SURGICAL TECHNOLOGY PROCEDURES II  
Course Syllabus

Course Number: STAP-0205  
OHLAP Credit: No

OCAS Code: None  
Course Length: 90 Hours  
Career Cluster: Health Science  
Career Pathway: Therapeutic Services  
Career Major(s): Surgical Technologist (Accredited Program)

Pre-requisite(s): Surgical Technology Orientation, Anatomy & Physiology I & II, Core Medical Terminology, Introduction to Surgical Technology, Surgical Patient Care, Essentials of Surgical Asepsis, Surgical Case Management, Microbiology and Wound Healing, Surgical Pharmacology, Surgical Biomedical Science

Course Description: This course is designed to provide instruction in procedures outlined in the Core Curriculum for Surgical Technologists by the Association of Surgical Technologists. The student should be able to apply and demonstrate the concepts related to each of the following surgical procedures: Neurosurgery, Cardiothoracic, Peripheral Vascular, Oral, Maxillofacial, Plastic and Ophthalmic Surgery.

Textbooks:  
Surgical Technology Principles and Practice 5th Ed. by Joanna Kotcher Fuller, Elsevier Sanders (2013).  
Differentiating Surgical Equipment and Supplies, by Colleen J. Rutherful, FA Davis, (2012)

Online Resources:  
Blackboard

Course Objectives:  
A. Discuss anatomy, physiology and pathology of each procedure.¹ 
B. Analyze the diagnostic and surgical interventions related to each procedure.¹ 
C. Demonstrate the selection of supplies, equipment and instrumentation for each procedure.¹ 
D. Identify incisions used for each procedure.¹ 
E. Demonstrate the steps for each procedure.¹ 
F. Discuss the post-operative complications of each procedure.¹ 
G. Discuss preoperative prep routines specific for each procedure.¹ 
H. Identify appropriate patient positioning and draping procedures for each surgical intervention.¹ 
I. Discuss the appropriate post-operative procedure for each surgical intervention.¹ 
J. Identify special considerations and complications for each procedure.¹

¹ ODCTE Objective 
All unmarked objectives are TTC instructor developed
Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and lab practice and performance.
2. Each course must be passed with eighty (80%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.
4. Career Major grades established during coursework are a major criteria in successfully obtaining certification.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit: The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Tulsa Community College. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 3.0 or better.
Chapter Objectives:
Plastic/Reconstruction Surgery

- Describe anatomical structure of the integumentary system
- Identify pressures for “normal” appearances
- Differentiate types of skin grafts and materials
- Identify surgical and suturing techniques
- Understand the use of specialty equipment and supplies
- Define purpose and indications for plastic/reconstructive surgery
- Considerations for prepping and draping
- Considerations for dressings and dressing technique
- Define purpose and indications for plastic/reconstructive surgery
- Considerations for prepping and draping
- Considerations for dressings and dressing technique
- Identify Instrumentation
- Identify Equipment and supplies
- Identify Medications used in Plastic/Reconstructive surgery
- Common sutures used in Plastic/Reconstructive surgery
- Differentiate Grafting materials
- Differentiate Implant materials
- Post-operative considerations
- Specimen considerations/protocol

Content Outline
Plastic/Reconstruction Surgery

Surgical Procedures discussed include but not limited to:

- Assessment of burns - adult and pediatric
- Debridement
- **Skin grafting** – Split thickness, full thickness, dermatomes, mesh graft, medications, donor site care.
- Skin flaps – pedicle flaps with and without microvascular technique.
- Types of graft materials and sources

Scar revisions:

- Excision of lesions/neoplasm – Mohs procedure
- Z-Plasty

Head and face:

- Blepharoplasty
- Brow lift – open and endoscopic
- Malar implants
- Mentoplasty
- Otoplasty
- Rhinoplasty
- Rhytidectomy – open and endoscopic
- Cheioplasty/Palatoplasty
- Dermabrasion/laser skin resurfacing
- ORIF facial fractures

Breast surgery:

- Reduction mammoplasty
- Mastopexy
- Augmentation mammoplasty – cosmetic and post mastectomy
**Chapter Objective Neurosurgery:**

- Identify important anatomical and physiological features of the central and peripheral nervous systems
- Identify the equipment and supplies used during neurosurgery
- Discuss the basic surgical techniques used during spinal surgery
- Discuss the safety precautions taken when prepping a patient for neurosurgery
- Identify instruments used for cranial, spinal and peripheral nerve surgery
- Discuss the positioning and draping used in different types of neurosurgery
- Match neurosurgical pathology to their correct descriptions
- Match common spinal procedures to their correct descriptions

**Content Outline Neurosurgery:**

- Terms and definitions
- Anatomy/pathophysiology review of cranium, nervous systems, cranial nerves
- Indications for neurosurgery
- Instrumentation
- Common sutures used in neurosurgery
- Common medications used in neurosurgery
- Special equipment and supplies
- Considerations for positioning, prepping, & draping
- Post-operative considerations

**Surgical Procedures discussed include but are not limited to:**

- Carpal tunnel release – open and endoscopic
- Ulnar nerve transposition

**Laminectomy:**

- Cervical – anterior, posterior, sitting, with or without fusion instrumentation
- Thoracic – with or without fusion instrumentation
- Lumbar:
  - Discectomy, fusion/fixation, Microdiscectomy
Chapter Objectives
Ophthalmic:

- Describe anatomy of the eye.
- Describe ocular diseases and disorders
- Describe diagnostic tests used in ophthalmology
- Define safe practice and techniques as they apply to eye surgery
- Explain preparations and care of the microscope.
- Identify common eye instruments
- Differentiate types of ophthalmic medications/solutions and their uses.

