

**NEOSHO COUNTY COMMUNITY COLLEGE  
MASTER COURSE SYLLABUS**

**COURSE IDENTIFICATION**

Course Code/Number: SURG 102

Course Title: Principles and Practices of Surgical Technology

Division:  Applied Science (AS)  Liberal Arts (LA)  Workforce Development (WD)  
 Health Care (HC)  Lifetime Learning (LL)  Nursing  Developmental

Credit Hour(s): Five (5)

Effective Date: Fall 2017

Assessment Goal Per Outcome: 80%

**COURSE DESCRIPTION**

This is a five credit hour theory course designed to acquaint the student with the knowledge base necessary to function as a beginning surgical technologist. It includes basic concepts necessary to establish, maintain, and coordinate methods that are required for good patient care in the operating room. Upon completion of this course the student will demonstrate understanding in the cognitive, psychomotor and affective learning domains related to principles and practice of surgical technology as outlined in the Core Curriculum for Surgical Technology, 6<sup>th</sup> Ed., as indicated by their final exam and competency scores.

**MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES**

Surgical Technology Program admission, as defined by admission policies. Successful completion of SURG 100 Introduction to Surgical Technology. Must be taken concurrently with SURG 101 Introduction to Surgical Technology Lab.

**TEXTS**

The official list of textbooks and materials for this course is found on *myNeosho*.

<http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx>

## **GENERAL EDUCATION OUTCOMES**

- 1) Practice Responsible Citizenship through:
  - a) identifying rights and responsibilities of citizenship,
  - b) identifying how human values and perceptions affect and are affected by social diversity,
  - c) identifying and interpreting artistic expression.
- 2) Live a healthy lifestyle (physical, intellectual, social) through:
  - a) listing factors associated with a healthy lifestyle and lifetime fitness,
  - b) identifying the importance of lifetime learning,
  - c) demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
- 3) Communicate effectively through:
  - a) developing effective written communication skills,
  - b) developing effective oral communication and listening skills.
- 4) Think analytically through:
  - a) utilizing quantitative information in problem solving,
  - b) utilizing the principles of systematic inquiry,
  - c) utilizing various information resources including technology for research and data collection.

## **COURSE OUTCOMES/COMPETENCIES (as Required)**

- 1) Upon completion of this course the student will continue to demonstrate an understanding of skills needed to achieve and maintain a sterile environment incorporating terms related to asepsis and sources of contamination.
- 2) Upon completion of this course the student will continue to identify and demonstrate handling of surgical instrumentation and be able to explain the relationship between instrument type and usage.
- 3) Upon completion of this course the student will identify steps and rationales for case planning, intraoperative routines and perioperative case management.
- 4) Upon completion of this course the student will be able to identify key steps for transporting, transferring and positioning patients safely, and describe the medical information underlying these steps.
- 5) Upon completion of this course the student will know the steps and rationales for the preoperative and intraoperative procedures that include the surgical skin preparation, urinary catheterization and draping of the surgical patient.
- 6) Upon completion of this course the student will be able to identify environmental hazards and energy sources that are found in the surgical environment.
- 7) Upon completion of this course, the student will demonstrate understanding of the surgical wound.
- 8) Upon completion of this course the student will demonstrate an understanding of perioperative pharmacology.
- 9) Upon completion of this course the student will be able to demonstrate an understanding of principles of anesthesia administration and concepts.

- 10) Upon completion of this course the student will demonstrate a fundamental knowledge regarding postoperative recovery and patient discharge.
- 11) Upon completion of this course the student will be able to demonstrate an understanding of diagnostic and assessment procedures for the surgical patient.

## **MINIMUM COURSE CONTENT**

The following topics must be included in this course. Additional topics may also be included.

### Aseptic Technique Review, Continuation and Application

1. Aseptic technique –Including asepsis, sterile technique, preparation and monitoring of the sterile field, surgical environment, surgical principles and surgical conscience
2. Surgical hand scrub and rub, gowning and gloving, opening of sterile supplies, and surgical attire
3. Evidence-based practice
4. Surgical attire including personal protective equipment, and gowning and gloving techniques
5. Surgical hand rub/scrub
6. Opening a sterile case, creating and maintaining a sterile environment
7. Sources of contamination – Endogenous/Exogenous

### Surgical Instrumentation Review, Continuation and Application

1. Classifications
2. Parts
3. Materials
4. Finishes
5. Usage
6. Identification
7. Handling

### Case Planning and Intraoperative Routines

- a. Case planning and preparation
  1. Surgery Schedule
  2. First scrub, second scrub and assistant circulator roles
  3. Surgical Case Information - Supply, instrumentation and equipment selection
  4. Time & motion economy
- b. Legal Issues, Documentation and Risk Management
- c. Preparation of the operating room
  1. Standard operating room equipment
- d. Opening a case
- e. Preparation of sterile back table and mayo stand
- f. Surgical counts
- g. Starting a case
- h. Timeout
- i. All-hazards preparation

- j. Managing the sterile field including:
  - 1. Hemostasis, dissection and retraction/exposure
  - 2. Clamp clamp cut tie (CCCT), hand signals
  - 3. Sharps management
  - 4. Instrument and medication/irrigation management
  - 5. Specimen handling
  - 6. Wound closure

#### Transporting, Transferring, and Positioning the Surgical Patient

- 1) State the purpose of proper identification and demonstrate the identification process for a surgical patient
- 2) Use of safe body mechanics during patient transportation, transferring, and positioning of adults and pediatrics
- 3) Describe the responsibilities of the surgical technologist in patient transport, transfer and positioning
- 4) Discuss patient safety, possible injuries, equipment used and proper techniques for transporting, transferring and positioning surgical patients

#### Surgical Skin Preparation and Draping

- 1) Discuss urinary catheterization including indications, supplies, principles and risks involved
- 2) Identify surgical skin preparation solutions and discuss fundamental steps and rationales involved in safe patient skin prepping
- 3) Principles, products and techniques of draping the surgical patient, equipment and furniture

#### Environmental Hazards, Biomechanics and Computer Technology and Energy Sources in Surgery/All Hazards Preparation

- 1) Electrical energy including electrosurgery and electrocautery
- 2) Laser energy and surgery
- 3) Biomechanics
- 4) Computer Technology
- 5) Discuss risks related to medical devices and energy sources in the surgical environment
- 6) Understand the risks and safety precautions in the surgical environment, including technical , chemical and biological risk factors

#### The Surgical Wound

- 1) Hemostasis
- 2) Structure and properties of suture
- 3) Dressings
- 4) Tissue replacement materials
- 5) Wound drains
- 6) Wound healing
- 7) Postoperative wound complications

#### Perioperative Pharmacology

- 1) Describe the process of ensuring consumer safety for drugs and safe drug handling

- 2) Describe the role of the surgical technologist in handling drugs including administration routes
- 3) Define pharmacokinetics and pharmacodynamics
- 4) Describe immediate and delayed adverse drug reactions
- 5) List and use the five rights of medication delivery
- 6) Demonstrate an understanding of drug labels and delivery devices
- 7) Accurately convert values within and between measurement systems with basic arithmetic calculations
- 8) Explain steps involved in receiving medications onto the sterile field
- 9) Surgery team roles during drug administration
- 10) Medications used in surgery
- 11) Medication measurements

#### Anesthesia, Anesthetics, and Physiological Monitoring

- 1) Explain terms used to describe important anesthesia concepts
- 2) Explain the basic physiology of neurotransmission
- 3) Describe basic anesthesia equipment
- 4) Explain the rationale and parameters of physiological monitoring during anesthesia
- 5) Explain the preoperative preparation of the patient for anesthesia and surgery
- 6) Define general and regional anesthesia as well as conscious sedation including the agents used
- 7) Describe important patient anesthetic and physiological emergencies
- 8) Alternative anesthesia methods

#### Diagnostic and Assessment Procedures

- 1) Describe the post anesthesia care unit (PACU) facility
- 2) Explain the rationale and parameters of physiological monitoring - post anesthesia
- 3) Explain the concepts of discharge planning for the surgical patient
- 4) Fluid and hemodynamic assessment

#### Postoperative Recovery and Patient Discharge

- (1) Vital signs
- (2) Electrocardiography
- (3) Imaging
- (4) Blood tests
- (5) Urinalysis
- (6) Pathology
- (7) Cancer terms and concepts
- (8) Nuclear Medicine

## **STUDENT REQUIREMENTS AND METHOD OF EVALUATION**

### INSTRUCTIONAL METHODS

- 1) Lectures
- 2) Discussion
- 3) Essays
- 4) Workbook Assignments

- 5) Handouts
- 6) Group Oral Presentations
- 7) Audio-Visual
- 8) Guest speakers
- 9) Examples and demonstration
- 10) Surgical Technology Review Questions - discussed
- 11) Unannounced requirements, including unannounced tests, possible

#### OTHER POSSIBLE INSTRUCTIONAL MEDIA

Internet, handouts, audiovisual media, textbooks, current periodicals, computer lab, on-site surgical technology lab and supervised clinical site instruction.

#### STUDENT REQUIREMENTS

- A. Grade weighting, if present, will be found on the syllabus supplement.
- B. Concurrent Policy

Lab (SURG 101) and theory (SURG 102) are concurrent and both must be passed to progress in the program. If either concurrent course is failed, the student cannot progress in the program. The lab components are graded as pass/not pass, the theory with a letter grade of C or higher.

#### GRADING SCALE

On objective materials, the following scale is used:

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- A = 91 - 100% Superior
- B = 83 - 90% Good
- C = 76 - 82% Average
- F = 0 - 75% Failure
- I = Incomplete
- XF = Failure due to academic dishonesty
- W = Withdrawal

#### **ASSESSMENT OF STUDENT GAIN**

Assessment ideally begins during the advisement and enrollment process with the advisor and/or instructor interviewing the student to determine the proper level of placement. During the first two weeks of a semester, students are observed and/or interviewed and assignments are examined to determine needed competency development. Post assessment to determine gain in competency will be measured at the end of each unit of study. Evaluation of student performance is determined primarily from results of examinations, skills tests, homework, and lab work. Class participation is considered.

## **Attendance Policy**

- 1) NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.
- 2) Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified. Please refer to the Student Handbook/Academic Policies for more information
- 3) Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

## **ACADEMIC INTEGRITY**

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

## **ELECTRONIC DEVICE POLICY**

Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

## **NOTE**

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

## **ACCOMMODATIONS**

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

## **NON-DISCRIMINATION POLICY**

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

<http://www.neosho.edu/Departments/NonDiscrimination.aspx>

## **SEXUAL MISCONDUCT POLICY (TITLE IX)**

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms. All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

<http://www.neosho.edu/TitleIX.aspx>

## **COURSE NOTES**

Clock Hours: 62.5