

## ASSOCIATE OF APPLIED SCIENCE IN SURGICAL TECHNOLOGY (ST AAS)

1442 clock hours/91 Quarter Credits/77 weeks (Total time to complete the program may vary based on school holidays and breaks)

### **Program Objective:**

The Surgical Technology program is a 1442-hour Associate of Applied Science comprehensive course of study that combines theory and clinical practice. The curriculum is designed to provide qualified individuals an opportunity to acquire the knowledge, attitudes and skills that will enable them to become safe and competent practitioners of Surgical Technology.

The program's curriculum was designed to meet current with industry standards, and the demands of the communities of interest, and ensures that students obtain appropriate hands-on training in the cognitive, psychomotor and affective learning domains that enables them to be competent, entry-level surgical technologists and successfully obtain employment in a number of health care facilities including hospitals, medical centers, and public and private surgical centers. The program includes a mandatory 600-hour Surgical Technology Externship and 20 hours of test preparation that must be completed prior to graduation.

It is a mandatory requirement of the program that students take the Certified Surgical Technology (CST) Examination given by the National Board of Surgical Technology and Surgical Assisting (NBSTSA) prior to completion of the ST program. The curriculum incorporates the CST Examination topics and is designed to prepare students to pass the examination.

Certification is voluntary in the state of California. However, the choice to become certified exhibits pride in the profession, the desire to be recognized for mastery of scientific principles, as well as an ongoing commitment to quality patient care. Certification is a means for upward mobility, a condition for employment, a route to higher pay, and a source of recognition nationwide. Approved candidates who take and pass the CST examination are authorized to use the initials CST as long as they maintain certification currency.

Detailed information, including eligibility requirements, fees, application form(s), etc., on how to apply for CST certification is available through the National Board of Surgical Technology and Surgical Assisting (<https://www.nbstsa.org/cst-certification>).

This program meets the state educational requirements for mandatory or voluntary licensure or certification in the state of California, as applicable. CBD College has not made a determination regarding whether the program's curriculum meets the state educational requirements for licensure or certification in any other state.

The entirety of this educational program is delivered by CBD College. This institution has not entered into a written arrangement under which an entity other than the institution itself provides all or part of the educational program.

The educational delivery of the AAS in ST program is blended (a combination of residential and distance education learning).

Upon successful completion of the program, graduates may obtain employment as:

- Surgical Technologist (CIP # 51.0909; O-NET # 29-2055.00)

## Program Curriculum

Module #	Course #	Course Title	Week #	Lecture Hours	Lab Hours	Clinical Hours	Total Hours	Credits
I	BIO 101	Anatomy and Physiology	1-11	70	20	0	90	8
	ENG 101	Introduction to Oral & Written Communication		40	0	0	40	4
	MT 101	Medical Terminology		40	0	0	40	4
II	ST 200	Surgical Technology Theory I	12-22	80	0	0	80	8
	PSY 101	Introduction to Psychology		32	0	0	32	3
	ST 210	Microbiology for Surgical Technologists		30	0	0	30	3
III	ST 300	Surgical Technology Theory II	23-33	80	0	0	80	8
	MTH 101	College Math		40	0	0	40	4
	ST 310	Pharmacology for Surgical Technologists		30	0	0	30	3
IV	ST 400	Surgical Procedures I	34-44	60	0	0	60	6
	ST 410	Surgical Lab I		0	120	0	120	6
V	ST 500	Surgical Procedures II	45-55	60	0	0	60	6
	ST 510	Surgical Lab II		0	120	0	120	6
VI	ST 600	Surgical Technology Clinical I	56-66	0	0	360	360	12
VII	ST 700	Surgical Technology Clinical II	67-77	0	0	240	240	8
	ST 710	Surgical Technology Clinical Review		20	0	0	20	2
<b>TOTAL</b>			<b>77</b>	<b>582</b>	<b>260</b>	<b>600</b>	<b>1442</b>	<b>91</b>

Note: one clock hour is defined as a 60-minute span of time in which 50 minutes is devoted to actual class instruction, with the remaining portion designated as a break.

## **AAS in ST Course Descriptions:**

### **MODULE I BIO 101 – ANATOMY AND PHYSIOLOGY**

**Prerequisites:** None, Co-requisite: Concurrent Module I Courses.

*Quarter Credits: 8*

This course emphasizes the principles of human anatomy and includes overview of all body systems, organs, tissues and cells with focus on major biochemical molecular and cellular biology theories. Topic dealing with the nature of science, human genetics and development are included.

