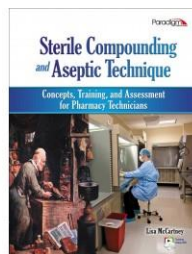


PHAR 1030
Principles of Sterile Medication Preparation
COURSE SYLLABUS
Spring Semester 2016

Semester: Spring 2016
Course Title: Principles of Sterile Medication Preparation
Course Number: PHAR 1030
Credit Hours/ Minutes: 4/4500
Class Location: Room #720; #737 — Gillis Building
Class Meets: Thursday 8:30—2:45
CRN: 40219

Instructor: Matt Brown
Office Hours: Mon / Wed: 8:00—1:00 or By Appointment
Office Location: #722 — Gillis Building
Email Address: mbrown@southeasterntech.edu
Phone: 912-538-3192
Fax Number: 912-538-3106
Tutoring Hours: By Appointment

REQUIRED TEXT: *Sterile Compounding and Aseptic Technique*, 1st Edition, By Lisa McCartney, Paradigm Publishing



REQUIRED SUPPLIES & SOFTWARE: Paper, Pens/Pencils, Folder, Computer Access, and a Basic Calculator

COURSE DESCRIPTION: This course continues the development of student knowledge and skills in preparing medication, processing glassware, and maintaining an aseptic environment. Topics include: aseptic and sterile techniques, parenteral admixtures, hyperalimentation, chemotherapy, filtering, disinfecting, contamination, ophthalmic preparations, infection control, and quality control.

MAJOR COURSE COMPETENCIES:

1. Aseptic and Sterile Techniques
2. Parenteral Admixtures
3. Hyperalimentation
4. Chemotherapy
5. Filtering
6. Disinfecting
7. Contamination
8. Ophthalmic Preparations
9. Infection Control
10. Quality Control

PREREQUISITE(S): All Required

PHAR 1000 - Pharmaceutical Calculations
PHAR 1010 - Pharmacy Technology Fundamentals

COURSE OUTLINE:**Aseptic and Sterile Techniques**

Order	Description	Learning Domain	Level of Learning
1	Describe microbial growth and transmission; origin, pharmacologic effect, and prevention of pyrogens; and heat sterilization and cold sterilization.	Cognitive	Knowledge
2	List possibilities for contamination of an injectable solution during its preparation and for each possibility a precaution that would prevent the contamination.	Cognitive	Knowledge
3	Describe particulate matter inspection and contamination monitoring.	Cognitive	Knowledge
4	Explain visual inspection of parenteral solutions.	Cognitive	Comprehension
5	Describe visual and chemical incompatibilities, pH and concentration effects, and reference sources.	Cognitive	Knowledge
6	Discuss the use of a syringe and needle for aseptic withdrawal of the contents of a rubber-capped vial and a glass ampoule.	Cognitive	Comprehension
7	Define sterility.	Cognitive	Knowledge
8	Describe the occasions when hand washing is required.	Cognitive	Knowledge
9	Discuss aseptic reconstitution of an antibiotic injection.	Cognitive	Comprehension
10	List preparations that may be heat-sterilized.	Cognitive	Knowledge
11	Describe parenteral routes of administration (e.g., rationale, precautions and problems, routes and methods of administration).	Cognitive	Knowledge
12	Describe the equipment and systems used in parenteral administration.	Cognitive	Knowledge
13	Describe the equipment used to prepare parenteral admixtures.	Cognitive	Knowledge
14	Explain aseptic compounding techniques.	Cognitive	Comprehension
15	Discuss labeling and recordkeeping.	Cognitive	Comprehension

