

**Bossier Parish Community College  
Master Syllabus**

**Course Prefix and Number:** STEC 110

**Credit Hours:** 3

**Course Title:** Surgical Procedures I

**Course Prerequisites:** STEC 100, STEC 102, STEC 102lab

**Corequisites:** STEC 111, STEC 112

**Clock Hours:** 45 hours lecture

**Time Increments:** semester

**Textsbook:** Rothrock, June C. and Alexander, Sherri; Alexander's Surgical Procedures, 1<sup>st</sup> edition. Rutherford, Colleen J; Differentiating Surgical Instruments Allhoff, T.; Hinton, D., Surgical Mayo Setups, 2<sup>nd</sup> edition. Fuller, J. K.; Surgical Technology Principles and Practice, 7<sup>th</sup> edition. Chambers, Karen, L. and Roche, Valerie; Surgical Technology Review, Certification & Professionalism, 2010 edition.

**Course Description:**

This course covers six surgical specialties including general surgery, genitourinary, GYN-OB, surgery of the ear, nose, pharynx, and larynx, plastic and reconstructive, and neurosurgery. For each specialty, methods and principles are taught which include care of supplies and equipment, principles of patient safety, skin preparation, patient positioning, and draping the operative site. Additionally, students will set up basic and case-specific instruments and equipment and utilize them in mock surgical procedures. Enrollment in the Surgical Technology Program courses is limited to those students who have been selected and admitted to the program. Program courses are sequenced by semester and must be taken as a group each semester per program requirements and policies.

**Methods of Teaching:** Lecture, team discussions with required reading assignments and homework, handouts, audio-visual, computer programs (Live-OR, Websurg), and hands-on demonstration

**Learning Outcomes:**

At the end of this course, the student will

- A. *apply knowledge of medical terminology and anatomy to set up the surgical field and select and maintain appropriate instrumentation for various surgical procedures.*

To achieve the learning outcomes, the student will

1. recognize specific abdominal incisions. (A)
2. associate specific abdominal incisions with access to specific organs of the abdominal cavity. (A)
3. differentiate between muscle-splitting and muscle-cutting incisions. (A)
4. describe the tissue layers of the anterior abdominal wall. (A)
5. differentiate between types of common hernias. (A)
6. identify the anatomy involved in inguinal hernias. (A)
7. identify the anatomy involved in incisional hernia. (A)
8. describe necessary equipment and preparation for a simple abdominal or inguinal hernia repair. (A)
9. describe the TEP and TAPP laparoscopic approaches to hernia repair. (A)
10. define the purpose of mesh used for hernia repair. (A)
11. define the procedures for gastrointestinal endoscopy. (A)
12. identify the set-up and equipment needed for a simple laparotomy. (A)
13. identify common gastric catheters. (A)
14. define GI mobilization. (A)
15. identify the tissue involved in a two-layer intestinal closure. (A)
16. identify preparation of instrumentation and define techniques used in laparoscopic GI surgery. (A)
17. describe the structures of the biliary system, liver, pancreas, and spleen. (A)
18. recognize and identify instruments required for biliary, hepatic, pancreatic, and splenic surgery. (A)
19. describe the pancreas and its communication with other accessory organs. (A)
20. identify resection techniques used to secure deep vascular and biliary structures. (A)
21. discuss techniques required for handling of dry specimens (e.g., gallstones). (A)
22. identify the need for insertion of a T-tube (biliary system). (A)
23. identify uses of the argon beam coagulator and ultrasonic scalpel. (A)
24. identify how to properly maintain multiple endoscopic instruments on the field. (A)
25. describe the scheme for a radical resection. (A)
26. identify and describe priorities for an emergency procedure (splenectomy). (A)
27. describe the structure of the breast. (A)
28. discuss the task of providing supportive communication to the patient undergoing breast surgery. (A)
29. identify the set-up for bilateral breast biopsy. (A)
30. describe the scheme for the removal of a breast mass. (A)
31. recognize and identify instruments required for breast surgery. (A)
32. identify the anatomy of the chest wall. (A)
33. describe the process for conversion to a radical procedure after biopsy and frozen section. (A)