### **MODULE I ENG 101 – INTRODUCTION TO ORAL AND WRITTEN COMMUNICATION**

**Prerequisites:** None, Co-requisite: Concurrent Module I Courses.

*Quarter Credits: 4*

This introductory course is designed to develop skill in all aspects of communication as a member of a healthcare team. The course enables students to develop skills in written, verbal and non-verbal communication, emphasizing styles and methods appropriate to the audience. The focus is on preparing students to exchange information with patients and coworkers, make oral and written presentations, and select effective and timely methods of communication.

### **MODULE I MT 101 – MEDICAL TERMINOLOGY**

**Prerequisites:** None, Co-requisite: Concurrent Module I Courses.

*Quarter Credits: 4*

This course introduces medical terminology, which includes basic word structure, anatomical terms, terminology used to describe organ systems, body structure, medical diagnoses, and procedures. Students also receive instruction in the correct pronunciation of medical terms.

### **MODULE II ST 200 – SURGICAL TECHNOLOGY THEORY I**

**Prerequisites:** Module I Courses, Co-requisite: Concurrent Module II Courses.

*Quarter Credits: 8*

This theory course offers students a survey of fundamental theory and concepts for surgical technologists. This course orients students to surgical technology and provides comprehensive knowledge of patient care concepts, as well as personal and professional relationships in surgical technology.

It includes analysis of the legal concepts that pertain to surgical technology, including comparing and contrasting criminal and civil liabilities and consequences pertaining to each. Students analyze the scope of practice issues as they relate to surgical technology. Students are introduced to principles and concepts basic to understanding the surgical patient and human behavior, and learn to assess and distinguish the physical, spiritual, and psychological needs of the patient in surgery. The special population patient will be covered in this course such as, but not limited to the: Geriatric, Pediatric, Pregnant, Immunocompromised, Trauma and Diabetic Patient. Additionally, this course introduces the physical environment of the operating room as well as safety precautions. The various roles that the Surgical Technologist can fulfill during an all-hazards event will be discussed.

The student is introduced to computer hardware and software programs. Emphasis is placed on the development of word processing skills, which include techniques for creating, editing, saving and printing documents. This course also introduces the student to computers, lasers, principles of electricity and surgical robotics. Additionally, students are familiarized with decontamination, disinfection and sterilization and the appropriate use of each. The course will teach the student the ability to follow the principles of asepsis and the practice of sterile technique.

## MODULE II PSY 101 – INTRODUCTION TO PSYCHOLOGY

**Prerequisites:** None, Co-requisite: Concurrent Module II Courses.

*Quarter Credits: 3*

This course presents a survey of the field of general psychology and a study of the native and acquired controls of human behavior, with emphasis on the mental process and the development of personality.

## MODULE II ST 210 – MICROBIOLOGY FOR SURGICAL TECHNOLOGISTS

**Prerequisites:** Module I Courses, Co-requisite: Concurrent Module II Courses.

*Quarter Credits: 3*

This course is a study of basic microbiology, infection control, and disease processes of the body's defense mechanism to diseases and pathogens associated with surgical site infection. Upon completion of this course, students should be able to understand general characteristics of microbes, understand pathogens associated with surgical site infection, understand prevention of disease transmission, analyze factors that increase risk of surgical site infection, and discuss the importance of knowing blood borne pathogens.

## MODULE III ST 300 – SURGICAL TECHNOLOGY THEORY II

**Prerequisites:** Module I-II Courses, Co-requisite: Concurrent Module III Courses. *Quarter Credits: 8*

This course introduces students to the relationship between instrumentation, equipment, and supplies. Knowledge and skill in various surgical instrumentation, classifications, common names and usage are evaluated. Students learn the solutions for surgical preparation, including transferring, transporting, positioning, and draping patients while maintaining a surgical environment. Students also learn the proper technique for catheterization of both male and female patients

Students are introduced to case management and its three phases: preoperative, intraoperative, and postoperative. Students will learn to prepare a sterile field, gather and pass instruments and supplies, and anticipate the needs of the surgeon and team members. Students will also learn the importance of intraoperative communication. In addition, students are provided with the understanding of hemostasis, wound healing, possible complications of wound healing, classifications of surgical wounds, factors that influence healing and the manner in which they affect the healing process. The course will introduce most commonly used sutures as well as stapling devices and their usage.

Additionally, students are introduced to diagnostic procedures, including taking patients' vital signs and documenting vital signs. Students will have the opportunity to learn to use an electrocardiograph. Students will have the opportunity to learn about commonly used imaging studies. Students will have the opportunity to learn the basic blood and urine chemistry tests and different methods of tissue biopsy and specimen. Students will have the opportunity to learn the effects of malignancy on the body and discuss cancer screening.

