

# KINGSBOROUGH COMMUNITY COLLEGE

Of

The City University of New York

Department of Nursing

## **ST 1 – Surgical Technology I**

Pre/Corequisite: ENG 12, BIO 11

Corequisite: ST 2

Course Syllabus: 2009

Credit Hours: 3

**Catalogue Description:** This course is a comprehensive study of the operative environment, professional roles, communication techniques and ethical responsibilities. Lecture topics will include historical perspectives of perioperative services, and medical terminology.

**Course Overview:** This introductory course intends to introduce the student to the broad field of Surgical Technology. The course has three basic sections: (1) General Introductory Information, (2) Introduction to Patient Care) and (3) Professional Conduct. Classroom instruction is held 3 hours weekly throughout the semester.

**Course Objectives:** Upon successful completion of this course the student will be able to:

1. Identify concepts and events that contributed to the evolution of modern surgery.
2. Describe a typical organization structure of Perioperative Services, as it exists in a variety of health care settings.
3. Describe the professional role of the Surgical Technologist, the educational preparation and the certification process.
4. Describe the Operating Room environment including the composition and function of all members of the surgical team.
5. Identify the relationship between hospital departments as they impact on Perioperative Services.
6. Describe methods of communication.
7. Identify the spectrum of medical terminology used in the surgical environment.
8. Discuss the application of technological sciences to surgical technology.
9. Discuss ethical considerations that are pertinent to the Perioperative environment.

### Topical Outline:

Unit I - Introduction to the Course and the Health Care System

Unit II - The Historical Development of Surgery

Unit III - The Development of the Surgical Technologist and Current Practice

Unit IV - The Surgical Environment: Personnel and Physical

Unit V - Professionalism and Communication

Unit VI - Medical Terminology

Unit VII – Technological Sciences

Unit VIII- Surgical Conscience and Ethical Considerations

Unit IX - Patient's Perspective of Surgery

### Teaching Strategies:

Lecture

Teacher-guided discussions

Audio-visual materials

Class analysis of documents

Course Requirements:

1. Textbooks

Required:

Fuller, Joanna K., *Surgical Technology: Principles and Practice, 4<sup>th</sup> Edition*, Elsevier, 2005

Ehlich, Ann and Schroeder, Carol L., *Medical Terminology for Health Professions, 6<sup>th</sup> Edition*, Delmar Thomson Learning, USA, 2009

Recommended:

Price, Paul, and Frey, Kevin, *Technological Sciences for the Surgical Technologist*, AST Publishers, 2003

Thomas, L. Clayton, *Taber's Cyclopedia Medical Dictionary*, F.A. Davis Company, Philadelphia, Pennsylvania, 20<sup>th</sup> Edition, 2006

Meeker, Margaret H. and Jane C. Rothrock, *Alexander's Care of the Patient in Surgery*, Mosby, St. Louis, Missouri, 13<sup>th</sup> Edition, 2007

2. Attendance:

A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent, a grade of "W" or "WU" will be assigned as described in the college catalog.

3. Evaluation:

Grades will be calculated according to college and departmental policy as follows:

A+	98-100
A	95-97
A-	90-94
B+	88-89
B	85-87
B-	80-84
C+	78-79
C	75-77
C-	70-74
D+	68-69
D	65-67
D-	60-64
F	59 and below
W	Withdrew without penalty
WU	Unofficial Withdrawal (Counts as failure)
INC	Term's Work Incomplete. Counts as "F" grade unless work is completed within six months.

Grades will be determined as described below:

Unit Tests:	50%
Presentation	10%
Weekly Assignments	10%
Final Exam	30%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. See the Surgical Technology Student Handbook, the KCC Catalog and website for further details.

Students are expected to take all tests when scheduled. Exceptions to this rule will be for emergency situations and the faculty must know in advance.

Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester.

Students who fail to take the scheduled exams or makeup will receive a grade of zero for that test.

All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due.

All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of "F" from the course.

A conference with the instructor is required at mid-semester and at the end of the course to discuss the student's progress. Students may initiate conferences at other times.