Parenteral Admixtures

Order	Description	Learning Domain	Level of Learning
1	Discuss types of IV fluids and their uses.	Cognitive	Comprehension
2	Discuss common parenteral additives.	Cognitive	Comprehension
3	Discuss techniques and procedures for preparing parenteral admixtures, including label preparation and control records completion.	Cognitive	Comprehension
4	Discuss the equipment and systems used in parenteral administration.	Cognitive	Comprehension
5	Describe equipment used to prepare parenteral admixtures.	Cognitive	Knowledge
6	Discuss visual and chemical incompatibilities, pH and concentration effects, and reference sources.	Cognitive	Comprehension
7	Discuss particulate matter inspection and contamination monitoring.	Cognitive	Comprehension
8	Discuss the selection and preparation of containers and closures for parenteral admixtures.	Cognitive	Comprehension
9	Discuss proper selection of each parenteral admixture ingredient.	Cognitive	Comprehension
10	Discuss the correct procedure for mixing and preparing parenteral admixture.	Cognitive	Comprehension

11	Discuss correct selection, assembly, cleaning, use, and storage of necessary equipment.	Cognitive	Comprehension
12	Discuss pharmaceutical solutes and basic solution theory.	Cognitive	Comprehension
13	Discuss parenteral routes of administration.	Cognitive	Comprehension
14	Discuss the labeling requirement for parenteral admixtures.	Cognitive	Comprehension
15	Discuss proper parenteral admixture handling and storage.	Cognitive	Comprehension

Hyperalimentation

Order	Description	Learning Domain	Level of Learning
1	Discuss the basic principles of and reasons for nutritional therapy.	Cognitive	Comprehension
2	Discuss basic hyperalimentation products and their uses.	Cognitive	Comprehension
3	Discuss the correct techniques and procedures for preparing at least three hyperalimentation admixtures, including proper label preparation and appropriate recordings and storage requirements.	Cognitive	Comprehension
4	Discuss the equipment used in preparing hyperalimentation.	Cognitive	Comprehension
5	Discuss incompatibilities (visual and chemical, pH and concentration effects, and reference sources).	Cognitive	Comprehension
6	Discuss the importance of quality control and contamination control in relationship to the hyperalimentation admixture.	Cognitive	Comprehension

Chemotherapy

Order	Description	Learning Domain	Level of Learning
1	Discuss the various classifications of chemotherapy drugs.	Cognitive	Comprehension
2	Discuss the basic principles and the various uses of chemotherapy.	Cognitive	Comprehension
3	Discuss the risk-benefit ratios.	Cognitive	Comprehension
4	Discuss patient variables and drug therapy (e.g., age, weight, pathological conditions, and genetic factors).	Cognitive	Comprehension
5	Discuss practical safety precautions for handling cytotoxic agents in hospital pharmacies, including impact on hospital pharmacy personnel and available protective equipment.	Cognitive	Comprehension
6	Discuss in detail a policy for safely handling cytotoxic agents from receipt to disposal.	Cognitive	Comprehension
7	Discuss quality control (particulate matter inspection and contamination monitoring).	Cognitive	Comprehension
8	Discuss the preparation of cytotoxic agents.	Cognitive	Comprehension

Filtering

Order	Description	Learning Domain	Level of Learning
1	Define the filtration process.	Cognitive	Knowledge
2	Identify and discuss various filtration devices.	Cognitive	Knowledge
3	Identify and describe at least five different filtration devices and their uses.	Cognitive	Knowledge
4	Discuss various filtration requirements for specified drugs or use situations.	Cognitive	Comprehension

Disinfecting

Order	Description	Learning Domain	Level of Learning
1	Discuss microbial growth and transmission.	Cognitive	Comprehension
2	Discuss origin, pharmacologic effect, and pyrogen prevention.	Cognitive	Comprehension
3	Discuss sterilization vs disinfection and the difference between heat and "cold" sterilization.	Cognitive	Comprehension
4	Discuss two major disinfecting agents.	Cognitive	Comprehension
5	Discuss hand washing techniques and methods of cleaning various work surfaces and equipment.	Cognitive	Comprehension

Contamination

Order	Description	Learning Domain	Level of Learning
1	List at least five different possibilities for contamination of an injectable solution during its preparation and for each possibility a precaution that would prevent the contamination.	Cognitive	Knowledge
2	Discuss the proper technique for using a syringe and needle for aseptic withdrawal of the contents of a rubber-capped vial and a glass ampoule to prevent contamination.	Cognitive	Comprehension
3	Discuss the proper technique for aseptic reconstitution of an antibiotic injection to prevent contamination.	Cognitive	Comprehension
4	Discuss storage requirements for drugs and chemicals to prevent contamination.	Cognitive	Comprehension

