2010 Mississippi Curriculum Framework

Postsecondary Surgical Technology

(Program CIP: 51.0909 – Surgical Technology/Technologist)

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Standards in this document are based on information from the following organizations:

Standards Based on the Core Curriculum for Surgical Technology	Reprinted with permission from the Association of Surgical Technologists.
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Preface

Surgical Technology Research Synopsis

Surgical technicians, scrub tech, and operation room technicians (OR Techs) assist in surgery under the supervision of surgeons, registered nurses, or other surgical personnel. They prepare the room for surgery by laying out instruments and equipment. They are responsible for the assembly, maintenance, and sterilization of surgical equipment and supplies. In addition to the maintenance and care for surgical equipment, surgical technicians prepare patients for surgery as well by shaving and sterilizing incision cites. During surgery, technologists pass instruments and other sterile supplies to surgeons and surgical assistants. They may hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Surgical technologists help prepare, care for, and dispose of specimens taken for laboratory analysis and help apply dressings. Some operate sterilizers, lights, or suction machines and help operate diagnostic equipment. After an operation, surgical technologists may help transfer patients to the recovery room and clean and restock the operating room (US Bureau of Labor Statistics, 2010).

Articles, books, Web sites, and other materials listed at the end of each course were considered during the revision process and were especially useful in providing insight into trends and issues in the field. These references are suggested for use by instructors and students during the study of the topics outlined.

Industry advisory team members from colleges throughout the state were asked to give input related to changes to be made to the curriculum framework. Specific comments related to soft skills needed in this program included punctuality, attentiveness, professionalism, adaptability, and initiative. Occupational-specific skills stated included knowledge of sterile technique, surgical instruments, medical terminology, and anatomy, the ability to handle special drugs and solutions, and being adaptable to the needs of the surgeon and surgery team. Safety practices emphasized include maintaining a sterile field, infection control, proper handling of sharps, radiation safety, and universal precautions.

Needs of the Future Workforce

There were over 91,000 surgical technologists employed in the United States in 2009 (EMSI, 2009). Hospitals are and will continue to be the top employers of surgical technologists although opportunities will be available in other establishments (US Bureau of Labor Statistics, 2009). The surgical technology occupation is projected to have much faster than average growth over the projection period in the United States, 24%, and in Mississippi, 26% (EMSI, 2009). Job prospects will be good for individuals with certifications or associate degrees as hospitals seek to fill open positions as well as replacements (EMSI, 2009; US Bureau of Labor Statistics, 2009).

Surgical Technology Employment Projections and Earnings

Region	2009 Jobs	2019 Jobs	Change	% Change	Current Median Hourly

					Earnings
Regional Total	1,087	1,366	279	26%	$15.13
National Total	91,128	112,930	21,802	24%	$18.61

Source: EMSI Complete Employment - 4th Quarter 2009

Curriculum

The following national standards were referenced in each course of the curriculum:

- *CTB/McGraw-Hill LLC Tests of Adult Basic Education, forms 7 and 8 Academic Standards*
- *21st Century Skills*
- *Standards Based on the Core Curriculum for Surgical Technology*

Industry and instructor comments, along with current research, were considered by the curriculum revision team during the revision process; and changes were made as needed and appropriate. Many of the skills and topics noted in the research were already included in the curriculum framework. Specific changes made to the curriculum at the February 23–24, 2010, curriculum revision meeting included the following:

- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- Aligned standards were reviewed to ensure accuracy and appropriateness.
- The Recommended Tools and Equipment list was updated.
- An articulation agreement between Secondary Allied Health and Postsecondary Surgical Technology was formulated and appears in detail later in this section.
- The suggested references for each course were updated.
- The clock hours for Principles of Surgical Technique were changed from 1-hr lecture, 10-hr lab to become 2-hr lecture, 8-hr lab.
- Verbiage was added to the corequisite requirements for Surgical Microbiology, Basic and Related Surgical Procedures, Specialized Surgical Procedures, and Advanced Surgical Procedures allow for variance of the course sequencing among different programs.

Assessment

Students will be assessed using the *Certifying Exam for Surgical Technologists given by the National Board of Surgical Technology and Surgical Assisting (NBSTSA).*

Best Practices

Teachers are expected to use a wide variety of teaching strategies throughout the curriculum to instruct competencies in various methods. Teachers should develop strategies that reflect academic achievement, problem solving, and industry needs for daily use in the classroom.

Professional Learning

It is suggested that instructors participate in professional learning related to the following concepts:

- Continuing education and instruction in endoscopic and robotic procedures
- How to use the program Blackboard site (or related learning management system)
- Differentiated instruction – To learn more about differentiated instruction, please go to http://www.paec.org/teacher2teacher/additional_subjects.html, and click on Differentiated Instruction. Work through this online course, and review the additional resources.

Articulation
Articulation credit from Secondary Allied Health to Postsecondary Surgical Technology will be awarded beginning with the fall semester of 2010. Both years of the Secondary Allied Health program are required to be articulated to the Postsecondary Surgical Technology program.

Secondary Courses to be Articulated	Postsecondary Courses Articulated
Both years of the Secondary Allied Health (CIP: 51.0000)	Medical Office Terminology I (BOT 1613)

Statewide Guidelines on Articulated Credit

Eligibility
- To be eligible for articulated credit, a student must do the following:
  - Complete the articulated Secondary Vocational Program.
  - Score 80% or higher on the Mississippi Career Planning and Assessment System (MS CPAS) in his or her secondary program of study.
- To be awarded articulated credit, a student must do the following:
  - Complete application for articulated credit at the community or junior college.
  - Enroll in the community or junior college within 18 months of graduation.
  - Successfully complete 12 non-developmental career/technical or academic credit hours in the corresponding articulated postsecondary career–technical program of study.

How MS CPAS will be documented
- The Research and Curriculum Unit of Mississippi State University will provide the SBCJC a list of all secondary CTE students scoring at or above the 80 percentile for the articulated programs.
- The SBCJC will forward the list of students eligible for articulated credit to the colleges.