4. Classroom Decorum:

All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating battery mechanism. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:

Criteria for retention in the Program mandates that students must:

- a. receive no more than two grades under "C" in any pre or corequisites
- b. earn a minimum final grade of "C" in every Surgical Technology course.
- c. the student must repeat a Surgical Technology course once if the grade is below "C"
- d. a second grade below "C" will result in the student's dismissal from the program.
- e. Students who fail a course achieving a grade of not less than "C-" may apply to repeat the course one time only. Repeating the course is subject to space availability.
- f. Students must submit an **"Intent to Return to Surgical Technology Form"** outlining what they thought caused them to be unsuccessful and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:

Students must present themselves as professional role models.

<b>UNIT 1</b>	<b>Introduction to the Course and the Health Care System.</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
Upon completion of the unit the student will be able to: 1. Identify course requirements	Course Orientation Course Overview Program Philosophy and Outcomes Course Requirements and Syllabus	<p style="text-align: center;"><b>Week 1</b></p> Handouts: Program philosophy and outcomes Surg Tech 1 Syllabus Student Handbook	
2. Define the different types of health care facilities and state how they differ from each other.	1. Types of hospitals 2. Funding sources.	Reading assignment: Fuller, <i>Surgical Technology: Principles and Practice</i> , p 50-57	
3. Describe a typical hospital organizational structure.	1. Hospital organization - Board of trustees - Administration - Departments - Physician Staff		
4. Explain various methods of reimbursement for health care costs.	Health Insurance - Medicare - Medicaid - Private - Health maintenance organizations (HMO)		
5. Describe the regulatory agencies and how they impact on health care facilities and their practice.	1. NYS Department of Health 2. Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) 3. National Board of Surgical Technologists and Surgical Assistants (NBSTSA)		

UNIT 2	The Historical Development of Surgery		
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
<p>Upon completion of the unit the student will be able to</p> <p>1. Identify concepts and events that contributed to the development of surgery.</p>	<p>1. Historical development of the surgical specialty,</p> <p>2. Technology related to control of</p> <ul style="list-style-type: none"> <li>- pain</li> <li>- hemorrhage</li> <li>- infection</li> </ul>	<p style="text-align: center;"><b>Week 2</b></p> <p>Handouts: Surgical Timeline</p>	
<p>2. Describe surgery as it is today.</p>	<p>1. Categories</p> <p>2. Specialties</p> <p>3. Related Areas</p> <ul style="list-style-type: none"> <li>- Emergency Room</li> <li>- Labor and Delivery</li> <li>- Endoscopy</li> <li>- Ambulatory Facilities</li> </ul>		

<b>UNIT 3</b>	<b>The Development of the Surgical Technologist and Current Practice</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
<p>Upon completion of the unit the student will be able to:</p> <p>1. Define the role of the Surgical Technologist in today's Health Care System.</p>	<p>1. Requirements 2. Nature of the position 3. Duties 4. Accountability</p>	<p style="text-align: center;"><b>Week 3</b></p> <p>Handouts: Sample Job Description Reading Assignment: Fuller, p 2-16</p>	
<p>2. Discuss future trends in legislation regarding unlicensed personnel in the OR.</p>	<p>1. Standards of Practice – Association of Surgical Technologists (AST) 2. Recommendation for Entry into Practice (AST) 3. Standards of Practice – Association of periOperative Nurses (AORN)</p>	<p>Handout: Practice Summary Sample Legislative Proposals Code of Ethics</p>	

