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Course Objectives/Course Outline
Spokane Community College

Course Title:	**Sterile Compounding & Aseptic Technique**
Prefix and Course Number:	**PHARM 126**

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Demonstrate the ability to prepare IV admixtures and TPNs using aseptic technique
- Verify the measurements, preparation, and selection for sterility and stability of IV admixtures
- Identify the proper labeling requirements for appropriate and complete products
- Understand the control of the inventory of medications and equipment according to the facilities policy and procedures
- Identify the facilities process for preventing medication deficiencies in compounding
- Describe the different types of laminar flow hoods
- Maintain an image appropriate for the profession of pharmacy
- Determine the technique used for all procedures performed to keep a sterile product from being contaminated
- Identify the different types of laminar flow hoods
- Maintain confidentiality of patient and proprietary information
- Describe the first line of defense against infection
- Demonstrate the ability to perform mathematics calculations
- Identify the established policy and procedure for recording preparation of sterile and non-sterile medication for immediate or future use
- Describe the storage requirements related to chemotherapy medications
- Identify the role and function of the equipment used in sterile compounding, including syringes, needles, intravenous sets including their components and filters
- Identify the different types of IV solutions and their usage
- Describe the different types of sterile products
- Explain the difference between a cleanroom and an ante room
- Identify the training requirements of becoming a sterile compounding technician
- Describe the common modes of contamination and the preventive measures

OUTLINE

I. STERILE COMPOUNDING AND ASEPTIC TECHNIQUE

- Define sterile compounding and aseptic techniques
- Understand the training requirements for pharmacy technicians
- Recognize various quality assurance and end-product testing procedures
- Determine appropriate response to medication safety questions
- Discuss the first line of defense against infections
- Demonstrate an awareness of the ethical issues in pharmacy

II. CHARACTERISITCS OF THE ANTEROOM AND CLEAN ROOM

- Identify the origin of the pharmacy clean room and procedures for sterile compounding
- Describe anteroom and clean room setup and characteristics
- Understand the various ISO levels that are appropriate for sterile compounding
- Identify the different types of hoods used for sterile compounding
- Recognize potential contaminants in the sterile compounding environment

III. STERILE COMPOUNDING SUPPLIES

- Correct Opening and Placement of Supplies
- Describer various components of the most frequently used sterile compounding supplies
- Understand the rationale for using particular supplies in specific compounding situations
- Identify the critical sites of commonly used sterile compounding supplies

IV. MEDICATION ORDERS AND LABELING

- Introduction to medical abbreviations, acronyms and symbols
- Types of medication orders
- Medication order contents and processing
- Sterile compound label components
- Sterile compound label verification and application
- CSP labeling

V. ASEPTIC GARBING, HAND WASHING AND GLOVING

- Self-assessment for compliance
- Use of personal protective equipment
- Procedure-specific and essential supplies

VI. LARGE VOLUME PARENTERAL PREPARATIONS

- Physiology of fluid balance
- Properties of parenteral products
- Potential complications of parenteral therapy
- USP chapter <797> guidelines for LVPs

VII. SMALL VOLUME AND AMPULE PARENTERL PREPARATIONS

- Compounding of IVPBs
- Administration of IVPBs and ampule-based preparations
- USP Chapter <797> Guidelines for SVPs and ampule-based preparations
- Properties of ampule medications
- Opening of ampules

VIII. NARCOTIC PREPARATIONS

- Drug schedules
- Properties of narcotic CSPs
- Potential complications of parenteral therapy
- Controlled substance storage and record keeping
- Patient-Controlled Analgesia
- USP Chapter <797> guidelines for controlled substance CSPs
- Understand the resources and supplies

IX. PEDIATRIC PREPARATIONS

- Pediatric CSPs
- Pediatric dosing and formulations
- Administration of pediatric CSPs
- Potential complications of pediatric CSPs
- USP Chapter <797> guidelines for pediatric CSPs
- Understand the resources and supplies

X. TOTAL PARENTERAL NUTRITION (TPN)

- Types of parenteral nutrition
- Indications for prescribing TPN
- Compounding of TPN solutions
- Preparation risks of parenteral fluids
- Standard mixing protocols for TPN preparation
- Special considerations for preparing TPNs
- USP Chapter <797> guidelines for TPN preparation

XI. CHEMOTHERAPY PREPARATION

- Standard requirements for chemotherapy IV preparation
- Medication IV label requirements for chemotherapy drugs
- Discuss the different types of laminar flow hoods
- Storage requirements related to chemotherapy
- Determine the technique used for all procedures performed to keep a sterile product from contamination
- Working knowledge of microbiology and prevention communicable diseases in the health care environment

- Identifying MSDS sheets and the criteria each sheet must contain