34. explain the surgeon's requirements for hemostatic control during breast surgery. (A)
35. describe the preparation and maintenance needed to ensure an orderly instrument table and field during a long procedure. (A)
36. identify the instrumentation required for transurethral procedures. (A)
37. differentiate electrolytic and nonelectrolytic solutions used in resection and cystoscopic procedures. (A)
38. name special instruments used in genitourinary (GU) surgery. (A)
39. identify the steps required to assemble the cystoscope. (A)
40. describe the set-up and role of the assistant in basic open GU procedures. (A)
41. differentiate different types of urinary catheters. (A)
42. identify instruments and equipment required in a hysteroscopic procedure. (A)
43. describe the preparation of solutions for intrauterine continuous drainage or distension. (A)
44. identify the method used for draping the patient for perineal surgery. (A)
45. describe the role of the assistant in vaginal procedures. (A)
46. explain the importance of maintaining aseptic technique during vaginal procedures. (A)
47. differentiate electrolytic and nonelectrolytic fluids used during intrauterine procedures. (A)
48. identify obstetrical and gynecological complications and procedural considerations. (A)
49. define the common terminology used in surgery involving the ear, nose, and mouth. (A)
50. identify the key anatomical structures of the ear, nose, throat, and mouth. (A)
51. describe the primary procedures of the ear, nose, throat, and mouth. (A)
52. discuss equipment and instrumentation used in procedures of the ear, nose, throat, and mouth. (A)
53. identify the purpose and procedures for a cochlear implant. (A)
54. identify the principles of endoscopic sinus surgery. (A)
55. describe the process of a radical neck dissection. (A)
56. identify the purpose and procedure for performing a tracheostomy. (A)
57. define the terminology of plastic surgery. (A)
58. identify the anatomical structures of the skin. (A)
59. discuss the procedures involving the skin. (A)
60. differentiate the types of skin-grafting techniques. (A)
61. identify various cosmetic procedures of the face. (A)
62. identify equipment and instruments used in plastic surgery. (A)
63. identify procedures for breast augmentation and reduction. (A)
64. identify procedures for reconstruction of the breast after mastectomy. (A)
65. analyze and explain the psychological effects and considerations of having eye surgery. (A)
66. practice safe procedures and techniques in eye surgery. (A)
67. describe the anatomy of the eye. (A)
68. explain how to prepare the microscope for use and care for it properly. (A)
69. name and recognize commonly used eye instruments. (A)

70. differentiate the types of ophthalmic drugs and their uses. (A)
71. describe the anatomy, physiology, and pathology of the brain and the central nervous system. (A)
72. analyze the diagnostic and surgical interventions for a patient undergoing neurological procedures. (A)
73. plan the intraoperative course for a patient undergoing neurological procedures. (A)
74. identify and select proper instrumentation and equipment for neurological procedures. (A)
75. identify how to safely position the patient for neurological procedures. (A)
76. describe the proper care of specimens from neurological procedures. (A)
77. discuss the postoperative considerations for a patient undergoing neurological procedures. (A)
78. analyze and describe the sequence of procedural steps in many neurological procedures. (A)
79. read each chapter prior to the beginning of class. (A)

**Course Requirements:** To earn a grade of “C” or higher the student must earn 75% of the total points for the course and meet all of the following course requirements.

- minimum average of 75% on tests with no test score less than 75%
- each chapter tests first grade is the scored grade
- minimum test score of 90% on all medical term and anatomy quizzes, within two attempts
- reading assignments/homework(typed chapter outlines), will comprise 20% of total grade.
- 80% on mid-term and final comprehensive exam

**Outcome Assessment Methods:** Written Exams

**Course Grading Scale:**

- A- 90% or more of total possible points with no test score less than 70%
- B- 80% or more of total possible points with no test score less than 70%
- C- 70% or more of total possible points with no test score less than 70%
- D- 60% or more of total possible points with no test score less than 70%
- F- less than 60% of total possible points or less than 70% on any test

**Attendance Policy:** The college attendance policy, which is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>, allows that “more restrictive attendance requirements may apply to some specialized classes such as laboratory, activity, and clinical courses because of the nature of those courses.” The attendance policy of the Surgical Technology program is described in the Surgical Technology Clinical Handbook.