Ophthalmic Preparations

Order	Description	Learning Domain	Level of Learning
1	Define and discuss types of ophthalmic preparations and their uses (e.g., solutions, suspensions, and ointments).	Cognitive	Knowledge
2	Discuss the general preparation and filtration process of eye medications and those used specifically in surgical procedures (e.g., local injections, etc.).	Cognitive	Comprehension
3	Discuss and describe the local administration of eye medications.	Cognitive	Comprehension

Infection Control

Order	Description	Learning Domain	Level of Learning
1	Describe methods of bacterial and viral infection transmission and how to prevent spreading infections in a health care environment.	Cognitive	Knowledge

Quality Control

GENERAL EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS: Students are expected to complete all exams and daily assignments. Students will also be required to complete hands-on demonstrations needed to function properly in the pharmacy field. Students are responsible for all policies and procedures listed within the student catalog / program handbook. Quizzes are subject to be given at any time over any assigned material (i.e. reading, homework, etc.). Students are responsible for keeping up with their grades. Do not ask instructor for grades during the semester.

ATTENDANCE GUIDELINES: Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

ADDITIONAL ATTENDANCE PROVISIONS (*Health Sciences*): Requirements for instructional hours within Health Science and Cosmetology programs reflect the rules of respective licensure boards and/or accrediting agencies. Therefore, these programs have stringent attendance policies. Each program's attendance policy is published in the program's handbook and/or syllabus which specify the number of allowable absences. All provisions for required make-up work in the classroom or clinical experiences are at the discretion of the instructor.

Attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least 90% of the scheduled instructional time. Time and/or work missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course.

For this class, which meets 1 day a week for 15 weeks, the maximum number of days a student may miss is 2 days during the semester.

SPECIFIC ABSENCES: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

SPECIAL NEEDS: Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Jan Brantley, Room 1208 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 912-538-3126, to coordinate reasonable accommodations.

PREGNANCY: Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with the Special Needs Office. Swainsboro Campus: Jan Brantley, Room 1208, (478) 289-2274 — Vidalia Campus: Helen Thomas, Room 108, (912) 538-3126.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

*****Instructor reserves the right to change the syllabus and/or lesson plan as necessary*****

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES (Tests, quizzes, homework, projects, etc...): Exams missed for any reason will be made up at the end of the semester on a date to be scheduled by the instructor. Any quizzes missed due to a student absence generally will not be allowed to be made up. If a lab assignment is missed, the student is completely responsible for arranging make-up lab time at the instructor's convenience.

The instructor may allow students to make up any assignments that were missed due to absence if the instructor is notified in advance of the absence, or if any unforeseen circumstances arise that cause the student to be absent from class. These situations will be dealt with on a case by case basis. The student is responsible for notifying the instructor of any absence, as well as supplying any available documentation concerning the absence in order for the instructor to consider allowing the assignments to be made up.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states *All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline.* The policy can also be found in the *STC Catalog and Student Handbook.*

Procedure for Academic Misconduct

The procedure for dealing with academic misconduct and dishonesty is as follows:

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

--Second Offense--

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION: Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era or citizenship status, (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC's website.

ACCESS TO TECHNOLOGY: Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the STC website at www.southeasterntech.edu.