## MODULE III MTH 101 – COLLEGE MATH

**Prerequisites:** None, Co-requisite: Concurrent Module III Courses.

*Quarter Credits: 4*

This course is designed primarily for students who know the fundamentals of arithmetic and have had little or no background in algebra. The course strengthens the student's arithmetic and informal geometry skills and provides an introduction to the abstractions of algebra using fundamental principles of rational numbers, order of operations, and solution of linear equations. Upon course completion, the student will be able to solve mathematical problems applicable to theory and practice of diagnostic medical sonography.

## MODULE III ST 310 – PHARMACOLOGY FOR SURGICAL TECHNOLOGISTS

**Prerequisites:** Module I-II Courses, Co-requisite: Concurrent Module III Courses. *Quarter Credits: 3*

This course is the study of drugs with emphasis on concepts related to steps in the drug cycles and side effects. Students will learn major classifications of drugs and usual drug choices for selected diseases and pathological conditions. They will learn appropriate terms, abbreviations, equivalents and math concepts.

#### MODULE IV ST 400 – SURGICAL PROCEDURES I

**Prerequisites:** Module I-III Courses, Co-requisite: Concurrent Module IV Courses. *Quarter Credits: 6*

This course provides comprehensive knowledge, understanding, and skills for the Surgical Technologist in the following specific procedures: 1) minimal invasive, endoscopic, robotic and general surgery; 2) pregnancy, labor and delivery, including monitoring, role of the surgical technologist during natural or Cesarean delivery, episiotomy, perineal laceration and incompetent cervix, OB/GYN and urological procedures, renal procedures such as a lithotripsy, nephrectomy, and kidney transplant; 3) ophthalmology and ENT; 4) plastic, reconstructive and oral maxillofacial surgical procedures.

#### MODULE IV ST 410 – SURGICAL LAB I

**Prerequisites:** Module I-III Courses, Co-requisite: Concurrent Module IV Courses. *Quarter Credits: 6*

This course is designed to provide comprehensive knowledge and skills for specific surgical procedures for the Surgical Technologist, including: general, OB/GYN and genitourinary and urological surgery, ENT surgery, plastic and reconstructive surgery, ophthalmic and maxillofacial surgery. This course also introduces surgical technology candidates to basic clinical skills, CPR, HIV/AIDS, and OSHA. Emphasis is placed on measurement and recording of temperature, pulse, respiration, blood pressure, height, and weight. Included is a CPR session taught by a certified instructor.

#### MODULE V ST 500 – SURGICAL PROCEDURES II

**Prerequisites:** Module I-IV Courses, Co-requisite: Concurrent Module V Courses. *Quarter Credits: 6*

This course is designed to provide comprehensive knowledge and skills for specific surgical procedures for the Surgical Technologist, including vascular, peripheral vascular and cardiothoracic surgical procedures, and orthopedic, neurological, and pediatric surgical procedures. This course also addresses Career Development skills assessing students' personal strengths, career expectations, developing job search techniques and proper resume preparation.

#### MODULE V ST 510 – SURGICAL LAB II

**Prerequisites:** Module I-IV Courses, Co-requisite: Concurrent Module V Courses. *Quarter Credits: 6*

This course provides comprehensive knowledge and skills for specific surgical procedures in Cardiothoracic surgery, Peripheral Vascular surgery, Orthopedic surgery and Pediatric surgery, surgery procedures. Additionally, students demonstrate a range of surgical procedures before entering to their Clinical Externship Experience.

#### MODULE VI ST 600 – SURGICAL TECHNOLOGY CLINICAL I

**Prerequisites:** Module I-V Courses.

*Quarter Credits: 12*

This course is conducted in a hospital setting and provides students a clinical experience with a variety of perioperative assignments. Emphasis is placed on the scrub and circulating roles of the surgical technologist, including aseptic technique and basic care presentation for selected surgical procedures. Students will observe, take part in surgical procedures and work as a member of the surgical team.

#### MODULE VII ST 700 – SURGICAL TECHNOLOGY CLINICAL II

**Prerequisites:** Module I-VI Courses, Co-requisite: Concurrent Module VII Courses. *Quarter Credits: 8*

This course is conducted in a surgical center setting and provides students a clinical experience with a variety of perioperative assignments, applying and fine-tuning the skills learned in ST 600. Emphasis is placed on the scrub and circulating roles of the surgical technologist, including aseptic technique and basic care presentation

for selected surgical procedures. Students will observe, take part in surgical procedures and work as a member of the surgical team.

