

KINGSBOROUGH COMMUNITY COLLEGE

Of

The City University of New York

Department of Nursing

ST 2 – Surgical Technology II

Pre/Co requisite: Eng 12, BIO 11

Co requisites: ST 1

Course Syllabus: 2019

Credit Hours: 2

Lab: 4

Catalogue Description: This course provides theoretical knowledge for the application of essential operative skills during the perioperative phase. It introduces the student to the practice of surgical technology with a focus on those skills necessary for function in the first scrub role. This course will be taught as lecture in conjunction with an active hands-on college laboratory component. Topics include surgical asepsis, sterilization and disinfection and perioperative patient care.

Course Overview: This course will be taught as a 2-hour weekly lecture in conjunction with a 4 hourly weekly hands-on college laboratory component. The principles of those basics skills required for successful functioning in the surgical environment as well as the development of the understanding of the principles behind the practice.

Student Learning Outcomes

Assessment Measures

1. Demonstrate and discuss the principles of aseptic technique.	Students will be able to explain and distinguish the boundaries of the sterile field through demonstration and debate. Theories will be defined through lecture and translated through practice in the lab setting. Students will successfully answer question on the examinations as well as exhibit skills related to aseptic technique on the practicum examination.
2. Demonstrate and discuss the principles of scrubbing, gowning and gloving.	By repetitive demonstration and exercise, the student will be able to apply and express the issues of sterility in regards to self-gowning and gloving, gowning and gloving other team members, as well as hand washing strategies. Students will utilize basic microbiology to begin to understand the principles and peripheries of sterility. The physical repetition of these chores in the lab, will allow the student to identify and revisit the principles of aseptic technique as defined in the lecture. Students will successfully answer question on the examinations as well as exhibit skills related to these principles on the practicum examination
3. Demonstrate and discuss the principles of skin preparation.	Through demonstration and practice in the lab, the student will be able to successfully recall and define all of the philosophies of skin preparation. Students will successfully answer question on the examinations as well as exhibit skills related to basic skin preparation on the practicum examination.
4. Demonstrate and discuss the principles of sterile draping methods.	During the course of the semester, the student will have adequate opportunities to repeat and illustrate the proper techniques of applying sterile drapes to the patient on the operating room table. During class time, as well as, open lab opportunities, the student will have vast amount of occasions to employ these techniques. Students will successfully answer question on the examinations as well as exhibit skills related to the ideologies of surgical draping on the practicum examination.
5. Demonstrate and discuss case preparation, including instrumentation, sutures and surgical supplies and equipment.	Through the use of recall and review, the student will be able to recognize the difference between basic surgical instrumentation, supplies and equipment, as well as suture materials. The student will be capable of distinguishing the instruments through visual inspection and be able to relate the inventory to its proper usage. Students will successfully answer question on the examinations as well as exhibit skills related to proper recall and handling of all equipment and supplies on the practicum examination.
6. Discuss the normal progression of surgical procedures from preparation, beginning, intraoperative and ending.	Through lecture, display and interaction, the student will be able to validate all of the arrangements and constructions of the sterile field and apply all of the course theories to actual surgical procedures, from the pre-operative phase, the intra-operative phase and post-operative phase of basic surgical interventions. Students will successfully answer question on the examinations as well as exhibit skills related to surgical interventions on the practicum examination.

Teaching Strategies

Lecture Teacher- guided discussions Audio-visual materials Demonstration/Return demonstration

Recommended Textbooks

Fuller, Joanna K., *Surgical Technology: Principles and Practice, 6th Edition*, Elsevier, 2012
Rutherford, Colleen J., *Differentiating Surgical Instruments*, F.A. Davis Company, 2010
Rutherford, Colleen J., *Differentiating Surgical Equipment and Supplies*, F.A. Davis Company, 2010

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. According to the mathematics of this policy, a student that is absent for more than 7 hours will receive a grade of WU. Lectures are 1 hour and lab is 2 hours each day. Late arrival to class is very disruptive, so allow time for parking or public transportation issues. 15 minutes after class has started, the door will be closed to the classroom. The instructor will grant a late student access when there is a break in the lecture. Three (3) late arrivals will result in the assessment of 1 hour of missed time that can have a profound effect on your total absence allotment (10 hours) for the semester.

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-	70-7	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:

Lab Practicum: 50% Unit exams and quizzes: 20% Written Assignments: 10% Final Exam: 20%

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 when possible. 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 immediately after the final exam.

The Practicum is an all-encompassing lab exam that each student must pass in order to proceed to the clinical component of the program. A mock surgery will be performed and all basic skills that you have learned during the semester must be demonstrated in a satisfactory manner. **Failure of the Lab practicum will result in an "F" for the course.** A student that cannot successfully pass the lab practicum by week 12 of the semester cannot proceed to the clinical component of the program where they will be responsible for the same skills in a live operating room. The clinical sites that the students go to require that they are well versed in basic skills so that the student does not endanger the patients, staff or themselves in the hospital.

All assignments must comply with college standards for written work. All homework assignments are to be submitted by email prior to the start of class on the due date, or a typed hard copy may be submitted at the start of class. Handwritten copies, assignments handed in late, and in-class USB/ or email confirmations will not be accepted. Printing should be completed at home or in a college computer lab. Any assignment or homework that is not submitted on their due date will receive a grade of "0" for that assignment/homework.

Lab evaluations will be conducted during specific weeks to assess each student. An unsatisfactory evaluation will require remediation. Failure to return to the open lab for review or demonstration/return demonstration teaching assessments will result in a grade of "F" for the course. Other lab assignments will include viewing specific videos that are pertinent to the course and are available during all open lab hours as well as in the library. These videos must be viewed and attendance will be taken. Failure to view a video by the due date will result in a failing grade for the assignment.

A conference with the instructor is required at mid-semester and at the end of the course to discuss the student's progress. The Program Director will also offer you advisement for the remainder of your time in the program. Students may initiate conferences at other times, by scheduling an appointment in the nursing office or by calling (718) 368-5522. Office hours for Professor Fruscione are on Monday and Wednesday from 12-2PM.

Classroom Decorum

All pagers, wireless phones, electronic games, recording devices, 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 not allowed to be used during class time. Ear buds, or head phones are not allowed in the classroom. Unless it is for religious purposes, all **hats, hoods, and scarves** must be removed prior to the start of the class. Students must exit the classroom to make or receive calls. Leaving the classroom to answer a phone call or use the bathroom is disruptive to the flow of the lecture; therefor re-admittance will be subject to the instructor's discretion.

Dress Requirements

Students must present themselves as professional role models. Students will be required to dress in **solid navy blue scrub attire** for their lab sessions on Thursdays and Fridays. Students that do not come to class prepared for lab in their scrubs will be dismissed and marked absent. The lab does not have a changing room and the office and stock room are not for student use. The bathroom on the fourth floor can be used as a changing room prior to the start of class. A student entering class and leaving to change will be re-admitted to the class at the discretion of the instructor so that the level of this disruption is kept to a minimum. **Shirts with long sleeves cannot be worn underneath the scrub tops. Unless it is for religious purposes, all hats, hoods, and scarves must be removed prior to the start of the class.** You will be asked to leave the class to remove all aforementioned garments. Your return to the classroom will be at the discretion of the instructor.

Unit 1: Aseptic Technique			
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
Upon completion of this unit the student will be able to: 1. Define terms related to asepsis.	Terminology	<i>AST Guidelines for Best Practice</i>	
2. Discuss sources of contamination.	Sources - personnel - patient - environment		
3. Discuss and demonstrate the principles of asepsis and their application.	Principles of Aseptic Technique - Definition of the sterile field. - Boundaries of the sterile field on the draped patient and sterile personnel. - Boundaries of the sterile field on packages and containers. - Traffic patterns within the sterile field. - The concept of "strike through"	Asepsis and Sterile Technique Introduction to Asepsis and Sterile Technique	The student will: Demonstrate the boundaries of the sterile field. Demonstrate the proper establishment of the sterile field. Demonstrate the correct opening and presentation. Demonstrate correct movement around the sterile field.
4. Discuss principles of CDC's Standard Precautions	1. Concepts of Standard Precautions	<i>AST Guidelines for Best Practice,</i> Prevention of Transmissible Infections	