**Course Fees:** This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, certification exams and/or clinical fees.

### **Nondiscrimination Statement**

Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

### COORDINATOR FOR SECTION 504 AND ADA

Angie Cao, Student and Disability Services Specialist

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Equity/Compliance Coordinator

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Phone: 318-678-6056

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### **Course Content Outline:**

Chapter 23: General Surgery

Section I: Abdominal Wall Surgery

- I. Introduction to General Surgery
- II. Introduction to the Abdomen
- III. Surgical Anatomy
  - A. abdominal Quadrants and Sections
  - B. tissue layers of the Abdominal Wall
  - C. inguinal Region
  - D. Abdominal Incisions
- IV. Pathology of the Abdominal Wall
- V. Diagnostic procedures
- VI. Perioperative Considerations
- VII. Instruments and Supplies
- VIII. Surgical Procedures
  - A. Open Repair of an Indirect Inguinal Hernia

- B. Laparoscopic Repair of a Direct Inguinal Hernia
- C. Open Repair of a Femoral Hernia
- D. Repair of an Incisional or a Ventral Hernia
- E. Umbilical Hernia Repair
- F. Spigelian Hernia Repair

## Section II: Gastrointestinal Surgery

- I. Surgical Anatomy
  - A. Esophagus
  - B. Stomach
  - C. Small Intestine
  - D. Large Intestine (Colon)
  - E. Rectum and Anus
- II. Pathology of the Gastrointestinal System
- III. Diagnostic Procedures
  - A. Care of the Patient
- IV. Techniques in Gastrointestinal Surgery
  - A. Anastomosis
  - B. Bowel Technique
- V. Surgical Procedures
  - A. Diagnostic and Operative Endoscopy
  - B. Esophagoduodenoscopy
  - C. Colonoscopy
  - D. Sigmoidoscopy
  - E. Laparotomy
  - F. Excision of an Esophageal Diverticulum (Open Procedure)
  - G. Transabdominal Repair of a Hiatal Hernia
  - H. Vagotomy
  - I. Percutaneous Endoscopic Gastrostomy
  - J. Partial Gastrectomy, Billroth I and II (Open Procedure)
  - K. Laparoscopic Adjustable Band Gastroplasty for Morbid Obesity
  - L. Roux-en-Y Gastric Bypass
  - M. Transhiatal Esophagectomy
  - N. Segmental Resection of the Small Intestine
  - O. Removal of Meckel's Diverticulum
  - P. Resection of the Colon
  - Q. Gastrointestinal Stoma
  - R. Loop colostomy
  - S. Partial Colectomy
  - T. Abdominoperineal Resection
  - U. Appendectomy
  - V. Hemorrhoidectomy
  - W. Excision of a Pilonidal Cyst

## X. Excision of an Anorectal Fistula

### Section III: Surgery of the Biliary System, Liver, Pancreas, and Spleen

- I. Surgical Anatomy
  - A. Liver
  - B. Biliary System
  - C. Pancreas
  - D. Spleen
- II. Pathology of the Liver, Biliary System, Pancreas, and Spleen
- III. Diagnostic Procedures
- IV. Perioperative Considerations
  - A. Patient Safety
  - B. Instruments
  - C. Special Equipment and Supplies
- V. Surgical Procedures
  - A. Endoscopic Retrograde Cholangiopancreatography
  - B. Laparoscopic Cholecystectomy
  - C. Cholecystectomy and Operative Cholangiography (Open Technique)
  - D. Choledochoduodenostomy/choledochojejunostomy
  - E. Splenectomy
  - F. Pancreaticoduodenectomy (Whipple Procedure)
  - G. Laparoscopic Distal Pancreatectomy
  - H. Segmental Resection of the Liver
  - I. Liver Transplantation