Transcripting of Articulated Credit
- Students must complete 12 non-developmental career/technical or academic credit hours in the articulated postsecondary career–technical program of study before the articulated credit is transcripted.
- No grade will be given on the transcript for articulated courses; only hours granted will be transcripted (thus resulting in no change in quality points).

Time Limit
- MS CPAS scores will be accepted to demonstrate competencies for up to 18 months after high school graduation.

Cost
- No costs will be assessed on hours earned through articulated credit.

Foreword

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Vocational–technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact local vocational–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. The need for these types of skills has been recognized for some time, and the 21st Century Skills are adapted in part from the 1991 report from the U.S. Secretary of Labor's Commission on Achieving Necessary Skills (SCANS). Another important aspect of learning and working in the 21st century involves technology skills, and the International Society for Technology in Education, developer of the National Educational Technology Standards (NETS), was a strategic partner in the Partnership for 21st Century Skills.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focus on the development of occupational competencies. Each vocational–technical course in this sequence has been written using a common format, which includes the following components:

- Course Name – A common name that will be used by all community and junior colleges in reporting students

- Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students

- Classification – Courses may be classified as the following:
    - Vocational–technical core – A required vocational–technical course for all students

  - Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
  - Vocational–technical elective – An elective vocational–technical course
  - Related academic course – An academic course that provides academic skills and knowledge directly related to the program area
  - Academic core – An academic course that is required as part of the requirements for an associate's degree

- Description – A short narrative that includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester

- Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course

- Corequisites – A listing of courses that may be taken while enrolled in the course

- Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and of the suggested student objectives that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:
  - Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
  - Activities that develop a higher level of mastery on the existing competencies and suggested objectives
  - Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed or revised
  - Activities that implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary vocational–technical programs
  - Individualized learning activities, including work-site learning activities, to better prepare individuals in the courses for their chosen occupational areas

- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.

- Programs that offer an Associate of Applied Science degree must include a minimum 15-semester-credit-hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
    - 3 semester credit hours — Math/Science Elective
    - 3 semester credit hours — Written Communications Elective
    - 3 semester credit hours — Oral Communications Elective
    - 3 semester credit hours — Humanities/Fine Arts Elective
    - 3 semester credit hours — Social/Behavioral Science Elective

  It is recommended that courses in the academic core be spaced out over the entire length of the program so that students complete some academic and vocational–technical courses each semester. Each community or junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- In instances in which secondary programs are directly related to community and junior college programs, competencies and suggested objectives from the high school programs are listed as baseline competencies. These competencies and objectives reflect skills and knowledge that are directly related to the community and junior college vocational–technical program. In adopting the curriculum framework, each community or junior college is asked to give assurances that:
    - Students who can demonstrate mastery of the baseline competencies do not receive duplicate instruction and
    - Students who cannot demonstrate mastery of this content will be given the opportunity to do so.

- The roles of the baseline competencies are to do the following:
    - Assist community and junior college personnel in developing articulation agreements with high schools.
    - Ensure that all community and junior college courses provide a higher level of instruction than their secondary counterparts.

- The baseline competencies may be taught as special introduction courses for 3 to 6 semester hours of institutional credit that will not count toward associate degree requirements. Community and junior colleges may choose to integrate the baseline competencies into ongoing courses in lieu of offering the introduction courses or may offer the competencies through special projects or individualized instruction methods.

- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area.

In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

- Adding new competencies and suggested objectives
- Revising or extending the suggested objectives for individual competencies
- Integrating baseline competencies from associated high school programs

- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the State Board for Community and Junior Colleges [SBCJC] of the change)

In addition, the curriculum framework as a whole may be customized by doing the following:

- Resequencing courses within the suggested course sequence
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (with SBCJC approval)
- Utilizing the technical elective options in many of the curricula to customize programs

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Program Description

Surgical Technology is an instructional program that prepares an individual to serve as a member of the surgical team to work with surgeons, anesthesiologists, certified registered nurse anesthetists, registered nurses, and other surgical personnel in delivering patient care and assuming appropriate responsibilities before, during, and after surgery. This program includes the education of all aspects of surgical technology including the role of second assistant and circulator.

Graduates of the 12-month program will be awarded the Certificate of Surgical Technology. The Associate of Applied Science Degree in Surgical Technology will be awarded to the successful graduate of the 24-month program. Qualified graduates will be required to apply to the National Board of Surgical Technology and Surgical Assisting (formerly the LCC-ST) to become a Certified Surgical Technologist.

Industry standards are based on the *Core Curriculum for Surgical Technology*.

Suggested Course Sequence*
Surgical Technology

Baseline Competencies for Surgical Technology**

FIRST YEAR (CERTIFICATE)

3 sch	Fundamentals of Surgical Technology (SUT 1113)
6 sch	Principles of Surgical Technique (SUT 1216)
4 sch	Surgical Anatomy (SUT 1314)
3 sch	Surgical Microbiology (SUT 1413)
3 sch	Written Communications Elective
19 sch	

8 sch	Basic and Related Surgical Procedures (SUT 1518)
8 sch	Specialized Surgical Procedures (SUT 1528)
16 sch	

SUMMER TERM (8 weeks)

8 sch Advanced Surgical Procedures (SUT 1538)

SECOND YEAR (TECHNICAL)

3 sch	Oral Communications Elective
3 sch	Humanities/Fine Arts Elective
3 sch	Approved Electives****
4 sch	Anatomy and Physiology I (BIO 1514 or 2514)***
3 sch	Math/Science Elective
16 sch	

4 sch	Microbiology (BIO 2924)
3 sch	Social/Behavioral Science Elective
3 sch	Approved Electives****
4 sch	Anatomy and Physiology II (BIO 1524 or 2524)***
14 sch	

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Allied Health program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

*** Each institution can decide locally which Anatomy and Physiology sequence to accept based on its college requirements.

****APPROVED ELECTIVES

General Chemistry I (CHE 1213) with General Chemistry Laboratory I (CHE 1211)
General Biology I (BIO 1134)
General Biology II (BIO 1144)
Algebra (MAT 1313 or higher)
Child Psychology (EPY 2513)
Adolescent Psychology (EPY 2523)
Human Growth and Development (EPY 2533)
Nutrition (FCS 1253)
Personal and Community Health I (HPR 1213)
Personal and Community Health II (HPR 1223)
Introduction to Sociology (SOC 2113)
Marriage and Family (SOC 2143)
Certification and Role Transition (SUT 1703)
Concepts of Microcomputer Applications (CPT 1113)
Computer Concepts (CSC 1113)
Business Management and Microcomputers (BAD 2533)
General Psychology (PSY 1513)
Medical Office Terminology I (BOT 1613)
Medical Office Terminology II (BOT 1623)
First Aid/CPR (HPR 2213)

Surgical Technology Courses

Course Name: Fundamentals of Surgical Technology

Course Abbreviation: SUT 1113

Classification: Vocational–Technical Core

Description: This is a basic introductory course including hospital and surgical suite organization and environment, history, legal responsibilities, terminology, interpersonal relationships, and biomedical sciences. (3 sch: 3-hr lecture)

Corequisites: All first semester courses

Competencies and Suggested Objectives
1. Interpret a job description for a surgical technologist. SGT 2, SGT 5, SGT 6, SGT 8, SGT 9 a. Using the Internet, trace the history, development, education, certification, and role of the surgical technologist. (DOK 1) b. Describe the physical characteristics and environmental standards of the surgery suite. (DOK 1) c. Explain hospital and surgery organization. (DOK 1) d. Identify principles of communication and interpersonal relationships as they relate to operating room personnel. (DOK 1) e. Interpret the ethical, moral, and legal responsibilities of the surgical technologist, including HIPAA. (DOK 1)
2. Interpret various word parts of medical terms. SGT 1 a. Identify various medical terms relating to surgery including abbreviations and symbols. (DOK 1) b. Pronounce various medical terms relating to surgery including abbreviations and symbols. (DOK 1) c. Spell various medical terms relating to surgery including abbreviations and symbols. (DOK 1)
3. Discuss principles of environmental safety procedures. SGT 3, SGT 4, SGT 10 a. Apply knowledge in the OR to include electricity, fire, radiation, physics, and laser principles. (DOK 1) b. Explain the information included in Material Safety Data Sheets. (DOK 1) c. Demonstrate proper body mechanics as applied to the surgical environment. (DOK1)
4. Apply computer knowledge to the educational process and safe patient care practices in the operating room. SGT 3, SGT 8, SGT 10 a. Identify the basic components of a computer system. (DOK 1) b. Perform basic word processing. (DOK 1) c. Perform graphics importation. (DOK 1) d. Print and save computer information. (DOK 1) e. Perform Internet functions. (DOK 1)
5. Apply information effectively using written, verbal, and electronic formats. SGT 3, SGT 8, SGT 10

a. Recognize when information is needed. (DOK 1)
b. Locate information using a variety of sources. (DOK 1)
c. Evaluate information obtained from a variety of sources. (DOK 2)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
A3 Data Interpretation (graph, table, chart, diagram)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS3 Civic Literacy
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration

CS9 Information Literacy
CS10 Media Literacy
CS11 ICT Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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Course Name: Principles of Surgical Technique

Course Abbreviation: SUT 1216

Classification: Vocational–Technical Core

Description: This course is a comprehensive study of aseptic technique, safe patient care, anesthesia, pharmacology, and surgical techniques. (6 sch: 2-hr lecture, 8-hr lab)

Corequisites: All first semester courses

Competencies and Suggested Objectives
1. Identify perioperative routines. SGT 4, SGT 5, SGT 6 a. Explain pre-operative, intra-operative, and post-operative routines. (DOK 1) b. Conduct pre-operative, intra-operative, and post-operative routines. (DOK 1)
2. Identify the procedures for positioning, prepping, and draping of the surgical patient. SGT 4, SGT 5, SGT 6 a. Explain positioning, prepping, and draping. (DOK 1) b. Demonstrate positioning, prepping, and draping. (DOK 1)
3. Discuss the concepts of asepsis. SGT 1, SGT 2, SGT 4, , SGT 6, a. Explain surgical conscience as it applies to the surgical technologist and other personnel in the operating room. (DOK 1) b. Discuss the principles and concepts of aseptic technique. (DOK 1) c. Demonstrate the application of aseptic technique. (DOK 1)
4. Identify categories, functions, and names of basic instruments. SGT 4, SGT 5, SGT 6 a. Explain categories, functions, and names of basic instruments. (DOK 1) b. Demonstrate the care, handling, and uses of basic instruments. (DOK 1)
5. Identify surgical supplies and equipment. SGT 3, SGT 4, SGT 5, SGT 6 a. Explain surgical supplies and equipment. (DOK 1) b. Demonstrate the applications of various supplies and equipment. (DOK 1) c. Discuss the basic concepts related to robotics. (DOK 1)
6. Identify wound closure materials. SGT 1, SGT 4, SGT 5, SGT 6, a. Explain categories and usage of wound closure materials. (DOK 1) b. Demonstrate handling, selection, and usage of wound closure materials. (DOK 1)
7. Identify basic case preparation for surgical procedures. SGT 4, SGT 5, SGT 6, SGT 7 a. Discuss the establishment and maintenance of a sterile field. (DOK 1) b. Demonstrate the establishment and maintenance of a sterile field in the lab setting. (DOK 1)
8. Identify the role and duties of the surgical team. SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Discuss the roles and duties of all surgical team members. (DOK 1) b. Demonstrate the functions of the surgical technologist in the following roles: (DOK 1) 1. Scrub surgical technologist 2. Second assisting surgical technologist 3. Circulating surgical technologist
9. Identify the drugs and anesthesia used in the care of the surgical patient. SGT 1, SGT 4, SGT 5, SGT 6

a. Identify the principles and concepts for the use and administration of surgical drugs and anesthetic agents. (DOK 1)
b. Convert temperature, lengths, weights, and capacities to the metric system. (DOK 1)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT7 Surgical interventions
SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)

L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, Business and Entrepreneurial Literacy
CS3 Civic Literacy
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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Computer Software

Surgical instruments series [Computer software]. (n.d.). Kalama, WA: Watson Enterprises.

Course Name: Surgical Anatomy

Course Abbreviation: SUT 1314

Classification: Vocational–Technical Core

Description: Emphasis is placed on the structure and function of the human body as related to surgery, as well as the application of the principles of surgical anatomy to participation in clinical experience. (4 sch: 4-hr lecture)

Corequisites: All first semester courses

Competencies and Suggested Objectives
1. Explain the integrated structures and function of body systems including cells, tissues, organs, and systems as they relate to physiologic integrity. SGT 1, SGT 2, SGT 7 a. Describe the organization of the body. (DOK 1) b. Define anatomical and medical terminology. (DOK 1) c. Describe the basic anatomical structure and function of cells, tissues, organs, and systems. (DOK 1)
2. Locate and describe the basic function(s) and structure of the following systems: (DOK 1) SGT 1, SGT 2, SGT 7 a. Integumentary b. Muscular c. Skeletal d. Nervous e. Sensory f. Endocrine g. Circulatory h. Lymphatic i. Respiratory j. Digestive k. Urinary l. Reproductive (male and female)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT7 Surgical interventions

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)

R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
A3 Data Interpretation (graph, table, chart, diagram)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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Vanputte, C., Regan, J., & Russo, A. (2009). *Seeley's essentials of anatomy and physiology* (7th ed.). McGraw-Hill College.

Vaughn, D. (1998). *Basic human anatomy.* DCM Instructional Systems.

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Computer Software

A.D.A.M. interactive anatomy 4 [Computer software]. (n.d.). Atlanta, GA: A.D.A.M.

Course Name: Surgical Microbiology

Course Abbreviation: SUT 1413

Classification: Vocational–Technical Core

Description: This is an introduction to pathogenic microorganisms related to surgery and their effect on wound healing and infection. It includes principles of sterilization and disinfection. (3 sch: 3-hr lecture)

Corequisites: All first semester courses or other courses determined by the local college and/or program director

Competencies and Suggested Objectives
1. Explain the relationship between humans and pathogenic and nonpathogenic bacteria. SGT 1, SGT 2, SGT 4 a. Discuss the Centers for Disease Control (CDC) Standard Precautions Guidelines and Recommendations as applied to the surgical suite. (DOK 1) b. Distinguish between the various organisms and their diseases. (DOK 2) c. List the means of controlling the transmission of infections. (DOK 1) d. Select ways the body resists pathogens. (DOK 1) e. Discuss types of immune responses. (DOK 1)
2. Discuss wound healing. SGT 1, SGT 2, SGT 4, SGT 5, SGT 6 a. Discuss the types of wounds. (DOK 1) b. Explain the classifications of wounds. (DOK 1) c. Explain the stages of wound healing. (DOK 1) d. Discuss wound complications. (DOK 1)
3. Discuss physical and chemical methods used to protect patients and workers from invasion by pathogenic microbes. SGT 1, SGT 2, SGT 4, SGT 5, SGT 6 a. Describe the physical methods of antimicrobial control and an application of each. (DOK 1) b. Describe ways in which chemicals kill or inhibit bacterial growth. (DOK 1)
4. Identify the techniques of sterilization. SGT 1, SGT 2, SGT 5, SGT 6, SGT 10 a. List methods and principles of sterilization and the advantages and disadvantages of each. (DOK 1) b. Discuss monitoring methods. (DOK 1) c. Describe the methods and principles of disinfection. (DOK 1) d. Demonstrate sterilization and/or disinfection of surgical supplies. (DOK 1)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science

SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
A3 Data Interpretation (graph, table, chart, diagram)
A5 Measurement (money, time, temperature, length, area, volume)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, Business and Entrepreneurial Literacy
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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VanMeter, K. C., VanMeter, W. G., & Hubert, R. J. (2010). *Microbiology for the healthcare professional* (1st Ed.). St. Louis, MO: Elsevier Science Health Science div.

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Videos

What are bacteria? [DVD]. (n.d.). Huntsville, TX: Educational Video Network.

Course Name: Basic and Related Surgical Procedures

Course Abbreviation: SUT 1518

Classification: Vocational–Technical Core

Description: This course includes instruction in regional anatomy, pathology, instrumentation, and surgical techniques in general surgery, gynecology, obstetrics, and urology. It requires clinical experience in area hospital surgical suites and related departments. (8 sch: 4-hr lecture, 12-hr clinical)

Prerequisites: CPR-Health Care Provider and all first semester courses or other courses determined by the local college and/or program director

Competencies and Suggested Objectives
1. Discuss the relevant anatomy, indications for surgery, and patient preparation for general, gynecological, obstetrical, and urological procedures. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify regional anatomy and pathology. (DOK 1) b. Identify diagnostic procedures. (DOK 1) c. Discuss the perioperative considerations for the planned surgical procedure. (DOK 2)
2. Discuss equipment, supplies, and instruments for general, gynecological, obstetrical, and urological procedures. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify instruments, equipment, and supplies. (DOK 1) b. Demonstrate use of instruments, equipment, and supplies. (DOK 1)
3. Discuss surgical procedures and possible complications for general, gynecological, obstetrical, and urological procedures. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Explain surgical procedures. (DOK 1) b. Identify possible complications. (DOK 1) c. Follow the sequence of procedures by anticipating the needs of the surgeon in each of the following roles: (DOK 2) (1) Scrub-Surgical Technologist (2) 2nd Assisting Surgical Technologist (3) Circulating Surgical Technologist

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT7 Surgical interventions

SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, Business, and Entrepreneurial Literacy
CS3 Civic Literacy
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving

CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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Course Name: Specialized Surgical Procedures

Course Abbreviation: SUT 1528

Classification: Vocational–Technical Core

Description: This course includes instruction in regional anatomy, pathology, instrumentation, and techniques in surgical specialty areas of ear, nose, and throat; eye; oral and maxillofacial surgery; pediatrics; and plastics. This course requires clinical experience in area hospital surgical suite and related departments. (8 sch: 4-hr lecture, 12-hr clinical)

Prerequisites: CPR-health care provider and all first semester courses or other courses determined by the local college and/or program director

Competencies and Suggested Objectives
1. Explain the relevant anatomy, indications for surgery, and patient preparation for ear, nose, throat, eye, plastics, pediatric, and oral and maxillofacial surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify regional anatomy and pathology. (DOK 1) b. Identify diagnostic procedures. (DOK 1) c. Discuss the perioperative considerations for the planned surgical procedure. (DOK 2)
2. Explain equipment, supplies, and instruments for ear, nose, throat, eye, plastics, pediatrics, and oral and maxillofacial surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify instruments, equipment, and supplies. (DOK 1) b. Demonstrate use of instruments, equipment, and supplies. (DOK 1)
3. Explain surgical procedures and possible complications for ear, nose, throat, eye, plastics, pediatrics, and oral and maxillofacial surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Explain surgical procedures. (DOK 1) b. Identify possible complications. (DOK 1) c. Follow the sequence of procedures by anticipating the needs of the surgeon in each of the following roles: (DOK 2) (1) Scrub-Surgical Technologist (2) 2nd Assisting Surgical Technologist (3) Circulating Surgical Technologist

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities

SGT6 Sterile responsibilities
SGT7 Surgical interventions
SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, Business and Entrepreneurial Literacy
CS6 Creative and Innovation

CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

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Venes, D., Thomas, C. L., & Taber, C. W. (Eds.). (2001). *Taber's cyclopedic medical dictionary* (19th ed.). Philadelphia, PA: F. A. Davis.

Journals and Magazines

Dufresne, C. R. (2005). History and development of plastic surgery. *The Surgical Technologist, 37*(1), 10–19.

Course Name: Advanced Surgical Procedures

Course Abbreviation: SUT 1538

Classification: Vocational–Technical Core

Description: This course includes instruction in regional anatomy, pathology, instrumentation, and techniques in surgical specialty areas of orthopedics, neurosurgery, thoracic, peripheral vascular, cardiovascular surgery, and employability skills. This course requires clinical experience in area hospital surgical suites and related departments and a comprehensive final examination. (8 sch: 4-hr lecture, 12-hr clinical)

Prerequisites: CPR-health care provider and all second semester courses

Competencies and Suggested Objectives
1. Discuss the relevant anatomy, indications for surgery, and patient preparation for orthopedics, neurosurgery, thoracic, peripheral vascular, and cardiovascular surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify regional anatomy and pathology. (DOK 1) b. Identify diagnostic procedures. (DOK 1) c. Discuss the perioperative considerations for the planned surgical procedure. (DOK 2)
2. Discuss equipment, supplies, and instruments for orthopedics, neurosurgery, thoracic, peripheral vascular, cardiovascular surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Identify instruments, equipment, and supplies. (DOK 1) b. Demonstrate the use of instruments, equipment, and supplies. (DOK 1)
3. Discuss surgical procedures and possible complications for orthopedics, neurosurgery, thoracic, peripheral vascular, and cardiovascular surgery. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Explain surgical procedures. (DOK 1) b. Identify possible complications. (DOK 1) c. Follow the sequence of procedures by anticipating the needs of the surgeon in each of the following roles: (DOK 2) (1) Scrub-Surgical Technologist (2) 2nd Assisting Surgical Technologist (3) Circulating Surgical Technologist
4. Demonstrate employability and job retention skills. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Discuss the transition from student to employee. (DOK 1) b. Identify positive employee characteristics. (DOK 1) c. Develop a professional resume. (DOK 1) d. Complete a job application. (DOK 1) e. Discuss interview skills. (DOK 1) f. Write a letter of resignation. (DOK 1) g. Discuss national certification requirement and continuing education. (DOK 1)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT7 Surgical interventions
SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)

S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

21st Century Skills

CS1 Global Awareness
CS2 Financial, Economic, Business and Entrepreneurial Literacy
CS3 Civic Literacy
CS6 Creativity and Innovation
CS7 Critical Thinking and Problem Solving
CS8 Communication and Collaboration
CS9 Information Literacy
CS13 Initiative and Self-Direction
CS14 Social and Cross-Cultural Skills
CS16 Leadership and Responsibility

SUGGESTED REFERENCES

Books

Allmers, N. M., & Verderame, J. A. (2003). *Appleton and Lange review for the surgical technology examination* (5th ed.). New York, NY: McGraw Hill.

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Nemitz, R. (2010). *Surgical instrumentation, an interactive approach*. St. Louis, MO: Elsevier Science Health Science div.

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Pieknik, R. (2006). *Suture and surgical hemostasis.* St. Louis, MO: Elsevier Science Health Science div.

Rutherford, C. J. (2010). *Differentiating surgical equipment and supplies*. Philadelphia, PA: FA Davis.

Venes, D., Thomas, C. L., & Taber, C. W. (Eds.). (2001). *Taber's cyclopedic medical dictionary* (19th ed.). Philadelphia, PA: F. A. Davis.

Course Name: Certification and Role Transition

Course Abbreviation: SUT 1703

Classification: Vocational–Technical Elective

Description: An in-depth study of the role of the surgical technologist and review for the certification examination. The course examines liability and legal issues of practice, adapting critical thinking skills to a variety of practice settings, effective team and professional behaviors, continuing education, and ethical issues. Practice on computer simulations is required. (3 sch: 3-hr lecture)

Prerequisite: None

Competencies and Suggested Objectives
1. Identify desirable characteristics of a surgical technologist. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Examine legal and ethical issues that may affect the practice of surgical technology and appropriate actions. (DOK 2) b. Identify effective behaviors in relationship with team members. (DOK 2) c. Discuss conflict resolution in the workplace. (DOK 1) d. Describe characteristics of an effective leader and team member. (DOK 1)
2. Explore employment and employee responsibility. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Prepare letters of application and resignation. (DOK 1) b. Demonstrate through role-play appropriate behaviors in a job interview. (DOK 2) c. Discuss a typical hospital orientation program. (DOK 1) d. Discuss "on call" and "call back" responsibilities. (DOK 1)
3. Identify factors that promote effective transition from the role of student to the role of employee. SGT 1, SGT 2, SGT 3, SGT 4, SGT 5, SGT 6, SGT 7, SGT 8, SGT 9, SGT 10 a. Complete a student case log. (DOK 2) b. Complete an application, and sit for national certification exam. (DOK 2) c. Utilize computer simulation to enhance critical-thinking skills. (DOK 2)

STANDARDS

Standards Based on the Core Curriculum for Surgical Technology

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT7 Surgical interventions
SGT8 Professional management

SGT9 Self management
SGT10 Workplace management

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
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M1 Addition of Whole Numbers (no regrouping, regrouping)
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M3 Multiplication of Whole Numbers (no regrouping, regrouping)
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M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations
A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
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Association of Surgical Technologists. (2001). *Surgical technology for the surgical technologist: A positive care approach*. Albany, NY: Delmar.

Gaviola, S. (2005). *My pocket mentor: A health care professional's guide to success* (1st ed.). Clifton Park, NY: Delmar Learning.

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Meeker, M. H., & Rothrock, J. C. (2003). *Alexander's care of the patient in surgery* (12th ed.). St. Louis, MO: Mosby.

Phillips, N. (2003). *Berry and Kohn's operating room technique* (10th ed.). St. Louis, MO: Mosby.

Venes, D., Thomas, C. L., & Taber, C. W. (Eds.). (2001). *Taber's cyclopedic medical dictionary* (19th ed.). Philadelphia, PA: F. A. Davis.

Recommended Tools and Equipment

CAPITALIZED ITEMS

1. Bandaging simulator (1 per program)
2. Basin stand, ring stand (4 per program)
3. Board, roller/transfer (1 per program)
4. Devices, positioning (2 prone, 2 lateral, 2 sitting, 2 lithotomy, 2 supine per program)
5. Dilation and curettage set (1 per program)
6. GYN instrument tray (1 per program)
7. Minor surgical instrument set (2 per program)
8. Electrocautery unit (1 per program)
9. Laparotomy instrument set (1 per room)
10. Chest instrument set (1 per program)
11. Basic bone instrument set (1 per program)
12. Mannequin, teaching, adult (1 per room)
13. Mayo stand (4 per room)
14. Tonsil and adenoid set (1 per program)
15. Vaginal hysterectomy tray (1 per program)
16. Stretcher, patient, with brakes and side rails (1 per program)
17. Table, surgical with armboards (1 per room)
18. Table, instrument (2 per room)
19. Prep table/stand (2 per room)
20. I.V. poles (2 per room)
21. Standing platforms (2 per room)
22. Hand table (1 per program)
23. Instrument containers (1 per room)
24. Surgical lights (1 per room)
25. Autoclave (1 per program)
26. Computer, with CD-ROM and super VGA color monitor (1 per 3 students)
27. Printer, laser (1 per 2 computers)
28. Basic open reduction internal fixation set (1 per program)
29. Basic large fragment set (1 per program)
30. Refurbished or demonstration unit for laparoscopic procedures to include 1 scope, 1 camera, and 1 monitor (1 set per program)
31. Human skeleton with stand (1 per program)
32. SimMan 3G

NON-CAPITALIZED ITEMS

1. Manual sphygmomanometer, adult (1 per 2 students)
2. Digital sphygmomanometer (1 per program)
3. Sheets, full flat (4 per stretcher or table)
4. Pillows (2 per stretcher or table)
5. Stethoscope (1 per 2 students)
6. Kick bucket with coasters (2 per room)

7. Pneumatic tourniquet cuffs (1 double adult, 1 upper extremity adult, 1 lower extremity adult per program)
8. Thermometer, electronic digital (1 per program)
9. Straps, restraint (1 set per room)
10. Sitting stool (2 per program)
11. Ear model (1 per program)
12. Eye model (1 per program)
13. Heart model (1 per program)
14. Model, teaching, adult (Internal Organ) (1 per program)
15. Model, knee joint (1 per program)
16. Human lumbar spine (1 per program)
17. Laminated anatomy posters (1 set per program)
18. Laminated instrument posters (1 set per program)
19. Stethoscope, dual training (2 per program)
20. Glo-germ light kit (1 per program)

* The use of refurbished or demonstration equipment is recommended.

RECOMMENDED INSTRUCTIONAL AIDS

It is recommended that instructors have access to the following items:

1. DVD/VCR
2. LCD/Overhead projector
3. TV, color monitor, 25 in. (1 per program)
4. VCR with remote control (1 per program)
5. Cart, TV/VCR (1 per program)
6. Bookcase/display shelving (1 per program)
7. File cabinet, lockable (2 per teacher)
8. Computer table (1 per computer)
9. Computer chairs (1 per table)

Assessment

This program is assessed using the *Certifying Exam for Surgical Technologists given by the National Board of Surgical Technology and Surgical Assisting (NBSTSA).*

Baseline Competencies

The following competencies and suggested objectives are taken from the publication *Mississippi Curriculum Framework for Allied Health*. These competencies and objectives represent the baseline which was used to develop the community/junior college Surgical Technology courses. Students enrolled in postsecondary courses should either have documented mastery of these competencies or be provided with these competencies before studying the advanced competencies in the Surgical Technology program.

Baseline competencies may be integrated into existing courses in the curriculum or taught as special "Introduction" courses. The "Introduction" courses may be taught for up to 6 semester hours of institutional credit and may be divided into two courses. If the Baseline Competencies are to be taught as "Introduction" courses, each course should be at least 3 credit hours. The following course number(s) and description should be used.

Course Name(s): Introduction to Surgical Technology, Introduction to Surgical Technology I, or Introduction to Surgical Technology II

Course Abbreviation(s): SUT 100(3–6), SUT 1013, SUT 1023

Classification: Vocational–Technical Core

Description: These courses contain the baseline competencies and suggested objectives from the high school curriculum that directly relate to the community college program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3–6 semester hours based upon existing skills for each student. May be divided into two courses for a maximum total of 6 hr of institutional credit)

Competencies and Suggested Objectives

1. Review material related to course and professional organizations.
   a. Identify student and course expectations.
   b. Identify allied health professional student organizations and their roles in individual career development.
   c. Compare the time line of medical history.
2. Recognize safety procedures and policies.
   a. Describe basic safety procedures.
   b. Describe accident prevention methods and disaster plans of the local school district.
   c. Discuss a safe and clean environment.
   d. Follow state and facility guidelines, including dress requirements for clinical-type experiences.
3. Explain effective communication skills.
   a. Identify the main factors required for the communication process.
   b. Identify factors that can interfere with the communication process.
   c. Demonstrate effective teamwork skills.
   d. Explore professional literature and medical references.

4. Introduce careers in the health-care industry.
    a. Introduce careers in health-care information and administration.
    b. Introduce careers in direct health care.
    c. Introduce careers in medical therapy.
    d. Introduce careers in diagnostic health care.
5. Discuss education and credentials required for health-care careers.
    a. Discuss educational levels for health careers, including certification, associate degree, bachelor's degree, master's degree, and doctoral degree.
    b. Compare the credentials needed for careers in health care, including certification, registration, and licensure.
6. Discuss professional ethics.
    a. Explain professional ethics.
    b. Discuss confidentiality.
    c. Discuss HIPAA, the Health Insurance Portability and Accountability Act of 1996.
7. Discuss legal responsibility and clients' rights.
    a. Explain torts and legal responsibility.
    b. Identify ways to promote clients' rights and privacy.
    c. Discuss the requirement for health-care workers to undergo a background check.
8. Explain standard precautions.
    a. Explain importance of standard precautions in life practices and health care.
    b. Explain the state and federal government's role in standard precautions.
    c. Relate standard precautions to the transmission of infectious diseases including HIV, AIDS, HBV, and TB.
9. Utilize standard precautions.
    a. Demonstrate hand-washing technique.
    b. Demonstrate donning and removing clean gloves.
10. Perform basic emergency procedures.
    a. Explain first-aid procedures for sudden illness.
    b. Explain first-aid procedures for accidents.
11. Perform advanced emergency procedures.
    a. Perform CPR.
    b. Demonstrate first aid for an obstructed airway.
12. Explain medical terminology.
    a. Spell designated medical terms correctly.
    b. Demonstrate the use of medical references to spell medical terms correctly.
    c. Define and divide medical terms into root words, prefixes, and suffixes.
13. Recognize and use medical terminology.
    a. Interpret the common medical abbreviations and symbols including meanings and uses.
    b. Demonstrate the use of medical terms and abbreviations in reading, speaking, interpreting, and writing simulated medical records.
14. Review the relationship among cells, tissues, organs, and systems.
    a. Review the main parts of a cell.
    b. Review the functions of the main parts of a cell.
    c. Compare types of tissues and their relationships to body organs and systems.
15. Identify the body planes, directions, and cavities.
    a. Identify the names of the planes and the directional terms.

   b. Locate the body cavities.
   c. Identify the body organs in each cavity.
   d. Describe the abdominal regions.
16. Interpret the basic structures and functions of the integumentary system.
   a. Identify the parts of the integumentary system.
   b. Explain the functions of the integumentary system.
   c. Discuss related diseases and disorders.
17. Perform the patient care procedures related to the integumentary system.
   a. Demonstrate patient hygiene.
   b. Perform bed-making skills.
   c. Perform patient positioning to prevent pressure areas.
18. Interpret the basic structures and functions of the muscular system.
   a. Identify major muscles.
   b. Explain the function of the muscles.
   c. Discuss related diseases and disorders.
   d. Demonstrate active range of motion exercises and indications for use.
19. Interpret the basic structure and function of the skeletal system.
   a. Identify the bones of the body.
   b. Explain functions of the skeletal system.
   c. Discuss related diseases and disorders.
   d. Demonstrate procedures for patient transfer using a stretcher, wheelchair, or a pneumatic lift.
20. Interpret the basic structures and functions of the circulatory system.
   a. Identify components of blood and their function.
   b. Identify the types of blood vessels and the action of each.
   c. Identify the anatomy of the heart.
   d. Explain the flow of blood through the heart.
   e. Discuss related diseases and disorders.
21. Measure vital signs.
   a. Measure oral temperature.
   b. Explain procedures for measuring axillary, rectal, and tympanic temperatures.
   c. Identify the body's pulse points.
   d. Demonstrate radial pulse measurement.
   e. Measure blood pressure.
22. Interpret the basic structures of the respiratory system.
   a. Identify the structures of the respiratory system.
   b. Discuss related diseases and disorders.
   c. Auscultate lung sounds.
23. Interpret the basic functions of the respiratory system.
   a. Discuss how gas exchange occurs in the lungs.
   b. Recognize factors that cause respiratory disorders.
   c. Count respirations.
24. Interpret the basic structures and functions of the digestive system.
   a. Identify organs of the digestive system.
   b. Discuss the functions of organs of the digestive system.
   c. Discuss related diseases and disorders.

25. Examine the relationship of food and health.
    a. Define terms associated with nutrition.
    b. Identify the components of the food guide pyramid with examples of each.
    c. Describe basic therapeutic diets.
    d. Demonstrate how to assist/feed a patient with a disability.
26. Interpret the basic structures and functions of the urinary system.
    a. Identify structures of the urinary system.
    b. State the functions of each structure of the urinary system.
    c. Discuss related diseases and disorders.
27. Determine the importance of intake and output measurement.
    a. Define terms associated with intake and output.
    b. Calculate intake and output measurements.
    c. Convert intake and output measurements to metric equivalents.
    d. Discuss urinary catheterization in classroom lab setting.
28. Interpret the basic structures and functions of the nervous system.
    a. Identify the major structures and functions of the nervous system.
    b. Recognize procedures for neurological exam.
    c. Perform neurological exams.
    d. Discuss related diseases and disorders.
29. Interpret basic structure and functions of the sensory systems.
    a. Label the basic structures of the sensory organs.
    b. Identify the functions of the sensory organs.
30. Interpret the basic structures and functions of the female reproductive system.
    a. Identify the major structures and functions of the female reproductive system.
    b. Discuss diseases and disorders of the female reproductive system.
    c. Discuss the procedures of a breast exam.
    d. Perform breast exam on model in lab.
31. Interpret the basic structures and functions of the male reproductive system.
    a. Identify major structures and functions of the male reproductive system.
    b. Discuss diseases and disorders of the male reproductive system.
    c. Discuss procedures of a testicular exam.
    d. Perform testicular exam on model in lab.
32. Interpret the basic structures of the endocrine system.
    a. Define key terms related to the endocrine system.
    b. Label structures of the endocrine system.
33. Interpret the basic functions of the endocrine system.
    a. Analyze the actions of hormones on various body functions.
    b. Recognize diseases and disorders of the endocrine system.
34. Review facility policies related to Allied Health II.
    a. Discuss responsibilities of clinical rotation.
    b. Discuss school district policies.
35. Explain procedures related to infection control.
    a. Demonstrate a sterile procedure maintaining a sterile field.
    b. Describe basic techniques to prepare, wrap, and sterilize instruments.
    c. Observe a surgical scrub.
    d. Discuss repair of medical equipment by biomedical personnel.

36. Discuss stages of growth and development.
    a. Review the reproductive system.
    b. Identify physical, mental, emotional, and social development characteristics of each of Erikson's stages of development from infancy through late adulthood.
    c. Identify Maslow's Hierarchy of Human Needs.
    d. Discuss cultural practices that affect needs.
37. Explain concepts related to death and dying.
    a. Describe the five stages of grief.
    b. Discuss hospice care.
    c. Define living will, advance directives, and organ donation.
38. Demonstrate job seeking skills.
    a. Prepare a resume containing essential information utilizing word processing software.
    b. Complete a job application form on paper or online.
    c. Discuss procedures for job interviews.
    d. Demonstrate the role of an applicant in a job interview.
    e. Describe job interview etiquette.
39. Explain job keeping skills.
    a. Discuss positive relations with clients and peers.
    b. Write a letter of resignation.

Appendix A: Standards Based on the Core Curriculum for Surgical Technology[1]

SGT1 Basic science
SGT2 Related science
SGT3 Biomedical science
SGT4 Patient care concepts
SGT5 Nonsterile responsibilities
SGT6 Sterile responsibilities
SGT7 Surgical interventions
SGT8 Professional management
SGT9 Self management
SGT10 Workplace management

[1] *Core curriculum for surgical technology* (5th ed.). (2002). Centennial, CO: Association of Surgical Technologists.

Appendix B: Related Academic Standards[2]

Reading

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation

M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations

Applied Mathematics

A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)

Language

L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

Spelling

S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

[2] CTB/McGraw-Hill LLC. (2005). Tests of adult basic education, forms 9 and 10. Monterey, CA: Author.

Appendix C: 21st Century Skills[3]

CSS1-21st Century Themes

CS1 Global Awareness

1. Using 21st century skills to understand and address global issues
2. Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
3. Understanding other nations and cultures, including the use of non-English languages

CS2 Financial, Economic, Business, and Entrepreneurial Literacy

1. Knowing how to make appropriate personal economic choices
2. Understanding the role of the economy in society
3. Using entrepreneurial skills to enhance workplace productivity and career options

CS3 Civic Literacy

1. Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
2. Exercising the rights and obligations of citizenship at local, state, national and global levels
3. Understanding the local and global implications of civic decisions

CS4 Health Literacy

1. Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
2. Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
3. Using available information to make appropriate health-related decisions
4. Establishing and monitoring personal and family health goals
5. Understanding national and international public health and safety issues

CS5 Environmental Literacy

1. Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
2. Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
3. Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
4. Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

CSS2-Learning and Innovation Skills

CS6 Creativity and Innovation

1. Think Creatively
2. Work Creatively with Others

[3] *21st century skills.* (n.d.). Washington, DC: Partnership for 21st Century Skills.

3. Implement Innovations

CS7 Critical Thinking and Problem Solving

1. Reason Effectively
2. Use Systems Thinking
3. Make Judgments and Decisions
4. Solve Problems

CS8 Communication and Collaboration

1. Communicate Clearly
2. Collaborate with Others

CSS3-Information, Media and Technology Skills

CS9 Information Literacy

1. Access and Evaluate Information
2. Use and Manage Information

CS10 Media Literacy

1. Analyze Media
2. Create Media Products

CS11 ICT Literacy

1. Apply Technology Effectively

CSS4-Life and Career Skills

CS12 Flexibility and Adaptability

1. Adapt to change
2. Be Flexible

CS13 Initiative and Self-Direction

1. Manage Goals and Time
2. Work Independently
3. Be Self-directed Learners

CS14 Social and Cross-Cultural Skills

1. Interact Effectively with others
2. Work Effectively in Diverse Teams

CS15 Productivity and Accountability

1. Manage Projects
2. Produce Results

CS16 Leadership and Responsibility

1. Guide and Lead Others
2. Be Responsible to Others