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GRADING POLICY

Exam Average	25%
Quizzes	25%
Assignments/ Labs	25%
<u>Final Exam</u>	<u>25%</u>

Total Average = 100%

GRADING SCALE

A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: 0-59

TCSG GUARANTEE/WARRANTY STATEMENT:

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

PHAR 1030				
Principles of Sterile Medication Preparation				
SPRING SEMESTER 2016 LESSON PLAN				
Date	Chap / Less	Content	Assignments & Tests Due	Comp Area
Week 1 (January 11 – January 17)				
1/14	Chapter 1—2	Intro to course/syllabus/books Chapter 1: Sterile Compounding as a Pharmacy Technician Chapter 2: The Sterile Compounding Environment	Read and Review Chapter 1 Chapter 1 Concepts: PowerPoint Chapter 1 Training: Lab Chapter 1 Assessments/Assignments Read and Review Chapter 2 Chapter 2 Concepts: PowerPoint Chapter 2 Training: Lab Chapter 2 Assessments/Assignments	1—10 A ; C
Week 2 (January 18 – January 24)				
1/21	Chapter 2—3	Chapter 2: The Sterile Compounding Environment Chapter 3: Sterile Compounding Supplies	Quiz #1 Review Chapter 2 Chapter 2 Concepts: PowerPoint Chapter 2 Training: Lab Chapter 2 Assessments/Assignments Read and Review Chapter 3 Chapter 3 Concepts: PowerPoint Chapter 3 Training: Lab Chapter 3 Assessments/Assignments Study for Chapters 1—3 Test	1—10 A ; C
Week 3 (January 25 – January 31)				
1/28	Chapter 1—3	Chapter 3: Sterile Compounding Supplies Test #1: Chapter 1—3	Review Chapter 3 Chapter 3 Concepts: PowerPoint Chapter 3 Training: Lab Chapter 3 Assessments/Assignments Test: Chapter 1—3	1—10 A ; C

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Week 4 (February 1– February 7)				
2/4	Chapter 4—5	Chapter 4: Medication Orders and Labeling Chapter 5: Calculations for Sterile Compounding	Read and Review Chapter 4 Chapter 4 Concepts: PowerPoint Chapter 4 Training: Lab Chapter 4 Assessments/Assignments Read and Review Chapter 5 Chapter 5 Concepts: PowerPoint Chapter 5 Training: Lab Chapter 5 Assessments/Assignments	1—10 A ; C
Week 5 (February 8 – February 14)				
2/11	Chapter 4—5	Chapter 4: Medication Orders and Labeling Chapter 5: Calculations for Sterile Compounding Test #2: Chapter 4—5	Review Chapters 4--5 Test: Chapter 4—5 <i>Prior to Next Class:</i> — Read and Review Chapter 6 — — Watch Ch. 6 Demonstration Video —	1—10 A ; C
Week 6 (February 15 – February 21)				
2/18	Chapter 6	Chapter 6: Aseptic Garbing, Hand Washing, and Gloving	Review Chapter 6 Chapter 6 Concepts: PowerPoint Chapter 6 Training: Lab Chapter 6 Assessments/Assignments Quiz #2 <i>Prior to Next Class:</i> — Read and Review Chapter 7 — — Watch Ch. 7 Demonstration Video —	1—10 A ; C
Week 7 (February 22 – February 28)				
2/25	Chapter 7	Chapter 7: Cleaning the Horizontal Laminar Airflow Hood	Quiz #3 Review Chapter 7 Chapter 7 Concepts: PowerPoint Chapter 7 Training: Lab Chapter 7 Assessments/Assignments Study for Chapters 6—7 Test	1—10 A ; C
Week 8 (February 29 – March 6)				
3/3	Chapter 6-7; 8	Test #3: Chapter 6—7 Chapter 8: Large-Volume Parenteral Preparations	Test: Chapter 6—7 Read and Review Chapter 8 Chapter 8 Concepts: PowerPoint Chapter 8 Training: Lab Chapter 8 Assessments/Assignments Watch Ch. 8 Demonstration Video <i>Prior to Next Class:</i> — Read and Review Chapter 9 — — Watch Ch. 9 Demonstration Video —	1-2 ; 5-7 ; 10 A—C