## MODULE VII ST 710 – SURGICAL TECHNOLOGY CLINICAL REVIEW

**Prerequisites:** Module I-VI Courses, Co-requisite: Concurrent Module VII Courses. *Quarter Credits: 2*

The course is designed and offered for all students in order to prepare them for taking the National Surgical Technology Certification Exam.

### ***ST EVALUATION/PROGRESSION POLICY***

The CBD ST program is a modular program. All students are admitted as a cohort and the curriculum is designed so that students will complete all of the required courses within 7 Modules. A student must pass all courses in Module I to progress to Module II, must pass all courses in Module II to progress to Module III, etc. A student must pass all Modules to be able to graduate. Each didactic course for all Modules must be passed with a 75% grade point average or higher in lab and theory, and clinical courses with a Pass score. In order to successfully complete Module V students need to pass the Final Lab Practicum and a written Final exam. If a student fails a course at some point in the sequence, they will have a chance to repeat a Module.

### ***ST SKILLS LABORATORY***

The campus skills laboratory is designed to provide students with assignments to learn the skills necessary for hospital work. Skills should be practiced in the skills laboratory prior to providing skills in the hospital settings.

All surgical technology students are permitted to use the skills lab with their assigned instructors. Food and drinks are not allowed inside the skills laboratory.

All supplies should be handled with care and replaced in their storage areas after use. Items requiring replacement or reordering should be reported to the instructor daily or as needed. Mannequins should be handled with care and not have any tape applied directly.

All students are to participate in the maintenance of the campus skills lab.

Students are to wear their clinical uniforms while working in the skills lab. Shoes should be closed toe, low-heeled and clothing should be safe without strings or ties that may become tangled and cause harm to the student or to others.

Always be considerate of others when working in the skills lab.

### ***ST CLINICAL EVALUATION METHOD***

Clinical performance is evaluated on a “pass/fail” designation, based upon successful completion of the clinical objectives.

Students with a “fail” grade in any of the skills will meet with the Clinical Coordinator and/or Program Director and receive a plan for improvement, which may include but is not limited to Individual/group tutorial in the campus skills lab.

### **Completion of the clinical module**

Successful completion of the clinical module requires:

- completion of all required 600 hours (Maximum 40 hrs./week).
- completion of at least 120 cases.
- a pass grade on the final evaluation.
- 20 hours of Board Exam Preparation and a pass grade on the mock exam.

## ST EQUIPMENT AND MATERIALS

- AESOP 1000 Robot
- ALM Surgical Light
- AMSCO 1040 Surgical Table
- AMSCO Surgical Table
- Anesthesia Machine
- Basic Eye Set
- Basic Major Set
- Basic Minor Set
- Birtcher ABC Electrosurgical Generator
- Candy Cane Stirrups with 4 Clamps
- Carr X-Ray Viewing Box
- Castle Surgical Light
- Cataract Set
- D&C Tray
- DVD Player (2)
- Emergency Eyewash Station
- Gallbladder Set
- H&N Tray
- Hand Surgery Board
- Hysterectomy Tray
- Laminectomy Set
- Laparoscopy Instruments
- Laparoscopic Tray
- Leibinger Mandible Fracture Combo Set
- Major bone Set
- Manikin
- McKesson IV Pole
- Minor Bone Set
- Multinex Plus Datascope
- Ohmeda 5500 Airway Pressure Monitor
- Ohmeda 7000 Ventilator
- Oxygen Monitor
- Pedigo Back Table
- Pedigo Kick Bucket
- Pedigo Mayo Stand
- Pedigo Ring Stand-Single, Double
- Pedigo Step Stool
- Quantum 3000 Endoscopy Light Source
- Steris Scrub Sink
- Storz Endoscope Tricam SL NTSC
- Suctioning Unit
- Televisions (2)
- Thoracic Set
- Tonsillectomy and Adenoidectomy Set
- Tracheostomy Tray
- Vascular Set
- White Board

### Books:

- *College English and Business Communication*
- *Hole's Human Anatomy & Physiology*
- *Basic College Mathematics – ALEKS 360*
- *Psychology and Your Life with P.O.W.E.R. Learning*
- *Essentials of Medical Language*
- *Surgical Technology: Principles and Practice – Textbook and Workbook*
- *Surgical Equipment and Supplies*
- *Differentiating Surgical Instruments*
- *Surgical Notes: A Pocket Survival Guide for the Operating Room*
- *Pearson's Surgical Technology Exam Review*