

**Bossier Parish Community College
Master Syllabus**

Course Prefix and Number: STEC 120

Credit Hours: 3

Course Title: Surgical Procedures II

Course Prerequisites: STEC 110, STEC 111, STEC 112

Course Corequisites: STEC 121, STEC 122

Clock Hours: 45 hours lecture

Time Increments: semester

Textbooks: Rothrock, June C. and Alexander, Sherri; Alexander's Surgical Procedures, 1st edition. Fuller, J.; Surgical Technology Principles and Practice, 8th edition. Allhoff, T. and Hinton, D.; Surgical Mayo Setups, 2nd edition. Rutherford, Colleen J; Differentiating Surgical Instruments. Chambers, Karen, L. and Roche, Valerie; Surgical Technology Review, Certification & Professionalism, 2010 edition.

Course Description:

This course covers 7 surgical specialties: ophthalmic, oral/maxillofacial, thoracic and pulmonary, cardiac, neuro, pediatric, and peripheral vascular. For each specialty, methods and principles are taught which include care of supplies and equipment, principles of patient safety, skin preps, patient positioning, and draping the operative site. Selected mock surgeries will be performed in the mock OR lab. 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, textbooks, 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 in various surgical procedures.

To achieve the learning outcomes, the student will

1. analyze and explain the psychological effects and considerations of having eye surgery. (A)
2. practice safe procedures and techniques in eye surgery. (A)
3. describe the anatomy of the eye. (A)
4. explain how to prepare the microscope for use and care for it properly. (A)
5. name and recognize commonly used eye instruments. (A)
6. differentiate the types of ophthalmic drugs and their uses. (A)
7. identify surgical techniques to repair maxillofacial fractures. (A)
8. identify the instrumentation and equipment used in cardiac and pulmonary surgery. (A)
9. explain endoscopic procedures of the lungs and mediastinum. (A)
10. describe the proper method of handling specimens in cardiopulmonary surgery. (A)
11. explain the use of a water-seal chest drainage system. (A)
12. describe common cardiac and pulmonary procedures. (A)
13. identify the anatomical structure and functions of arteries and veins. (A)
14. identify common obstructions of vessels. (A)
15. describe the scheme for performing bypass grafts. (A)
16. identify the goal of peripheral vascular surgery. (A)
17. identify various grafts used for peripheral vascular surgery. (A)
18. read each chapter prior to attending class. (A)
19. describe the anatomy, physiology, and pathology of the brain and the central nervous system. (A)
20. analyze the diagnostic and surgical interventions for a patient undergoing neurological procedures. (A)
21. plan the intraoperative course for a patient undergoing neurological procedures. (A)
22. identify and select proper instrumentation and equipment for neurological procedures. (A)
23. identify how to safely position the patient for neurological procedures. (A)
24. describe the proper care of specimens from neurological procedures. (A)
25. discuss the postoperative considerations for a patient undergoing neurological procedures. (A)
26. analyze and describe the sequence of procedural steps in many neurological procedures. (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%
- scantrons on all tests
- minimum test score of 90% on all medical term quizzes within two attempts
- reading assignments/homework (outline of each chapter, turned in at the start of each chapter) will comprise 20% of total grade
- 80% average on anatomy/physiology quizzes within two attempts
- 80% on mid-term comprehensive exam
- The student is required to take the CST exam prior to graduation

Outcome Assessment Methods: Written exams

Course Grading Scale:

- A- 90% or more of total points with no test score less than 75%
- B- 80% or more of total points with no test score less than 75%
- C- 70% or more of total points with no test score less than 75%
- D- 60% or more of total points with no test score less than 75%
- F- less than 60% of total points or one or more test scores less than 75%

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: \$6.00

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

Disability Services, F254, 6220 East Texas Street, Bossier City, LA 71111

318-678-6511

acao@bpcc.edu

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator

Teri Bashara, Director of Human Resources

Human Resources Office, A-105

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Bossier City, LA 71111

Phone: 318-678-6056

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Course Content Outline:

