Surgical Technologists. Publisher: Cengage Learning. **ISBN-13:** 978-1-305-95641-4. Required.

10-512-125: Surgical Tech Lab Booklet. Copyright 2023. Publisher: Xanedu. **ISBN-13:** 979-8-822-79230-2.

Required.

Surgical Tech Fundamentals 1. Copyright 2023. Publisher: Xanedu. **ISBN-13:** 979-8-822-71918-7. Required.

Learner Supplies

UVEX Astrospec 3000 Goggles - over glasses or no glasses style. **Vendor:** Campus Shop. Required.

High Impact Practices

1. Technology-Enhanced Learning: this course will incorporate digital technologies like gamification, virtual reality experiences, or simulations. In addition, you will create technology-enhanced products such as ePortfolios, multimedia presentations, or other e-products to showcase your learning.

Program Outcomes

1. Maintain principles of sterile technique in the surgical environment
2. Provide a safe, efficient, and supportive environment for the patient
3. Prepare the patient, operating room and surgical team for the preoperative phase
4. Perform intraoperative case management in the scrub role
5. Perform postoperative case management
6. Function as an ethical, legal, and professional member of the healthcare team as determined by governing bodies

Course Competencies

1. Integrate safety controls to prevent or minimize surgical hazards

Assessment Strategies

- 1.1. in an oral, written, demonstrative or graphic response
- 1.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria

You will know you are successful when

- 1.1. you identify environmental hazards
- 1.2. you identify physical hazards
- 1.3. you identify chemical hazards
- 1.4. you identify biological hazards
- 1.5. you identify electrical hazards
- 1.6. you choose an appropriate course of action for resolving or minimizing the hazard

Learning Objectives

- 1.a. Describe the principles of electrical flow.
- 1.b. Describe types of environmental safety precautions.
- 1.c. Describe the components of OSHA and CDC guidelines.
- 1.d. Describe the principles of environmental system safety controls.
- 1.e. Define terminology

2. Differentiate among methods and techniques of anesthesia

Assessment Strategies

- 2.1. in an oral, written, demonstrative or graphic response
- 2.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 2.3. Written Objective Test

Criteria

You will know you are successful when

- 2.1. you identify routes of administration
- 2.2. you identify methods and techniques of anesthesia administration
- 2.3. you include patient factors for choice of anesthetic
- 2.4. you describe general anesthesia
- 2.5. you identify anesthesia equipment and patient monitoring devices
- 2.6. you specify general anesthetic agents
- 2.7. you identify topical, regional and local agents
- 2.8. you list blood replacements and interventions
- 2.9. you describe risks and complications associated with general anesthesia
- 2.10. you identify crystalloid IV agents

Learning Objectives

- 2.a. Compare and contrast methods, agents, and techniques of anesthesia administration and preparation.
- 2.b. Analyze the principles of anesthesia administration and explain the necessity of each component of anesthesia preparation of the surgical patient.
- 2.c. Correlate anesthesia monitoring devices with patient homeostasis.
- 2.d. Explain anesthesia complications and interventions.
- 2.e. Identify alternative anesthesia methods.
- 2.f. Apply general terminology to medication use.

3. Establish the sterile field

Assessment Strategies

- 3.1. by applying the principles and skills in a role-play
- 3.2. in an oral, written, demonstrative or graphic response
- 3.3. by completion of competency on assignments and/or activities
- 3.4. Skill Demonstration
- 3.5. Written Objective Test

Criteria

You will know you are successful when

- 3.1. you are properly attired
- 3.2. you apply sterile technique in draping the mayo stand
- 3.3. you place towels on mayo stand following facility practice
- 3.4. you begin organization of back table and mayo stand by placing instruments and supplies in an efficient pattern
- 3.5. you work in sections at the table
- 3.6. you organize items based on order of use (gowns/gloves/drapes) and place similar items together
- 3.7. you practice economy of time, motion and materials
- 3.8. you establish a routine(s)
- 3.9. you maintain sterile field by being aware of items and people moving about the area
- 3.10. you face your sterile field
- 3.11. you prioritize sequence of activities
- 3.12. you utilize good body mechanics in setting up

Learning Objectives

- 3.a. Describe the principles associated with establishing the sterile field
- 3.b. Explain the steps for organizing the back table
- 3.c. Explain the steps for organizing the Mayo stand
- 3.d. Describe the final steps required to finish adjusting the normal routine for establishing the sterile field.
- 3.e. Demonstrate the process of organizing the sterile field
- 3.f. Demonstrate the principles of economy of motion

- 3.g. Demonstrate the principles of spatial awareness when organizing the sterile field
- 3.h. Demonstrate the finalization of the sterile field
- 3.i. Demonstrate modifications to setting up the sterile field that must be taken when a special circumstance occurs.