Unit 2: Surgical Scrubbing, Gowning and Gloving			
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
Upon completion of this unit the student shall be able to: 1. Demonstrate the basic technique of gowning, gloving self	1. Routine prior to surgical scrub: 2. Preliminary wash. 3. Disinfectants used. 4. Scrub methods and principles/ Drying 5. Open vs. closed glove technique.	<i>AST Guidelines for Best Practice</i> Hand Antisepsis, Surgical Media Center: <i>Scrubbing, Gowning and Gloving</i>	The student will: Demonstrate the proper method of scrubbing. Demonstrate the proper method of gowning and gloving self both open and closed.

and other team members	6. Team member preparation. 7. Changing and removing attire.		Demonstrate the proper method of gowning and gloving others.
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Unit 3: Surgical Skin Preparation and Surgical Draping Principles			
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
Upon completion of this unit the student shall be able to: 1. State the purpose and procedure for skin preparation.	1. Purpose 2. Time of skin prep 3. Equipment used. 4. Solutions used. 5. Procedure	<i>AST Guidelines for Best Practice</i>	The student will: Demonstrate the proper method of performing skin prep.
2. Compare the prep for a clean area with a contaminated area.	1. Routine preps: - abdomen - chest - perineum - extremities - head and face 2. Special Handling - umbilicus - stoma - foreign bodies - traumatic wounds - donor/recipient sites - contaminated areas	DVD: <i>AST: Surgical Prepping and Draping</i>	
3. Identify methods of skin marking.	1. Dye solutions 2. Sterile needles.		
4. Describe the materials and types of drapes used for surgical procedures.	1. Materials - woven textiles - nonwoven fabrics - plastic 2. Types - towels and sheets - fenestrated and split sheets - leggings, stockinette - incise drapes	<i>AST Guidelines for Best Practice</i> Gowns and Drapes	
5. Demonstrate the basic methods of draping.	1, Principles of drape placement. 2. Protecting hands. 3. Securing drapes 4. Application of drapes. 5. Maintenance of barrier		The student will: Demonstrate the proper method of handling sterile drapes. Demonstrate the proper application of basic drape.
6. Describe and demonstrate the methods of draping various body parts.	1. Procedural draping - abdomen - chest - head - face - extremities		The student will: Demonstrate the proper method of draping specialized areas of the body.

	- vaginal - rectal		
7. Demonstrate the draping of Operating Room furniture.	1. Tables 2. Ring stands 3. Mayo stands		The student will: Demonstrate the proper method of draping tables, ring stands and mayo stands

Unit 4: Surgical Needles and Sutures			
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
Upon completion of this unit the student shall be able to: 1. Define suture and suture terms.	1. Definition - noun v verb 2. Terminology - filament - absorbable - tensile strength - inert v reactive		
2. Describe packing and sizing scale.	1. Packaging - color coding - package information 2. Sizing scales		
3. Describe types and characteristics of suture materials.	1. Types - absorbable v non absorbable - synthetic v Natural - monofilament v multifilament 2. Coatings		
4. Describe suture absorption process.	1. Phagocytosis 2. Enzymatic action. 3. Hydrolysis		
5. Describe and demonstrate the handling of suture.	1. Suture preparation - estimate of needs - sequence of use - placement on field - loading of suture 2. Ligating methods	<i>AST Guidelines for Best Practice</i>	Demonstrate the proper method of handling different suture materials; i.e. ties, reels and atraumatic needles. Demonstrate the proper method of loading suture on instruments.
Discuss Choice of suture materials.	1. Type of procedure. 2. Condition of tissue. 3. Disease process. 4. Surgeon preference. 5. Cost and availability.		The student will: Demonstrate the proper method of loading suture on instruments.
6. Discuss the techniques of suturing and accessories.	1. Suturing techniques - continuous - interrupted - buried - pursestring - subcuticular - retention - traction 2. Accessory devices - bolsters/bridges - tapes - vessel loops - adhesive skin closures - liquid sutures		The student will: 1. Demonstrate the proper method of preparing suture adjuncts.
7. Describe and discuss suture alternatives	1. Internal and external staplers. 2. Use of staples		The student will:

	3. Advantages and disadvantages 4. Types of staplers. 5. Loading and handling.		Demonstrate the proper method for loading and unloading stapling devices.
8. Describe and discuss the use of surgical needles.	1. Swaged v free 2. Needle bodies 3. Needle points 4. Eyed needles 5. Needle holder selection 6. Loading: right v left hand		The student will: Demonstrate the proper method of loading various needles on specific needle holders. Demonstrate the proper method of preparing non- atraumatic needles Demonstrate the proper loading technique for "Handedness" Demonstrate proper technique for passing needles. Demonstrate proper technique passing needles.
9. Discuss the accountability of the Surgical Technologist in the use of surgical needles.	1. Exchange methods. 2. Needle and needle holder as a unit. 3. Count 4. Inspection on return. 5. Sharps precautions.		

Unit 5: Basic Case Preparation and Perioperative Routines			
Learner Objectives	Content/Lecture Discussion	Related Learner Experiences	Laboratory Objectives
Upon completion of this unit the student shall be able to: 1. Demonstrate and discuss the preparation of the OR prior to setting up a sterile field and the set-up of the sterile field.	1. Opening and dispensing supplies 2. Timing of field preparation. 3. Organization and standardization. 4. Prep table 5. Back table. 6. Mayo stand. 7. Surgeon preference cards. 8. Environmental preparation. 9. Furniture and equipment. 10. Positioning devices	<i>AST Guidelines for Best Practice</i> Sterile Field, Maintaining	The student will 1. Demonstrate the proper opening of sterile supplies. 2. Demonstrate the proper setup of a sterile field.
2. Demonstrate and discuss the application of a sponge and instrument count procedure.	1. Standards of count policies. 2. Documentation. 3. Legal aspects of counts. 4. Incorrect count protocol.	<i>AST Guidelines for Best Practice</i> Counts – Sponge, Sharp and Instrument Handout: Sample Policy and Procedure	The student will 1. Demonstrate the proper method of performing a complete instrument and sponge count.
3. Demonstrate the initial steps of starting a procedure.	1. Preparation of the surgeon and surgical team. 2. Placing and securing surgical drapes. 3. Positioning of sterile tables. 4. Anchoring accessories.		
3. Demonstrate and discuss Intraoperative techniques.	1. Preparation of the scalpel - Blade sizes and uses. - changing blades - passing scalpels 2. Preparation of medications and irrigation solutions. - temperature - labeling - recording	Media Center: Basic Surgical Instrumentation, Equipment and Supplies Preoperative Case Management Intraoperative Case Management	The student will: Demonstrate the proper method of loading and unloading blades. Demonstrate the proper method of passing scalpels Demonstrate the proper method of receiving, labeling and passing surgical medications.

		Postoperative Case Management	
5. Discuss and demonstrate the use of surgical instruments.	1. Classification of instruments <ul style="list-style-type: none"> - dissecting - grasping - clamping - retracting - probing - cutting - suturing 2. Care and handling <ul style="list-style-type: none"> - check function and integrity - cleaning methods - terminal sterilization - preparation for sterilization - safety precautions 	<i>AST Guidelines for Best Practice</i> Care and Cleaning of Surgical Instruments and Powered Equipment	The student will: Demonstrate the proper method of passing each classification of surgical instrument. Demonstrate the proper method of Disassembling, cleaning and reassembling instrumentation. Demonstrate the proper method of preparation for sterilization.
6. Discuss and demonstrate the use of surgical supplies.	1. Packs <ul style="list-style-type: none"> - types and uses - disposable v non-disposable 2. Sponges and dressings 3. Drains, catheters 4. Needles. Syringes and irrigators 5. Surgical fabrics		The student will: Demonstrate the proper method of preparation for various catheters, drains and basic surgical supplies for use on the sterile field.
7. Discuss the operative sequence of opening and closing the surgical wound.	1. Anatomy of the abdominal wall. 2. Abdominal incisions. 3. Instrumentation and suture sequence.		The student will be able to demonstrate the surgical sequence through lab participation
8. Discuss various surgical incisions and the procedure for basic laparoscopy.			The student will be able to demonstrate the surgical sequence through lab participation.