### Section IV: Breast Surgery

- I. Surgical Anatomy
- II. Pathology of the Breast
  - A. Breast Cancer
- III. Diagnostic Procedures
- IV. Perioperative Considerations
  - A. Psychological Considerations
  - B. Position and Draping
  - C. Instruments and Supplies
- V. Surgical Procedures
  - A. Wire Localization and Breast Biopsy
  - B. Sentinel Lymph Node Biopsy
  - C. Breast-Conserving Surgery for a Mass (Lumpectomy, Segmental Mastectomy)
  - D. mastectomy

### Chapter 25: Genitourinary Surgery

- I. Surgical Anatomy
  - A. Retroperitoneal Cavity

- B. Kidney
- C. Adrenal Glands
- D. Ureters
- E. Bladder
- F. Reproductive Structures of the Male
- II. Pathology of the Genitourinary System
- III. Kidney Dialysis
  - A. Hemodialysis
  - B. Peritoneal Dialysis
- IV. Diagnostic Tests
  - A. Urinalysis
  - B. Blood Tests
  - C. Tissue Biopsy
  - D. Imaging Studies
- V. Positioning
- VI. Instruments for Open Genitourinary Procedures
- VII. Endoscopic Instruments
  - A. Rigid Cystoscope
  - B. Sheath
  - C. Obturator
  - D. Resectoscope
  - E. Imaging System
- VIII. Urinary Catheters
  - A. Urethral Catheters
  - B. Ureteral Catheters
  - C. Ureteral Stent
- IX. Equipment
  - A. Electrosurgical Unit
  - B. Microscope
  - C. Laser
- X. Techniques in Transurethral Surgery
  - A. Cystoscopy Room
  - B. Cystoscopy Assistand
  - C. Positioning
  - D. Prepping and Draping
  - E. Intraoperative Imaging
  - F. Continous and Intermittent Irrigation
  - G. Anesthesia
- XI. Transurethral (Cystoscopic) Procedures
  - A. Cystoscopy
  - B. Urethral Dilation and Urethrotomy
  - C. Management of Calculi
  - D. Transurethral Resection of the Prostate
  - E. Flexible and Rigid Ureteroscopy
- XII. Surgery of the male External Genitalia
  - A. Circumcision (adult)



- B. Chordee Repair
- C. Hypospadias Repair
- D. Insertion of a Penile Implant
- E. Varicocelelectomy
- F. Hydrocelelectomy
- G. Orchiectomy
- H. Vasectomy
- I. Vasovasostomy (Reversal of a Vasectomy)
- J. Implantation of Testicular Protheses
- XIII. Surgery of the Bladder and Ureters
  - A. Suprapubic Cystostomy
  - B. Cystectomy
  - C. Ileal Conduit
- XIV. Urinary Incontinence
  - A. Vesicourethral Suspension (Marshall-Marchetti-Krantz Procedure\_
  - B. Pubovaginal Sling
- XV. Prostate Procedures
  - A. Perineal Prostatectomy
  - B. Suprapubic Prostatectomy
  - C. Robotic-Assisted Prostatectomy
- XVI. Surgery of the Ureter and Kidney
  - A. Ureteral Diversion
  - B. Percutaneous nephrolithotomy
  - C. Simple nephrectomy (Flank Incision)
  - D. Laparoscopic Radical Nephrectomy
  - E. Kidney Transplantation
  - F. Adrenalectomy

## Chapter 24: Gynecological and Obstetrical Surgery

### Section I: Gynecological and Reproductive Surgery

- I. Surgical Anatomy
  - A. Uterus
  - B. Fallopian Tubes
  - C. Ovaries
  - D. Vagina
  - E. Vulva
  - F. Labia Majora
  - G. Labia Minora
  - H. Clitoris
  - I. Vestibule
  - J. Hymen
- II. Ovarian (Menstrual) Cycle
- III. Pathology of the Female Reproductive System
- IV. Diagnostic Procedures

- A. Patient History and Physical Examination
- B. Preoperative Malignancy Screening
- C. Imaging Techniques
- D. Cervical and Endometrial Biopsy
- E. Hysteroscopy
- V. Psychosocial Considerations
- VI. Positioning
  - A. Team Positioning
- VII. Skin Prep and Draping
- VIII. Instruments
- IX. Equipment and Supplies
  - A. Drugs
  - B. Sutures
- X. Surgical Techniques in Gynecological and Reproductive Surgery
  - A. Laparoscopy
- XI. Abdominal Procedures
  - A. Laparoscopy: General Technique
  - B. Laparoscopic: Tubal Ligation
  - C. Laparoscopic Management of an Ovarian Mass
  - D. Microsurgical Tubal Anastomosis
  - E. Laparoscopic-Assisted Vaginal Hysterectomy
  - F. Total Abdominal Hysterectomy
  - G. Radical Hysterectomy
  - H. Pelvic Exenteration
- XII. Transcervical Procedures
  - A. Hysteroscopy
  - B. Hysteroscopic Endometrial Ablation
  - C. Myomectomy
  - D. Loop Electrode Excision Procedure
  - E. Dilation and Curettage
  - F. Termination of Pregnancy (Abortion)
- XIII. Transvaginal and Vulvar Procedures
  - A. Vaginal Hysterectomy
  - B. Repair of a Cystocele and Rectocele (Anterior-Posterior Repair, A&P)
  - C. Vaginoplasty
  - D. Repair of a Vesicovaginal Fistula
  - E. Repair of a Tectovaginal Tistula
  - F. Removal of a Cystic Bartholin Gland
  - G. Vulvectomy

## Section II: Operative Obstetrical Procedures

- I. Stages of Pregnancy
- II. Complications of Pregnancy
  - A. Placental Abruption
  - B. Placenta Previa

- C. Pregnancy-Induced Hypertension
- D. Nuchal Cord
- E. Lack of Labor Progress
- F. Cord Prolapse
- G. Breech Presentation
- III. Diagnostic Tests
- IV. Normal Vaginal Delivery
  - A. Immediate Postpartum Care
  - B. Newborn Care
- V. Obstetrical Procedures
  - A. Cesarean Delivery
  - B. Surgical Treatment of an Ectopic Pregnancy
  - C. Surgical Treatment of Cervical Insufficiency

## Chapter 29: Plastic and Reconstructive Surgery

- I. Surgical Anatomy
  - A. Integumentary System (skin)
  - B. Anatomy of the Face
- II. Pathology of the Skin and Face
- III. Perioperative Considerations
  - A. Prepping and Draping
  - B. Instruments
  - C. Equipment
  - D. Dressings
- IV. Techniques in Plastic and Reconstructive Surgery
  - A. Grafting
  - B. Implants
  - C. Debridement
  - D. Tissue Remodeling
- V. Surgical Procedures
  - A. Excision of Superficial Lesions
  - B. Scar Revision
  - C. Debridement of Burns
  - D. Split-Thickness Skin Graft
  - E. Pedicle Graft
  - F. Blepharoplasty
  - G. Brow Lift (Open and Endoscopic Techniques)
  - H. Rhytidectomy
  - I. Laser Skin Resurfacing
  - J. Facial Implants
  - K. Otoplasty
  - L. Augmentation Mammoplasty
  - M. Reduction Mamoplasty
  - N. Transverse Rectus Abdominis Myocutaneous (TRAM) Flap
  - O. Liposuction

P. Panniculectomy (Abdominoplasty)

Chapter 27: Surgery of the Ear, Nose, Pharynx, and Larynx

Section I: The Ear

- I. Surgical Anatomy
  - A. External Ear
  - B. Middle Ear
  - C. Inner Ear
- II. Sound Transmission in the Ear
- III. Pathology of the Ear
- IV. Diagnostic Procedures
  - A. Clinical Examination of the Ear
  - B. Diagnostic Tests of the Ear
- V. Perioperative Considerations
  - A. Positioning
  - B. Prepping and Draping
  - C. Irrigation
  - D. Instruments
  - E. Equipment and Supplies
  - F. Medications
- VI. Surgical Procedures
  - A. Myringotomy
  - B. Myringoplasty
  - C. Tympanoplasty
  - D. Mastoidectomy/Tympanomastoidectomy
  - E. Stapedectomy/Ossicular Reconstruction
  - F. Cochlear implant

Section II: Surgery of the Nasal Cavity, Oropharynx, and Larynx

- I. Surgical Anatomy
  - A. External Nose
  - B. Nasal Cavity
  - C. Paranasal Sinuses
  - D. Nasopharynx
  - E. Oral Cavity
  - F. Pharynx
  - G. Larynx
- II. Pathology of the Nasal Cavity, Pharynx, and Larynx
- III. Diagnostic Tests
  - A. Prepping and Draping
  - B. Equipment and Supplies
  - C. Nasal Instruments
  - D. Tonsil and Adenoid Instruments

- IV. Nasal Procedures
  - A. Endoscopic Sinus Surgery
  - B. Caldwell-Luc Procedure
  - C. Turbinectomy/Turbinates Reduction
  - D. Septoplasty
  - E. Rhinoplasty
  - F. Tonsillectomy
  - G. Adenoidectomy
  - H. Uvulopalatopharyngoplasty
  - I. Laryngoscopy
  - J. Tracheotomy/Tracheostomy
- V. Neck Procedures
  - A. Thyroidectomy
  - B. Parotidectomy
  - C. Radical Neck
  - D. Glossectomy
  - E. Laryngectomy
  - F. TMJ

#### Chapter 35: Neurosurgery

- I. Surgical Anatomy
  - A. Cells of the Nervous System
  - B. Central Nervous System
  - C. Brain
  - D. Ventricular System
  - E. Blood Supply to the Brain
  - F. Vertebral Column
  - G. Spinal Cord
  - H. Cranial Nerves
  - I. Spinal nerves
  - J. Autonomic Nervous System
  - K. Somatic Nervous System
  - L. Peripheral Nerves
- II. Pathology
- III. Perioperative Considerations
  - A. Psychological Considerations
  - B. Room Setup and Equipment
  - C. Instruments
  - D. Implants
  - E. Wound Management
  - F. Anesthesia
  - G. Prepping and Draping
  - H. Team Positioning
- IV. Cranial Procedures
  - A. Burr Holes
  - B. Craniotomy: Tumor Removal

- C. Craniectomy
- D. Cerebral Aneurysm Surgery
- E. Arteriovenous Malformation Resection
- F. Correction of Craniosynostosis
- G. Cranioplasty
- H. Ventriculoperitoneal/Ventricular Shunt
- I. Transsphenoidal Hypophysectomy
- J. Resection of a Vestibular Schwannoma (Acoustic Neuroma)
- K. Stereotactic Surgery
- L. Deep Brain Stimulation
- M. Endoscopic Ventriculoscopy
- N. Microvascular Decompression of Cranial Nerves
- O. Cerebral Revascularization
- V. Spinal Procedures
  - A. Anterior Cervical Discectomy and Fusion
  - B. Posterior Cervical Laminectomy
  - C. Lumbar Laminectomy and Discectomy
  - D. Foraminotomy
  - E. Microdiscectomy
  - F. Lumbar Fusion
  - G. Correction of Scoliosis
  - H. Spinal Tumors
- VI. Neurosurgical Pain Management
  - A. Cordotomy
  - B. Rhizotomy
  - C. Dorsal column Stimulator
- VII. Peripheral Nerve Procedures
  - A. Carpal Tunnel Release
  - B. Ulnar Nerve Transposition
  - C. Peripheral Nerve Resection and Repair

Reviewed by: A. Smith, April 6, 2021