4. Perform surgical scrub

Assessment Strategies

- 4.1. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 4.2. Written Objective Test
- 4.3. Skill Demonstration

Criteria

You will know you are successful when

- 4.1. you perform the medical hand wash
- 4.2. you prepare for the surgical scrub by checking hand and skin integrity and removing all jewelry
- 4.3. you are appropriately attired for the surgical scrub
- 4.4. you discuss various antiseptic agents
- 4.5. you use the timed method
- 4.6. you use the counted brush stroke method
- 4.7. you use the waterless brushless system
- 4.8. you proceed to the OR keeping hands and arms up and away from the body
- 4.9. you recognize and correct breaks in technique

Learning Objectives

- 4.a. Describe the considerations that are important to maintaining hand and skin integrity.
- 4.b. Discuss the concepts for performing the medical handwash.
- 4.c. Discuss the concepts of the surgical scrub as related to infection control.
- 4.d. Demonstrate the steps of a medical handwash.
- 4.e. Demonstrate the steps for preparing to complete a surgical scrub.
- 4.f. Demonstrate the steps of performing a surgical scrub.

5. Don sterile gown and gloves

Assessment Strategies

- 5.1. in an oral, written, demonstrative or graphic response
- 5.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 5.3. Skill Demonstration

Criteria

You will know you are successful when

- 5.1. you open your gown and gloves on a separate table
- 5.2. you enter the OR without contamination of self or the sterile field
- 5.3. you dry hands and arms when applicable
- 5.4. you gown self
- 5.5. you don gloves using closed glove technique
- 5.6. you complete the wrap-around gown process with assistance of an OR team member
- 5.7. you gown and glove others
- 5.8. you perform open gloving
- 5.9. you change a contaminated glove and/or gown when necessary
- 5.10. you don a sterile sleeve when needed
- 5.11. you remove gown and gloves adhering to principles of infection control

Learning Objectives

- 5.a. Describe the types of surgical gowns and gloves.
- 5.b. Describe the factors that affect the selection process.
- 5.c. Describe the methods of gowning.
- 5.d. Evaluate each method of gloving.
- 5.e. Apply the principles of asepsis to gowning and gloving self.
- 5.f. Apply the principles of asepsis to gowning and gloving other team members.

6. Demonstrate the procedures for counting instruments, sponges, needles and other items in the field

Assessment Strategies

- 6.1. in an oral, written, demonstrative and/or graphic response
- 6.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 6.3. Skill Demonstration

Criteria

You will know you are successful when

- 6.1. you count materials in multiple units as they are packaged
- 6.2. you separate and count different types of sponges
- 6.3. you separate and count different types of instruments.
- 6.4. you separate and count different types of sharps.
- 6.5. you recognize that the surgical count is performed by the RN circulator and the STSR
- 6.6. you recognize that the count is a permanent part of the surgical record
- 6.7. you verify number of needles in a pack when a multi-pack is opened for use
- 6.8. you organize counted items before closing counts
- 6.9. you perform counts according to facility policy
- 6.10. you initiate counts at specific times: before the procedure begins, during surgical procedures, and at the end
- 6.11. you perform counts at appropriate times and in specific sequence: before the procedure begins, during surgical procedures, and at the end following proper technique
- 6.12. you report the results of the count

Learning Objectives

- 6.a. Describe the purpose of surgical counts
- 6.b. Describe the types of documentation
- 6.c. Identify the items that must be counted
- 6.d. Describe the methods for counting
- 6.e. Discuss the frequency and timing of surgical counts
- 6.f. Explain the intraoperative sequence for completing surgical counts
- 6.g. Identify when additional counts are necessary
- 6.h. Demonstrate the procedure for counting sponges, sharps, instruments, and accessory items on the field

7. Demonstrate urinary catheterization

Assessment Strategies

- 7.1. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 7.2. in an oral, written, demonstrative or graphic response
- 7.3. Written Objective Test

Criteria

You will know you are successful when

- 7.1. you assemble appropriate supplies for urinary catheterization
- 7.2. you demonstrate the procedural steps of urinary catheterization
- 7.3. you list the indications for urinary catheterization
- 7.4. you demonstrate principles and skills of sterile technique
- 7.5. you maintain patient privacy, dignity, and safety

Learning Objectives

- 7.a. List the indications for urinary catheterization
- 7.b. List the items to be taken under consideration when performing urinary catheterization
- 7.c. List the supplies required to perform urinary catheterization
- 7.d. Explain the steps for performing urinary catheterization
- 7.e. Discuss the principles of monitoring urine output

8. Perform skin preparation for surgical procedure

Assessment Strategies

- 8.1. in an oral, written, demonstrative or graphic response
- 8.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)
- 8.3. Skill Demonstration

Criteria

You will know you are successful when

- 8.1. you assemble and prepare supplies, equipment and solutions
- 8.2. you identify prep parameters
- 8.3. you expose the site to be prepped
- 8.4. you create sterile field
- 8.5. you open glove
- 8.6. you place protective pads/drapes
- 8.7. you scrub the skin starting at incision site
- 8.8. you demonstrate the correct sequence of events for a surgical skin prep
- 8.9. you document the preparation
- 8.10. you demonstrate principles and skills of sterile technique
- 8.11. you maintain patient privacy, dignity, and safety

Learning Objectives

- 8.a. Explain the factors to be taken under consideration to perform the patient skin prep
- 8.b. Describe the various types of skin prep supplies.
- 8.c. Compare different skin prep solutions.
- 8.d. Explain the steps for completing a patient skin prep.

9. Prepare the operating room

Assessment Strategies

- 9.1. Written Objective Test
- 9.2. Skill Demonstration
- 9.3. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)
- 9.4. On-the-job Performance

Criteria

You will know you are successful when

- 9.1. you are appropriately attired to enter the OR
- 9.2. you perform the medical handwash
- 9.3. you use surgeon's preference card to pull needed supplies
- 9.4. you select appropriate supplies to be opened
- 9.5. you arrange OR furniture, backtable, mayo stand
- 9.6. you distribute instruments and supplies to appropriate place
- 9.7. you place appropriate equipment in the OR
- 9.8. you apply principles of disinfection as needed

Learning Objectives

- 9.a. Interpret surgeon's preference cards.
- 9.b. Select instruments, supplies, and equipment needed for a procedure.
- 9.c. Demonstrate methods utilized to analyze and plan for the needs of the surgical case.

10. Demonstrate care and utilization of surgical supplies while maintaining aseptic technique

Assessment Strategies

- 10.1. Skill Demonstration
- 10.2. in an oral, written, demonstrative or graphic response
- 10.3. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 10.4. Simulation
- 10.5. On-the-job Performance with guidance

Criteria

You will know you are successful when

- 10.1. you identify surgical supplies (i.e. sponges, tapes)
- 10.2. you explain function of the supply
- 10.3. you prepare supplies for use at the field at appropriate times [i.e. having irrigation ready]
- 10.4. you prepare and pass the supply
- 10.5. you demonstrated limited handling of supplies
- 10.6. you monitor sterility
- 10.7. you identify breaks in sterile technique

Learning Objectives

- 10.a. Identify the use of various supplies and accessory supplies in the operative environment.
- 10.b. Identify the recycling process for disposable supplies.

11. Perform non-sterile duties in the preoperative phase

Assessment Strategies

- 11.1. by applying the principles and skills in a role-play
- 11.2. in an oral, written, demonstrative or graphic response
- 11.3. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 11.4. Skill Demonstration
- 11.5. Clinical Evaluation
- 11.6. Simulation

Criteria

You will know you are successful when

- 11.1. you read the preference card
- 11.2. you prepare the operating room
- 11.3. you perform the initial count
- 11.4. you transport the patient to the operating room
- 11.5. you safely transfer the patient to and from the operating table
- 11.6. you position the patient
- 11.7. you assist the anesthesia provider
- 11.8. you prep the patient
- 11.9. you connect various cords and tubing from sterile field
- 11.10. you reference patient documentation
- 11.11. you monitor the sterile field

Learning Objectives

- 11.a. Discuss the perioperative duties of the circulator.
- 11.b. Demonstrate the perioperative duties of the assistant circulator to include documentation.

12. Perform instrument identification

Assessment Strategies

- 12.1. in an oral, written, demonstrative or graphic response
- 12.2. using pictures, instruments, and/or descriptions
- 12.3. by applying the principles and skills in a role-play
- 12.4. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]
- 12.5. Written Objective Test
- 12.6. Simulation

Criteria

You will know you are successful when

- 12.1. you identify the instruments by name
- 12.2. you identify the instrument type
- 12.3. you handle instruments correctly
- 12.4. you identify the instrument function
- 12.5. you assemble instruments for use

Learning Objectives

- 12.a. Apply knowledge of basic surgical instrumentation to specific surgical procedures.
- 12.b. Explain relationship between instrument type and usage.
- 12.c. Identify names, parts, and uses of surgical instrumentation.