Chapter 25: Ophthalmic Surgery

- I. Surgical Anatomy
 - A. Orbital Cavity
 - B. Eyelids
 - C. Globe
 - D. Eye Muscles
 - E. Conjunctiva
 - F. Cornea
 - G. Sclera
 - H. Choroid and Ciliary Body
 - I. Iris
 - J. Retina
 - K. Lens
 - L. Anterior and Posterior Chambers
 - M. Lacrimal Apparatus
- II. Refraction
- III. Pathology of the Eye
- IV. Diagnostic Testing
- V. Perioperative Considerations
 - A. Psychological Considerations in Eye Surgery
 - B. Verification of the Operative Site
 - C. Positioning the Patient for Ophthalmic Surgery
 - D. Prepping and Draping
 - E. Anesthesia
 - F. Ophthalmic Drugs
 - G. Instruments
 - H. Equipment and Supplies
- VI. Surgical Techniques in Eye Surgery
 - A. Microsurgery
 - B. Operating Microscope
- VII. Role of the Scrubbed Surgical Technologist
- VIII. Surgical Procedures
 - A. Excision of a Chalazion
 - B. Repair of an Entropion
 - C. Repair of an Ectropion
 - D. Excision of a Pterygium
 - E. Dacryocystorhinostomy
 - F. Lacrimal Duct Probing
 - G. Muscle Resection and Recession
 - H. Penetrating Keratoplasty (Corneal Transplantation)
 - I. Lasik (Laser in Situ Keratomileusis)
 - J. Extracapsular Cataract Extraction (Phacoemulsification)
 - K. Anterior Vitrectomy
 - L. Sclera Buckling Procedure for a Detached Retina

- M. Filtering Procedures and Trabeculectomy
- N. Argon Laser Trabeculoplasty
- O. Orbital Decompression
- P. Enucleation
- Q. Orbital Exenteration

Chapter 27: Oral and Maxillofacial Surgery

- I. Surgical Anatomy
 - A. Bones of the Face
- II. Pathology of the Midface and mandible
- III. Diagnostic Procedures
- IV. Equipment and Instruments
 - A. Power Drill
 - B. Plates and Screws
- V. Prepping and Draping
- VI. Sponges and Dressings
 - A. Sponges
 - B. Dressings
- VII. Surgical Procedures of the Face
 - A. Maxillomandibular Fixation (application of arch bars)
 - B. Open Reduction/Internal Fixation: Midface Fracture
 - C. Open Reduction/Internal Fixation: Frontal Sinus Fracture
 - D. Open Reduction/Internal Fixation: Orbital Floor Fracture
 - E. Open Reduction/Internal Fixation: Mandibular Fracture
- VIII. Oral Surgery
 - A. Dental Implants
 - B. Tooth Extraction
- IX. Orthognathic Procedures
 - A. Mandibular Advancement
 - B. Midface (Maxillary) Advancement
 - C. Temporomandibular Joint Arthroplasty

Chapter 32: Thoracic and Pulmonary Surgery

- I. Surgical Anatomy
 - A. Upper Respiratory Tract
 - B. Pharynx
 - C. Larynx
 - D. Trachea
 - E. Bronchi
 - F. Lungs
- II. Pathology of the Thoracic and Pulmonary Systems
- III. Diagnostic Tests

- A. Pulmonary Function
- B. Laboratory Tests
- C. Imaging Studies
- IV. Perioperative Considerations
 - A. Prepping and Draping
 - B. Instruments
 - C. Closed Chest Drainage
- V. Surgical Procedures
 - A. Insertion of Chest Tubes
 - B. Bronchoscopy
 - C. Rigid Bronchoscopy
 - D. Flexible Bronchoscopy
 - E. Mediastinoscopy
 - F. Thoracoscopy (Video-assisted Thoroscopic Surgery)
 - G. Thoracoscopy: Lung Biopsy
 - H. Lung Volume Reduction Surgery
 - I. Scalene Node Biopsy
 - J. Thoracotomy
 - K. Lobectomy
 - L. Pneumonectomy
 - M. Rib Resection for Thoracic Outlet Syndrome
 - N. Decortications of the Lung
 - O. Lung Transplantation

Chapter 32: Cardiac Surgery

- I. Surgical Anatomy
 - A. Heart
 - B. Heart Valves
 - C. Cardiac Cycle
 - D. Conduction System
- II. Pathology of the Heart
- III. Diagnostic Procedures
 - A. Cardiac Catheterization
- IV. Perioperative Considerations
 - A. Positioning
 - B. Instruments
 - C. Equipment and supplies
 - D. Drugs
- V. Surgical Procedures
 - A. Median Sternotomy
 - B. Cardiopulmonary Bypass
 - C. Sump Catheterization
 - D. Infusion of a Cardioplegic Solution
 - E. Coronary Artery Bypass Grafting
 - F. Transmyocardial Revascularization