UNIT 4	The Surgical Environment: Personnel and Physical		
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
<p>Upon completion of the unit the student will be able to:</p> <p>1. Define the members of the surgical team and state the role of each.</p>	<ol style="list-style-type: none"> <li>1. Anesthesia Care Provider</li> <li>2. Surgeon</li> <li>3. First and Second Assistants</li> <li>4. Scrub Personnel</li> <li>5. Circulating Personnel</li> <li>6. Ancillary Personnel</li> </ol>	<p style="text-align: center;"><b>WEEK 4</b></p> <p>Handouts: Sample Job Summaries</p>	
<p>2. Describe the physical layout of the surgical suite.</p>	<ol style="list-style-type: none"> <li>1. Location in the hospital</li> <li>2. Floor plan</li> <li>3. Traffic patterns</li> <li>4. Environmental Controls</li> <li>5. Communication methods</li> </ol>	<p>Reading Assignment: Fuller, 57-72</p>	
<p>3. Describe the environmental requirements of the surgical suite.</p>	<ol style="list-style-type: none"> <li>1. Systems and outlets <ul style="list-style-type: none"> <li>- surgical gases</li> </ul> </li> <li>2. Temperature and humidity</li> <li>3. Ventilation systems</li> <li>4. Surgical Attire</li> </ol>	<p><i>AORN Standards and Recommended Practices and Guidelines:</i></p> <ul style="list-style-type: none"> <li>- Traffic Patterns in the Perioperative Setting</li> <li>- Environmental Responsibilities</li> <li>- Environmental Cleaning</li> <li>- Surgical Attire</li> </ul>	
<p>4. Describe environmental safety measures within the surgical suite.</p>	<ol style="list-style-type: none"> <li>1. Electricity and electrical hazards</li> <li>2. Fire safety</li> <li>3. Radiation safety</li> <li>4. Lasers and precautions</li> <li>5. Chemical Safety Measures <ul style="list-style-type: none"> <li>- Material Safety Data Sheets</li> </ul> </li> <li>6. Smoke Exposure</li> <li>7. Latex exposure</li> <li>8. Waste gas</li> </ol>	<p style="text-align: center;"><b>Week 5</b></p> <p><i>AORN Standards, Recommended Practices and Guidelines</i></p> <ul style="list-style-type: none"> <li>- Electrosurgery</li> <li>- Hazards in the Surgical Environment</li> <li>- Laser Safety in Practice Settings</li> <li>- Reducing Radiological Exposure</li> <li>- Fire Prevention</li> <li>- Sharps Injury Prevention</li> </ul> <p>Handout: “Right to Know” legislation</p> <p>Film: “Fire Safety in the OR” “Standard Precautions”</p>	

<b>UNIT 5</b>	<b>Professionalism and Communication</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
Upon completion of the unit the student will be able to: 1. Locate and evaluate information from multiple sources.	1. Information management 2. Critical thinking	<b>Week 6</b>	
2. Identify types of stress, causes and methods of coping.	1. Stress vs distress 2. Sources of stress 3. Reactions to stress		
3. Describe the Professional Organization of the Association of Surgical Technologists (AST)	1. Membership in AST - goals and purpose 2. Certification - purpose and preparation 3. Continuing education - methods and documentation 4. Role Model 5. Publications	<b>Week 7</b>  Handouts: AST goals Road to Certification Reading Assignment: Fuller, p 29-33, 73-87	
4. Identify and define methods of communication.	1. Means of communication - verbal - non verbal - written - electronic 2. Purpose of communication - accurate records - Continuity of patient care - legal aspects - identifying needs - information management - computer skills 3. Group dynamics 4. Team work	Film: “Conflict Resolution”	

<b>UNIT 6</b>	<b>Medical Terminology</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
Upon completion of the unit the student will be able to: 1. Identify the elements of medical terms and word processes.	1. Prefixes 2. Suffixes 3. Root words by body systems	<b>Week 8</b> Reading Assignment: Ehrlich, <i>Medical Terminology for Health Professionals, 1-58</i>	
2. Construct and define compound words.	1. Word sets describing planes and direction of reference. 2. Word sets related to medical specialties	Media Center: 1. Dr. Watson's Medical Terminology Course on CD-Rom	
3. Identify and define medical abbreviations	1. Abbreviations relating to time, place, diagnostic tests and surgical procedures. 2. Symbols to replace common terms.		

<b>UNIT 7</b>	<b>Technological Sciences</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
Upon completion of the unit the student will be able to: 1. Discuss the use of computers in the surgical environment.	1. Components of computers 2. Desktop 3. Software 4. Word Processing 5. Printing 6. Internet basics 7. Applications in the OR	<b>Week 9</b> Fuller, p 347-361, 362-379	
2. Discuss concepts of electricity.	1. Atoms and electrons 2. Insulators 3. Charge and currents 4. Volts, Ohms 5. Resistance 6. Direct and Alternating Current 7. Application in the OR		
3. Discuss physics for the surgical technologist.	1. Motion 2. Speed 3. Velocity 4. Momentum 5. Harmonic motion 6. Energy and work 7. Matter 8. Heat 9. Waves 10. Light 11. Applications in the OR		
4. Discuss the science of surgical robotics	1. Terminology 2. Robotic design		

