Virginia Western Community College
SUR 195
Topics in Surgical Technology

Prerequisites
SUR 100, SUR 135, SUR 140, SUR 145, SUR 150, SUR 240, SUR 245, SUR 250

Course Description
Provides an opportunity to explore topical areas of interest to or needed by students. Covers new content not covered in existing courses in the discipline. Allows instructor to explore content and instructional methods to assess the course's viability as a permanent offering. This course is the first of two procedure courses that introduce the student to surgical procedures. Pathophysiology, surgical anatomy, instrumentation, and procedural steps are discussed and combined with a consistent method of reinforcement at the clinical site.

Semester Credits: 2
Lecture Hours: 2
Lab/Clinical/Internship Hours: 0

Required Materials
Textbook:

Title	Author	Edition
Surgical Technology for the Surgical Technologist: A Positive Care Approach ISBN: 978-130595641-4	Frey, Kevin B.	5th
LANGE Q&A Surgical Technology Examination ISBN: 978-125958811-2	Sherman, Carolan, Chmielewski, Mary	8th
Pearson's Surgical Technology Exam Review ISBN: 978-0-13-521342-1	Rogers, Emily M., McGuiness Leary, Ann	4th
VWCC Surgical Technology Program Student Handbook	VWCC AAS in ST	

Other Required Materials:
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Course Outcomes

Course Learning Objectives

Upon completion of the course, students will be able to:	Meets Competency #
Identify key anatomical features of the nervous system and elements of pediatric airways. Describe the basic physiology of the autonomic nervous system, basic diagnostic procedures, and key elements of case planning for pediatric surgery as well as common surgical procedures of the nervous system. Compare and contrast factors that differentiate between pediatric and adult patients and discuss the developmental stages per age for pediatric patients. Discuss common congenital anomalies and surgical pathology for pediatric patients. Review specific elements related to Pediatric Surgery for case planning such as instrumentation, surgical approach, common medications, suture, dressings, and duties related to the Surgical Technologist role.	#4, #5 and #7
Identify key anatomical structures of the genitourinary system, common diagnostic tests and procedures of the genitourinary system, specific elements of case planning, common pathology and genitourinary procedures. Discuss difference between transurethral, open and minimally invasive surgical approach for genitourinary procedures. Discuss female incontinence and surgical treatment options. Review specific elements related to Genitourinary Surgery for case planning such as instrumentation, surgical approach, common medications, suture, dressings, and duties related to the Surgical Technologist role.	#4, #5 and #7
Identify the anatomical regions and structures of the abdominal wall while discussing specific elements of case planning for general surgery procedures including hernias, thyroid, gastrointestinal procedures, bowel techniques, anastomosis, liver, biliary system, pancreas, spleen, and breast surgery. Review specific elements related to General Surgery for case planning such as instrumentation, surgical approach, suture, common medication, dressings, and duties related to the Surgical Technologist role. Compare and contrast between key elements of open versus laparoscopic surgical procedures as related to General Surgery.	#4, #5 and #7
Identify key anatomical structures of the female reproductive system, common diagnostic procedures of the same, specific elements of case planning for GYN and obstetrical surgery, list and describe common gynecological and obstetrical procedures. Compare and contrast between key elements of open versus laparoscopic surgical procedures as related to Gynecological Surgery. Review specific elements related to Gynecological Surgery for case planning such as instrumentation, surgical approach, common medications, suture, dressings, and duties related to the Surgical Technologist role. Discuss the needs of the pregnant patient and compare/contrast vaginal versus cesarean delivery.	#4, #5 and #7

Identify major bones of the body, discuss specific types of instruments used in orthopedic surgery, while explaining the uses of common orthopedic implants and hardware, possess the ability to discuss basic techniques used in fracture reduction and fixation, and joint reconstruction. Discuss the difference between open and closed reduction, as well as open and arthroscopic surgical approaches. Discuss specific elements of case planning for orthopedic surgical procedures. Review specific elements related to Pediatric Surgery for case planning such as instrumentation, surgical approach, common medications, suture, pneumatic tourniquet, use of intraoperative radiography, dressings, and duties related to the Surgical Technologist role.	#4, #5 and #7
Identify key aspects of Minimally Invasive Surgical Approaches as related to procedures of General, Gynecological, Pediatric and Urological surgery. Discuss variations in and pros and cons of MIS surgery, and how it differs from open approaches. Discuss difference in entry and closure of body cavity, and surgical procedures related to MIS. Discuss possible complications of the patient undergoing laparoscopic or robotic surgery. Discuss aspects of robotic surgery.	#4, #5 and #7
Introduce and use appropriate medical terminology and word parts as it relates directly to surgical procedures covered in course.	# 1, # 4, # 5 and # 7