- G. Resection of a Left Ventricular Aneurysm
- H. Aortic Valve Replacement
- I. Mitral Valve Repair and Replacement
- J. Resection of an Aneurysm of the Ascending Aorta
- K. Resection of an Aneurysm of the Aortic Arch
- L. Resection of an Aneurysm of the Descending Thoracic Aorta
- M. Endovascular Repair of a Thoracic Aneurysm
- N. Insertion of an Artificial Cardiac Pacemaker
- O. Replacement of a Pacemaker Battery
- P. Implantable Cardioverter Defibrillator
- Q. Surgery for Atrial Fibrillation (Cardiac Ablation)
- R. Pericardial Window
- S. Pericardiectomy
- VI. Heart Failure
 - A. Insertion and Removal of an Intraaortic Balloon catheter
 - B. Ventricular assist Device
 - C. Heart Transplantation.

Chapter 30: Vascular and Microvascular Surgery

- I. Surgical Anatomy
 - A. Structure of Blood Vessels
 - B. Pulmonary and Systemic Circulatory Systems
 - C. Blood Pressure
 - D. Blood Vessels of the Body
 - E. Lymphatic System
- II. Pathology of the Peripheral vascular System
- III. Diagnostic Procedures
 - A. Arterial Plethysmography
 - B. Doppler “Scanning
 - C. Arteriography
 - D. Intravascular Ultrasonography
- IV. Instruments
 - A. Vascular Clamps
 - B. Scissors
 - C. Forceps
 - D. Retractors
 - E. Suction Tips
 - F. Tunnler
- V. Equipment and Supplies
 - A. Sutures
 - B. Vascular Grafts
 - C. Catheters
 - D. Stents
 - E. Vessel Retraction

- F. Drugs
- VI. Techniques in Vascular Surgery
 - A. Endarterectomy
 - B. Vessel Anastomosis
- VII. Surgical Procedures
 - A. Intraoperative Angiography
 - B. Transluminal Angioplasty
 - C. Insertion of a Vena Cava Filter
 - D. Vascular Access for Renal Hemodialysis
 - E. Thrombectomy (Open Procedure)
 - F. Carotid Endarterectomy
 - G. Abdominal Aortic Aneurysm
 - H. Aortofemoral Bypass
 - I. Axillofemoral Bypass
 - J. Femorofemoral Bypass
 - K. In Situ Saphenous Femoropopliteal Bypass
 - L. Femoropopliteal Bypass
 - M. Saphenous Vein Graft
 - N. Management of Varicose Veins
 - O. Above-the-Knee Amputation

Chapter 33: Pediatric Surgery

- I. Physiological and Anatomical Considerations
 - A. Thermoregulation
 - B. Perioperative Interventions to Maintain Normothermia
 - C. Fluid Balance
 - D. Respiratory System and Airway
- II. Pathology
- III. Anesthesia
 - A. Preparation for Anesthesia
 - B. Preoperative Medication and Induction
- IV. Psychosocial Care of the Pediatric Patient
 - A. Developmental Stages of the Child
- V. Safety of the Pediatric Patient
 - A. Safe Handling of Drugs
 - B. Transportation of the Pediatric Patient
 - C. Positioning of the Patient
 - D. Electrosurgery
 - E. Instruments
 - F. Sponges
 - G. Sutures
- VI. Surgical Procedures
 - A. Repair of Cleft Lip
 - B. Repair of a Cleft Palate
 - C. Otoplasty

- D. Resonstruction of the Ear
- E. Correction of Esophageal Atresia and Tracheoesophageal Fistula
- F. Pyloromyotomy
- G. Resection and Pull-Through for Hirschsprung Disease
- H. Bowel Reconstruction for Imperforate Anus
- I. Reduction of Intussusception
- J. Reduction of a Volvulus
- K. Repair of an Omphalocele
- L. Repair of Bladder Exstrophy/Epispadias
- M. Orchiopexy for an Undescended Testicle
- N. Closure of a Patent Ductus Arteriosus
- O. Correction of a Coarctation of the Thoracic Aorta
- P. Correction of Pulmonary Valve Stenosis
- Q. Closure of an Atrial Septal Defect
- R. Closure of a Ventricular Septal Defect
- S. Total Correction of Tetralogy of Fallot
- T. Repair of Pectus Excavatum
- U. Neural Tube Defects
- V. Repair of a Myelomeningocele
- W. Correction of Syndactyly

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, May 23, 2022