SUR 110
INTRODUCTION TO SURGICAL TECHNOLOGY

COURSE DESCRIPTION:

Prerequisites: Enrollment in the Surgical Technology Program Director
Corequisites: SUR 111

This course provides a comprehensive study of the operative environment, professional roles, moral/legal/ethical responsibilities, and medical communications used in surgical technology. Topics include: professional behaviors, medical terminology, interdepartmental/peer/relationships, operating room environment/safety, pharmacology, anesthesia, incision sites, physiology of wound healing, and biomedical sciences. Upon completion, students should be able to apply theoretical knowledge of the course topics to the operative environment. Course Hours Per Week: Class, 3. Lab: 0, Clinical: 0, Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon successful completion of this course the student should be able to:

a. Identify the role of the surgical technologist and possible career paths.
b. Identify members of the surgical team and their roles.
c. Identify and differentiate different types of health care facilities.
d. Understand how interdepartmental relationships can impact on the OR as one of many hospital departments and the importance of good interdepartmental communication.
e. Identify the physical aspect of the operating room suite and the operating room.
f. Define and interpret the ethical, moral, and legal responsibilities of the surgical technologist.
g. Trace the historical development of surgery to include the use of surgical technologists.
h. Understand the standards of practice of the Association of Surgical Technologists.
i. Recognize their professional obligations to patients regarding the patient's rights as a consumer as defined in "A Patient's Bill of Rights."
j. Realize that each patient is an individual and may respond differently to illness and hospitalization.
k. Assess the physical, spiritual and psychological needs of the patient along with the patient's possible responses to illness and hospitalization.
l. Recognize their responsibility in keeping the environment safe for the patient and the caregiver.
m. Describe the role of the surgical technologist in medication administration.
n. Discuss basic types of medications used in surgery and understand how these medications should be received onto and labeled on the sterile field.
o. Understand the types of anesthesia used in surgery (general, local, and regional) and the surgical technologist and circulator's responsibilities regarding different anesthesia techniques.
p. Discuss the role of the surgical technologist during anesthesia complications.
q. Demonstrate knowledge of sites and applications of most frequently used incisions.
r. Understand the basic mechanisms and factors affecting wound healing.
s. Understand basic principles of electricity and their application in the operating room.
t. Identify the different types of electrical equipment and their power sources in the operating room.
u. Determine safety concerns related to electrical equipment and vaporized tissue plume.
v. Learn electrical safety precautions.
w. Define terms related to physics.
x. Apply principles of physics to safe patient care practices in the operating room.

y. Discuss basic concepts related to robotics.
z. Describe concepts of geometry that are used in the design of surgical robots.
aa. Identify basic components and mechanisms of the robotic system.
bb. List the clinical applications of robotics in the operating room.
cc. Apply the principles of robotics to the safe patient care practices in the operating room.
dd. Apply computer knowledge to safe patient care.
ee. Identify basic components of a computer system.
ff. Perform basic word processing functions.
gg. Import graphics.
hh. Perform print/save functions.

OUTLINE OF INSTRUCTION:

I. Modern surgery
- A. Historical perspectives and where we are now
- B. The surgical technologist-past, present, and future
- C. Roles and competencies of the surgical technologist
- D. Surgical technologist job descriptions

II. The perioperative team
- A. The surgeon
- B. The anesthesiologist
- C. The circulator
- D. The scrub
- E. The patient

III. Health care facilities and management
- A. Organization
- B. Reimbursement
- C. Facilities for surgical procedures
- D. Hospital management
- E. Surgical services management

IV. Needs of the surgical patient
- A. Physical
- B. Psychological
- C. Social
- D. Spiritual

V. Ethical/moral/legal/professional behaviors
- A. AORN standards
- B. AST standards
- C. A Patient's Bill of Rights
- D. Consents

VI. Communication Skills
- A. In the OR
- B. With OR administration
- C. With related departments

VII. Basic medical/surgical terms
- A. Examination
- B. Diagnosis
- C. Treatment

VIII. Physical environment and safety standards
- A. Traffic Patterns/physical design
- B. Safety considerations
- C. Universal Precautions
- D. Personal protective equipment
- E. Biological and chemical hazards

IX. General/Regional/Local anesthesia in the OR
- A. Definitions
- B. Choices
- C. Care of anesthetized patient
- D. Complications

X. Surgical pharmacology
- A. Common medicines used intraoperatively
- B. Accepting medications onto a sterile field
- C. Labeling medications on a sterile field
- D. Weights and measures
- E. Drug administration

XI. Common medications
- A. Antibiotics
- B. Diagnostic agents
- C. Drugs that affect coagulation
- D. Blood and fluid replacement

XII. Incisions and hemostasis
- A. Types of wounds
- B. Incision site considerations
- C. Hemostatic agents

XIII. Wound healing
- A. Physiology of wound healing
- B. Pactors affecting wound healing
- C. Wound classifications
- D. Stapling devices

XIV. Electricity
- A. Electrical terminology
- B. Principle of electrical flow
- C. Types of current
- D. Electrical receptacles

XV. Physics
- A. Mechanics
- B. Properties of matter
- C. Heat
- D. Sound, vibrations, and waves
- E. Electricity and magnetism
- F. Light
- G. Modern physics

XVI. Robotics
- A. Basic concepts
- B. Clinical applications

XVII. Electricity
- A. Electrical terminology
- B. Principle of electrical flow
- C. Types of current
- D. Electrical receptacles

REQUIRED TEXTBOOKS:

Fuller, Joanna Kotcher. Surgical Technology. Wells Surgical Instruments Pieknik Suture Package. 4th ed. ISBN: 1416036296.

Snyder, Katherine C. Pharmacology for the Surgical Technologist. 2nd ed. ISBN: 1416024573.

Chabner. Language of Medicine. 7th ed. ISBN: 0721697577.

Price. Technological Sciences for the Operating Room. 1st ed. ISBN: 0926805398.

Rothcock. Alexander's Care of Patient in Surgery. 12th ed. ISBN: 0323016227.

Goldman. Pocket Guide to the Operating Room. 2nd ed. ISBN: 080360033X.

RECOMMENDED:

Phillips, Nancymarie Fortunato. Berry & Kohn's Operating Room Technique. 10th ed. ISBN: 0323019803.
Price, Paul. Surgical Technology for the Surgical Technologist: A Positive Care Approach. 2nd ed. ISBN: 1401838480.
Venes, Donald. Taber's Cyclopedic Medical Dictionary. 20th ed. ISBN: 0803612087.

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.