Major Topics to be Included:

- **General Surgery:** Anatomy review, surgical pathology, surgical instrumentation and specialty equipment, incisions, case planning, surgical techniques, role of CST
  - Laparotomy, Laparoscopic Nissen Fundoplication, Gastrostomy, Total Gastrectomy, Colon Resection, Laparoscopic versus Open Appendectomy, Hemorrhoidectomy, Liver Resection, Open vs. Laparoscopic Cholecystectomy, Pancreatectomy vs. Whipple, Open vs. Lap. Splenectomy, breast biopsy, sentinel node biopsy, Modified Radical Mastectomy, Thyroidectomy; **Hernias:** Open vs. Lap. Inguinal, ventral/incisional, Umbilical, other hernia types
- **Minimally Invasive Surgery**: Discuss anatomical considerations, compare/contrast MIS versus open approach, discuss pro's and con's of MIS, MIS in general, GYN and urology procedures, special equipment and instrumentation, robotics in surgery, surgical patient candidate, robotic surgery
- **Obstetric and Gynecological Surgery**: Anatomy review, surgical pathology, surgical instrumentation and specialty equipment, incisions, vaginal versus abdominal approach case planning, surgical techniques, medication related to OBGYN, role of CST, care of the pregnant patient
  - Cervical Cerclage, Cesarean Section, Tubal Sterilization, Tuboplasty, Ectopic Pregnancy Resection, Diagnostic Laparoscopy, Hysteroscopy, Bartholin's Gland Cyst, Vulvectomy, Labiaplasty, D&C, Endometrial Ablation, Oophorectomy, Salpingectomy, Myomectomy, Total Abdominal Hysterectomy, Vaginal Hysterectomy, Lap. Hysterectomy, Robotic Assisted Laparoscopic Hysterectomy, Radical Hysterectomy, Pelvic Exenteration, A & P Repair, D&E
- **Genitourinary Surgery:** Introduction to Genitourinary surgery, relevant anatomy review, case planning and considerations, instrumentation, cystoscopy suite
  - Ureteroscopy, Cystoscopy (TURBT), Cystectomy, TVT Sling, Prostate Seeding, Nephrectomy, Wilm's Tumor excision (Adrenalectomy), Kidney Transplant, Prostatectomy: TURP, Robotic Laparoscopic, Suprapubic Open; Circumcision, penile implant insertion, Penectomy, Hydrocelectomy, Orchiopexy, Orchiectomy, Epispadias/ Hypospadias repair, Gender reassignment procedures
- **Orthopedic Surgery:** Introduction to orthopedic surgery, anatomy review, Pathology, types of fractures, case preparation, casting, pneumatic tourniquet, open versus closed approach, positioning, instrumentation, complications, equipment, medications related to orthopedics, traction, patient positioning, etc.
  - Shoulder Arthroscopy, Open vs. Arthroscopic Bankart, Open vs. Arthroscopic Acromioplasty, Shoulder Arthroplasty, External Fixator – radius, ORIF Radius, ORIF Hip Fracture, Total Hip Arthroplasty, Femoral Shaft Fracture Nailing, Knee Arthroscopy, ACL Repair, Above Knee Amputation, Below Knee Amputation, Total Knee Arthroplasty, Triple Arthrodesis (foot & ankle), Achilles' Tendon Repair, Bunionectomy
- **Pediatric Surgery:** Physiological and Anatomical Considerations, Pathology, Patient Population, Psychosocial Care, role of the CST

- **Case Planning** – specialty instrumentation and equipment, hypothermia versus normothermia, common medications, patient positioning
- Repair of Cleft Lip; Atresia: Choanal & Esophageal; Pyloromyotomy; Omphalocele; Orchiopexy; Repair of Bladder Exstrophy/Epispadias; Pectus Excavatum Repair; Wilms Tumor Removal; Repair of Myelomeningocele; Syndactyly and Polydactyly Corrections

ADA Statement (PDF)
Title IX Statement (PDF)