UNIT 8	Surgical Conscience and Ethical Considerations		
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
<p>Upon completion of the unit the student will be able to:</p> <p>1. Define surgical conscience and identify its application in relation to the surgical patient.</p>	<ol style="list-style-type: none"> <li>1. Professional honesty</li> <li>2. Conscientiousness</li> <li>3. Respect for others</li> <li>4. Moral integrity</li> <li>5. Strict application of policies</li> <li>6. Confidentiality</li> <li>7. Nondiscriminatory treatment</li> <li>8. Cost containment</li> </ol>	<p style="text-align: center;"><b>Week 10</b></p> <p>Reading assignment: Fuller, p. 33-49</p>	
<p>2. Identify the basis for ethical and moral decision making.</p>	<ol style="list-style-type: none"> <li>1. Decision Making <ul style="list-style-type: none"> <li>- ethics defined</li> <li>- cultural and religious values</li> <li>- personal values</li> <li>- ethical responsibilities</li> </ul> </li> </ol>		
<p>3. Identify legal issues and professional conduct.</p>	<ol style="list-style-type: none"> <li>1. Legal terminology <ul style="list-style-type: none"> <li>- accountability</li> <li>- liability</li> <li>- negligence</li> <li>- malpractice</li> <li>- tort</li> <li>- iatrogenic injury</li> </ul> </li> <li>2. Establishing negligence</li> <li>3. Professional standards of conduct. <ul style="list-style-type: none"> <li>- federal and state laws</li> <li>- legal precedent</li> <li>- hospital policy</li> <li>- professional guidelines</li> </ul> </li> </ol>	<p>Handout: Legal Outline</p>	

<p>4. Discuss specific Operating Room incidents that could result in litigation.</p>	<ol style="list-style-type: none"> <li>1. Patient misidentification</li> <li>2. Incorrect procedure/side</li> <li>3. Incorrect counts</li> <li>4. Burns</li> <li>5. Falls/injuries</li> <li>6. Abandonment</li> <li>7. Incorrect positioning</li> <li>8. Incorrect identification of specimen.</li> <li>10. Lack of informed consent</li> <li>11. Breach of confidentiality</li> <li>12. Assault and battery</li> </ol>	<p>Media Center:</p> <ol style="list-style-type: none"> <li>1. Patient Safety Competency Assessment Module – CD Rom</li> </ol>	
<p>5. Discuss situations that may result in ethical conflicts.</p>	<ol style="list-style-type: none"> <li>1. Sterilization</li> <li>2. Elective termination of pregnancy</li> <li>3. Fertilization procedures</li> <li>4. Human and animal experimentation</li> <li>5. Organ donation</li> <li>6. Gender reassignment</li> <li>7. Quality of life</li> <li>8. Refusal of treatment</li> <li>9. Right to die</li> </ol>	<p style="text-align: center;"><b>Week 11</b></p> <p>Handout case studies:</p> <ol style="list-style-type: none"> <li>1. Incomplete sterilization</li> <li>2. Involvement with abortions</li> <li>3. Questionable surgery</li> </ol>	

<b>UNIT 9</b>	<b>Patient's Perspective of Surgery</b>		
<b>Learner Objectives</b>	<b>Content/Lecture Discussion</b>	<b>Related Learner Experiences</b>	<b>Laboratory Objectives</b>
Upon completion of the unit the student will be able to: 1. Discuss the uniqueness of each patient as an individual and how factors influence the perception of surgery.	1. Individual - self image - relationships - sources of security 2. Hospitalization 3. Religious/cultural influences 4. Age related considerations	<b>Week 12</b> Reading Assignment: Fuller, p. 17-32	
2. Differentiate between disease and illness.	2. Terminology		
3. Discuss the physical and spiritual needs of the surgical patients. physics for the surgical technologist.	1. Physical needs - nutrition - water - oxygen/carbon dioxide - sleep - regulation of body processes - elimination of waste 2. Spiritual needs - support of patient's beliefs - recognize the use of religion to reduce anxiety - respecting expressions of religion	Handout: Maslow's Hierarchy of Needs  Handout: Cultural diversity Religious diversity	
4. Discuss the sources of fear and anxiety in the surgical patient and appropriate response by the health care team.	1. Sources of fear/anxiety 2. Responses - nonverbal communication - reporting needs		