**ALTAMONT HEALTHCARE**

**SCHOOL CATALOG**

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**Surgical Technician (Tech in Surgery)**

**Course Syllabus**

**Program Description:** This course prepares students to be a scrubbed, gowned, and gloved participant in surgery. He or she acts as primary scrub person who handles sterile instruments, supplies and equipment needed during actual surgeries. The technician is part of the sterile team, along with surgeons, doctors, assistants and nurses in the Operating Room (OR).

The course has a total training time of 800 hours, consisting of 500 classroom hours of both lectures and laboratory work and 300 externship hours.

**Class Sessions:**  The class meets Mondays, Wednesdays and Fridays from 900AM-430PM for lectures and laboratory work. Externship hours are variable depending on hospital assignment.

**Course Objectives**: Upon successful completion of the course, students shall be eligible to take the certification exams for surgical technologists through National Center for Competency Testing (NCCT).

Students will be able to demonstrate use of their knowledge in anatomy, physiology, pharmacology and medical terminology to assist in surgical procedures and patient preparation, maintain a sterile field, thoroughly understand and demonstrate the aseptic surgical technique, set up surgical instruments and drapes, and pass surgical instruments and other sterile supplies to surgeons and assistants during surgery, and lastly, have a working knowledge regarding various energy sources in the perioperative area, such as electricity used for surgery.

**Materials:** Students shall be provided the books Surgical Technology, Principles and Practice, Seventh Edition by Joanna Kotcher Fuller and Surgical Instrumentation for the OR: A Photographic Manual, Ninth Edition by Shirley Tighe. Students will also have access to surgical practice videos, animations, instrument flashcards, medical terminology appendix, interactive review activities and mock certification exams through Elsevier at [www.elsevier.com](http://www.elsevier.com). Various surgical supplies, instruments and equipment shall also be used with each student having 1 major mock set student kit.

**Outline:**

1. Surgical Principles
2. The Surgical Technologist
3. The Healthcare Facility
4. Disaster Preparedness
5. Principles of Aseptic Technique
6. Medical Terminology
7. Anatomy and Physiology
8. Microbiology
9. The Patient
10. Diagnostic and Assessment Procedure
11. Moving, Handling and Positioning the Surgical Patient
12. Surgical Skin Prep and Draping
13. Case Planning and Intraoperative Routine
14. Management of Surgical Wound
15. Anesthesia and Physiological Monitoring
16. Postanesthesia Recovery
17. Death and Dying
18. Surgical Instruments
19. Common Instruments
20. Decontamination and Sterilization
21. Information Technology
22. Perioperative Pharmacology
23. Surgical Technology Practice
24. General Surgery
25. Robotic Assisted Surgery
26. Specialized Surgery
27. Professionalism
28. Communication and Teamwork
29. Laws and Documentation
30. Ethics
31. Administrative Task

**Learning Skills**

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| **Topic****As Numbered** **Above** | **Learning Skills** |
| I | * Understand the development and role of the surgical technologist
* Describe the principles of operating room design
* Identify the common items found in the surgical suite
* Discuss the functions of the work areas in the suite
* Understand common hospital ancillary services
* Define healthcare insurance and chain of command
* Identify healthcare professionals and their roles
* Discuss the different types of disasters and the role of government agencies
* Discuss the four phases of disaster cycle
* Define NIMS and its relationship to state emergency response
* Discuss disaster plans and ethical dilemmas that accompany disasters
* Review the standards and recommendations relating to aseptic technique
* Explain surgical conscience and concepts of barriers and containment
* Describe the importance of surgical attire and personal hygiene
* Define evidence-based practice
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| II | * Understand basic rules of work construction and vocabulary of the body systems
* Discuss medical documentation in medical records and reports
* Communicate with health care professionals using proper medical terminology
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| III | * Recognize the anatomical structures and explain the physiological functions of body systems
* Use knowledge to predict physiological consequences, and use knowledge of function to predict the features of anatomical structures
* Understand the interrelationships within and between anatomical and physiological systems of the body
* Synthesize ideas to make a connection between knowledge of anatomy and physiology and real-world situations, including healthy lifestyle decisions and homeostatic imbalances
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| IV | * Identify different types of microorganisms
* Identify ways on how microorganisms play an important role in human well being
* Demonstrate that microorganisms have indispensible role in the environment
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| V | * Understand patient centered and outcome oriented care
* Discuss human needs under Maslow’s hierarchy of needs
* Understand common psychological needs of the patient and family
* Define spirituality and cultural competence in healthcare
* Describe proper procedure for taking patient’s vital signs
* Document vital signs measurement
* Understand use of electrocardiograph, imaging studies, chemistry tests and cancer screening
* Review standards of practice for surgical prep and draping
* Know the supplies needed for skin prep
* Demonstrate skin prep and draping techniques
* List and define common terms in surgical technique
* Discuss elements of a case plan and preoperative case preparation
* Know four types of surgery and questions for planning
* Know surgical count
* Understand purpose for universal protocol and specimen management during procedure
* Demonstrate instrument handling and passing technique
* Identify types of specimen and methods of caring for specimen
* Understand post operative wound care and its complications
* Understand wound management and concepts relating to wound irrigation, preventing injuries, retraction, autotransfusion, suture and its properties
* Discuss the types and sizing system used for sutures
* Explain suture techniques
* Identify surgical needles and safety precautions
* Describe components of anesthesia evaluation, basic equipment and airway management
* Discuss anesthesia selection process
* Explain preparation of the patient for anesthesia including physiological monitoring
* Define general anesthesia and know induction, maintenance and emergence
* Discuss dissociative anesthesia and conscious sedation
* Role of technician during use of anesthesia
* List common anesthesia emergencies
* Describe the layout of PACU
* List elements of patient assessment
* Discuss types of postoperative complications and importance of patient education
* Describe Glasgow Coma Scale
* Define end of life period and brain dead
* Describe stages of dying
* Discuss ways to provide comfort and support to patients in the dying period
* Understand the conflicts and stress families face during this period
* Discuss ethical issues including cultural competence
* Discuss organ recovery
* Give examples of a coroner’s case
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| VI | * Understand how instruments are used in the surgery room
* Identify types and finishes of surgical instruments
* Differentiate types of instruments by design and by function
* Classify instruments by tissue type
* Describe how to insect instruments
* Differentiate disinfection from sterilization
* Describe steps of reprocessing instruments
* Explain Spaulding’s classification for selecting reprocessing system
* Describe the principles and process of decontamination
* Know proper wrapping instruments and use of sterilizers
* Recognize hazards with use of chemical disinfectants
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| VII | * List sources of drug and explain drug resources available
* Understand how drugs are named and formulated
* Discuss drug regulation and ways to prevent drug error
* List and use seven rights of the medication process
* Interpret component of drug label and recognize elements of a prescription
* Apply correct protocol for receiving drugs on the sterile field
* Understand role of the technologist in handling drugs
* Describe the principles of pharmacokinetics and pharmacodynamics
* Convert values within and between measuring systems
* Understand drug administration routes
* Know different drug categories
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| VIII | * Identify the anatomical regions and structures of the various body parts in surgery
* Describe common procedures and basic pathology relating to various body parts in surgery
* Become familiar with case planning and techniques relating to general surgery
* Become familiar with case planning and techniques in using minimally invasive endoscopic and robotic-assisted surgery
* Become familiar with case planning and techniques relating to gynecological and obstetrical surgery
* Become familiar with case planning and techniques relating to ophthalmic surgery
* Become familiar with case planning and techniques relating to ear, nose, pharynx and larynx
* Become familiar with case planning and techniques relating to genitourinary surgery
* Become familiar with case planning and techniques relating to orthopedic surgery
* Become familiar with case planning and techniques relating to cardiac surgery
* Become familiar with case planning and techniques relating to thoracic and pulmonary surgery
* Become familiar with case planning and techniques relating to plastic and reconstructive surgery
* Become familiar with case planning and techniques relating to pediatric surgery
* Become familiar with case planning and techniques relating to neurosurgery
* Become familiar with case planning and techniques relating to emergency trauma surgery
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| IX | * Describe the elements of communication including content and tone of communication
* Discuss elements of good communication
* Discuss the barriers of communication
* Define sexual harassment
* Explain importance of teamwork
* Differentiate law, standards of practice, and code of conduct
* Identify areas of negligence in perioperative cases
* Discuss importance of documentation
* Explain informed consent
* List and describe types of advance care directives
* Discuss ethics as applied to surgical technologist
* Describe issues involving both legal and ethical issues
* Define and discuss ethical dilemmas
* Become familiar with administrative work in office
* Be familiar with office technology
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**Assessments:** Students shall expect the following:

* Written examinations shall be given to the students at the end of a chapter or series of chapters.
* Practical exercises shall be given when appropriate as determined by the instructor.
* Individual and class projects shall also be assigned when appropriate as determined by the instructor.
* A comprehensive final exam shall also be given at the end of the course.
* Throughout the class session, students shall be required to do chapter outlines and assignments.

**Externship**: Externship is a requirement in this course as students need Critical Skills Competency prior to certification. Pursuant to NCCT guidelines, students are allowed up to two years from date of testing for completion of case documentation which shall include a minimum of 50 scrubs in general surgeries, 20 scrubs in orthopedic surgeries and 55 scrubs in other surgeries.