Week 9 (March 7 – March 13)				
3/10	Chapter 9	Chapter 9: Small-Volume Parenteral Preparations	<p>Quiz #4</p> <p>Review Chapter 9</p> <p>Chapter 9 Concepts: PowerPoint</p> <p>Chapter 9 Training: Lab</p> <p>Chapter 9 Assessments/Assignments</p> <p><i>Prior to Next Class:</i></p> <p>— Read and Review Chapter 10 —</p> <p>— Watch Ch. 10 Demonstration Video —</p>	1-2 ; 5-7 ; 10 A—C
Week 10 (March 14 – March 20)				
3/17	Chapter 10	Chapter 10: Ampule-Based Preparations	<p>Quiz #5</p> <p>Review Chapter 10</p> <p>Chapter 10 Concepts: PowerPoint</p> <p>Chapter 10 Training: Lab</p> <p>Chapter 10 Assessments/Assignments</p> <p>Study for Chapters 8—10 Test</p>	1-2 ; 5-7 ; 10 A—C
Week 11 (March 21 – March 27)				
3/24	Chapter 8-10; 11	<p>Test #4: Chapter 8—10</p> <p>Chapter 11: Narcotic Preparations</p>	<p>Test: Chapter 8—10</p> <p>Read and Review Chapter 11</p> <p>Chapter 11 Concepts: PowerPoint</p> <p>Chapter 11 Training: Lab</p> <p>Chapter 11 Assessments/Assignments</p> <p>Watch Ch. 11 Demonstration Video</p> <p><i>Prior to Next Class:</i></p> <p>— Read and Review Chapter 12 —</p> <p>— Watch Ch. 12 Demonstration Video —</p>	1-2 ; 5-7 ; 10 A—C
Week 12 (March 28 – April 3)				
3/31	Holiday: Spring Break			
Week 13 (April 4 – April 10)				
4/7	Chapter 11—12	<p>Chapter 12: Pediatric Preparations</p> <p>Test #5: Chapter 11—12</p>	<p>Review Chapter 12</p> <p>Chapter 12 Concepts: PowerPoint</p> <p>Chapter 12 Training: Lab</p> <p>Chapter 12 Assessments/Assignments</p> <p>Test: Chapter 11—12</p> <p><i>Prior to Next Class:</i></p> <p>— Read and Review Chapter 13 —</p> <p>— Watch Ch. 13 Demonstration Video —</p>	1-2 ; 5-7 ; 10 A—C

Week 14 (April 11 – April 17)				
4/14	Chapter 13	Chapter 13: Total Parenteral Nutrition	Quiz #6 Review Chapter 13 Chapter 13 Concepts: PowerPoint Chapter 13 Training: Lab Chapter 13 Assessments/Assignments <i>Prior to Next Class:</i> — Read and Review Chapter 14 — — Watch Ch. 14 Demonstration Video —	1-3 ; 5-7 ; 10 A—C
Week 15 (April 18 – April 24)				
4/21	Chapter 13—14	Chapter 14: Chemotherapy Products and Procedures Test #6: Chapter 13—14	Review Chapter 14 Chapter 14 Concepts: PowerPoint Chapter 14 Training: Lab Chapter 14 Assessments/Assignments Test: Chapter 13—14	1-2 ; 4-7 ; 10 A—C
Week 16 (April 25 – May 1)				
4/28	Final	Comprehensive Final Exam	Final Exam	1—10 A—C

*** Competency Areas:**

1. Aseptic and Sterile Techniques
2. Parenteral Admixtures
3. Hyposalimentation
4. Chemotherapy
5. Filtering
6. Disinfecting
7. Contamination
8. Ophthalmic Preparations
9. Infection Control
10. Quality Control

****General Core Educational Competencies**

- A. The ability to utilize standard written English.
- B. The ability to solve practical mathematical problems.
- C. The ability to read, analyze, and interpret information.



Southeastern Technical College Pharmacy Technology Diploma Program

I _____ have read and understand the syllabus for PHAR 1030. I have also been given the opportunity to ask questions to clarify any requirements listed on the syllabi. By signing this agreement I am acknowledging that I fully understand my requirements and grading criteria that I am responsible for. I agree to follow the guidelines and rules listed on the syllabi.

Print Name

Student Signature

Date

*****Instructor reserves the right to change the syllabus and/or lesson plan as necessary*****