Content Outline
Ophthalmic:

- Terms and Definitions
- Anatomy of the eye
- Instrumentation
- Special Equipment and Supplies
- Common suture used in eye surgery
- Medications/Solutions
- Positioning, prepping, draping of the patient
- Positioning and draping of microscopes
- Function and draping of Phacoemulsification unit
- Post-operative considerations

Surgical Procedures discussed include but not limited to:

- Chalazion excision
- Dacryocystorhinostomy
- Entropion/Extropion repair
- Enucleation/evisceration
- Cataract extraction – extracapsular, intracapsular
- Iridectomy
- Corneal Transplant
- Scleral buckle
- Strabismus correction – R & R
- Vitrectomy

- Kyphoplasty

Craniotomy:

- Aneurysm repair
- Cranioplasty
- Tumor removal
- Intracranial hemorrhage
- Craniosynostosis repair
- Rhizotomy
- Stereotactic procedures
- VP Shunt
- Ventriculosity
- Transphenoidal hypophysectomy
- Repair meningocele/myelomeningocele

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Chapter Objective
CardioThoracic:

- Review basic anatomy of respiratory system and thoracic cavity
- Describe basic pulmonary pathology
- Discuss purpose and precautions of closed chest drainage
- Identify instrumentation used in cardiothoracic surgeries
- Identify basic surgical techniques of cardiothoracic surgeries
- Discuss pathology associated with cardiothoracic surgeries
- Identify common incisions used in cardiothoracic surgeries
- Explain the rational for cardiopulmonary bypass
- Describe steps in common cardiothoracic surgeries
- Review anatomy and pathophysiology of thoracic cavity and cardiopulmonary system

Content Outline
CardioThoracic:

- Terms for thoracic/cardiac surgery
- Purposes/pathology for thoracic/cardiac surgery and diseases
- Vessel layers
- Heart chambers and valves
- Diagnostic interventions
- Instrumentation
- Medications/solutions
- Considerations for positioning, prepping, and draping patient
- Common sutures used
- Special Equipment and supplies
- Care and Handling of specimens
- Special drains and drainage systems
- Cardiopulmonary bypass machine
- Graft materials

Thoracic surgeries discussed include but not limited to:

Endoscopic procedures
- Bronchoscopy, Flexible and Rigid, Lung biopsy
- Mediastinoscopy, with lymph node sampling;
- Thoracoscopy, lung biopsy, lymph node biopsy

Thoracotomy
- Lobectomy
- Pneumonectomy
- Decortication of the lung
- Wedge resection
- Lung Transplant
- Drainage of Empyema

Pediatric:
- Pectus excavatum – open or instrumentation
- Pectus Cariatum
- Thymectomy
Cardio Procedures:
- CABG – on/off pump
- Endoscopic vein harvesting
- Valve replacements – aortic, mitral; biologic, artificial
- Intra-aortic balloon pump
- LVAD (ventricular assist device)
- ASD/VSD defect repair
- Heart transplant
- Coarctation of aorta
- Pericardial Window
- Thoracic Aneurysm
- Tetralogy of Fallot (pediatric)
- Ventricular aneurysm repair

Minimally Invasive procedures:
- Angioplasty
- Cardiac catheterization
- Insertion pacemaker/Internal defibrillator
- Discuss surgical treatment of atherosclerosis
- Describe medications/solutions used for PV surgery
- Discuss techniques and procedural steps
- Explain principles of grafting
- Identify grafting materials
- Review PV anatomy and pathophysiology
- Terms/definitions
- Identify special equipment and supplies

Peripheral vascular surgeries discussed include but not limited to:
- Endovascular stent grafts – Abdominal aortic aneurysm
- Endograft placement – Abdominal aortic aneurysm
- Angioscopy
- Aortofemoral bypass
- Femoropopliteal bypass
- AV Fistula/AV Shunt
- Carotid endarterectomy
- Venous Access Device Implantation
- Vena Cava devices/Greenfield filter insertion
- Vein ligation/stripping
- Embolectomy

Chapter Objectives
Peripheral Vascular:
- Vessel layers
- Indications for peripheral vascular (PV) surgery
- Sutures used in PV surgery
- Common medications/solutions in PV surgery
- Instrumentation
- Graft materials
- Fogarty catheters
- Bypass locations

Content Outline
Peripheral Vascular: