Pharmacy Lab 3: Sterile Products and Intravenous Admixtures
PHAR 7193
Fall Semester 2025

Course Description
This laboratory course will provide students with hands-on experience in preparing and dispensing parenteral and sterile products and admixtures using aseptic techniques.

Additional Course Information
This course will provide students with the knowledge and skills to compound sterile preparations according to established standards and best practices. Emphasis will be given on proper garbing, use of laminar flow hood, handling, and labeling sterile preparations.

Course Credit: 1 credit hour

Pre-Requisites: PHAR 7201 Pharmacy Calculations

Co-Requisites: None

Class Meeting Days, Time & Location
Pre-lab sessions: W.T. Brookshire Hall Room 235; Monday; 9:00 am – 10:00 am

Lab sessions: W.T. Brookshire Hall Room 211; 235
Tuesday Session: 9:00 am – 11:00 am
Friday Session: 9:00 am – 11:00 am

Supplemental instruction **(All Lab Sessions)**: W.T. Brookshire Hall Room 235
Tuesday Session: 11:00 am – 12:00 pm

****Please see the course schedule for exam times****
****Students Must Attend Their Assigned Lab Day****

Course Coordinator
Jose Vega, Pharm.D.
Office WTB 127
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Email: jvega@uttyler.edu
Office hours: Tuesdays 12 pm – 1 pm, Thursdays 12 pm – 1 pm, open door, and by appointment
Preferred method of contact: in person after pre-lab or lab sessions

Faculty: Pamella Ochoa, Pharm.D.
Office Location: WTB 327
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Preferred method of contact: Email

Office hours: Mondays 12 pm – 1 pm; Tuesdays 12 pm – 1 pm; Fridays 11 am – 12 pm, and by appointment

Instructor: Joseph Chase, CPhT
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Preferred method of contact: Email

Fisch College of Pharmacy (FCOP) and UT Tyler Policies
This is Part 1 of the syllabus. Part 2 contains UT Tyler and the FCOP policies and procedures. For experiential courses (i.e., IPPE and/or APPE), the Experiential Manual contains additional policies and instructions that supplement the Syllabus Part 1 and 2. Please note, the experiential manual may contain policies with different deadlines and/or instructions. The manual should be followed in these cases.

Required Materials
Most course-required materials are available through the Robert R. Muntz Library. These materials are available either online* (http://library.uttyler.edu/) or on reserve.

1. Ochoa, Pamella, and Vega, Jose. *Concepts in Sterile Preparations and Aseptic Technique. Jones & Bartlett Learning*, Burlington, MA, 2015. ISBN:978-1-284-03572-8
2. Other required materials will be posted on the classes' Canvas site. The site address is: uttyler.edu/canvas.

Recommended Materials
None

Course Format
The course may include, but are not limited to, the following activities:

- Independent study of selected readings/ Lecture notes
- Live/video presentation
- Laboratory instruction/ practice

Course Learning Outcomes

CLOs	PLO(s) Assessed for this CLO (1-12)	EPAs (1-13)	ACPE Appendix 1	ACCP Didactic Toolkit	NAPLEX (1.A.1-5.D)	Assessment Methods (1-13)
1. Accurately perform calculations required for compounding sterile preparations.	1,2	7	•Pharmaceutical Calculations •Patient Safety	-	1.C.2.3.4.5.6	1
~~2. Demonstrate proper techniques related to compounding sterile preparations.~~	~~1,2~~	-	-	-		~~1~~
2. Apply knowledge of regulations and standards to sterile compounding practices.	1,2,7	-	•Extemporaneous Compounding •Patient Safety •Pharmacy Law	-	1.B.2 2.D	1,4

3. Efficiently prepare compounded preparations that are accurate and sterile using proper aseptic technique related to compounding sterile preparations.	1,2,7	7	•Extemporaneous Compounding •Medication DDS •Patient Safety	-	1.B.2 2.A.3 2.D	4
4. Evaluate risks to patient safety as it relates to sterile compounding.	7	7	•Extemporaneous Compounding •Pharmaceutical Calculations •Medication DDS •Patient Safety	-	1.B.2 1.C.2.3.4.5.6 2.D 3.C.3	1,4

Course Summative Assessment Methods

	Assessment/Examination Method
1	Question-based examination (ExamSoft-based)
2	Question-based examination (paper-based)
3	Comprehensive Case
4	Skills Assessment
5	OSCE
6	Team Project
7	Individual Project
8	Oral Presentation
9	SOAP Note
10	Reflection Essay
11	Simulation
12	Internship/Observation
13	Other major assignment. Please specify:

Course Assessment Method Description

	Assessment Method	Description
1	Weekly lab grade	Weekly participation grades based on preparedness for lab, professionalism, participation during lab, utilization of proper techniques for the preparation and handling of sterile compounds, handwashing, garbing, and attendance
2	Weekly written quizzes	9-13 quizzes, 4-5 questions covering material from prior week(s), standard MCQ, select all that apply, fill in the blank, true/false, short answer questions
3	Midterm lab exam	Compounding a medium risk parental preparation in the hood using aseptic techniques, manipulation accuracy will be observed and graded, this exam will be recorded, and you will perform a self-evaluation of your video
4	Final lab exam	Compounding a medium risk parental preparation in the hood using aseptic techniques, manipulation accuracy and microbial growth will be observed and graded, preparation will be evaluated for evidence of microbial growth after two weeks of incubation
5	Midterm written exam	In-person exam, 40-60 questions, standard MCQ, select all that apply, fill in the blank, true/false, short answer questions

6	Final written exam	In-person exam, cumulative exam, 40-60 questions, standard MCQ, select all that apply, fill in the blank, true/false, short answer questions

Grading Policy & Grade Calculation

Students must pass the Experiential Training Components (Lab) and the Didactic Components (Pre-Lab) separately, i.e. the student must receive a score of 70% or higher in the Lab and a 70% or higher in the Pre-Lab to pass this course. If a student receives less than 70% in either the Lab or Pre-Lab, they will receive a D or F in the course. For example, if a student receives 80% in Lab and 64% in the Pre-Lab, they will receive a final grade of F. If the student receives 80% in the Lab and 66% in the Pre-Lab, the student will receive a final grade of D.

During the time the course is in progress, students who obtain less than 75% on any summative assessment or a total course grade of less than 75% during a particular semester will receive an academic alert from the course coordinator and the Office of Academic Affairs and be subject to weekly in-course remediation with the course instructor(s).

All examinations, tests, and assignments, including the final examination, may be **cumulative.** Students are responsible for material presented during the prior courses. The grading scale for all graded material is below. Course grades will not be rounded upward or downward. For additional information, see examination/assessment policy below.

Grade Calculation

Experiential Training Components (Lab)

Weekly lab grade	10%
Midterm lab examination	20%
Final lab examination	20%

Didactic Components (Pre-Lab)

Weekly written quizzes	10%
Midterm written examination	20%
Final written examination	20%

A	90 - 100 %
B	80 - 89.99$\bar{9}$ %
C	70 - 79.99$\bar{9}$ %
D	65.0 - 69.99$\bar{9}$ %
F	< 65.0 %

NOTES

- The final lab exam will be based on the performance of the practical exam according to proper techniques and manipulations. Microbial growth of the media fill test will be on a pass/fail basis (**all or none for the course**). The presence of microbial growth will result in a failure and require a re-test. If the media from the re-test has no growth, the student will receive a final lab exam score of 70%. **If the media from the re-test is positive for microbial growth, the student will be required to repeat the course.**

- Any student showing up to lab midterm exam and lab final exam with makeup, fingernail polish/ false nails, false eyelashes, jewelry, etc. (please see proper attire section of syllabus) or late will not be allowed to test and will have to come back with a maximum exam grade of a 70% upon taking exam.

Course Remediation and Reassessment Policy

Please see the Student Handbook (https://www.uttyler.edu/pharmacy/student-handbook/index.php)

Proper Lab Attire

- Students are expected to respect the learning environment and exhibit professional appearance at all times. Professional attire in the clinical laboratory shows consideration for oneself, peers, faculty, patients, visitors, and co-workers.
- Surgical scrubs shed few particles and must be worn during lab. Lab coats, hair covers, masks, gloves, and shoe covers will be provided and must be worn during all sterile product preparations. Shorts, t-shirts, and jeans are not considered appropriate attire. For safety reasons, skirts or other garments that leave portions of the legs uncovered and open-toed shoes will not be allowed.
- For comfort, students are encouraged to wear comfortable shoes during prolonged standing in the lab.
- Jewelry should not be worn in the lab. This includes facial ornamentation. Rings, earrings, etc., should be removed and placed in a safe location during the lab. Students are responsible for the security of their jewelry. It is recommended that valuable jewelry be left at home.
- During the laboratory midterm and final exams, students will be required to wear surgical scrubs and will not be allowed to wear makeup, fingernail polish/ false nails, false eyelashes, jewelry, or anything that would compromise air quality. Hair and skin must be clean and well-groomed.
- Students donning inappropriate attire in the laboratory may be asked to leave and return in appropriate attire, incurring an unexcused absence for each occurrence.

Appropriate Use of Artificial Intelligence

- To best support your learning, you must complete all graded assignments by yourself to assist in your learning. This exclusion of other resources to help complete assignments includes artificial intelligence (AI). Refrain from using AI tools to generate any course context (e.g., text, video, audio, images, code, etc.) for assignments or classroom assignments.

IL3 Course Schedule (PHAR 7193), Fall 2025

Week/ Date	Monday Pre-Lab WTB 235 Topic (9 am - 10 am)	Instructor	Tuesday/Friday Lab Topic WTB 211; 235 (9 am -11 am)	CLO
Week 1 8/25/25	**Compounding/Patient Safety:** Introduction to Parenteral Preparations Supplies and Equipment for Compounding Sterile Preparations	Vega	**Calculations:** Calculations Lab **Room WTB 235**	1,2,7
Week 2 9/1/25	Labor Day Holiday (NO Pre-Lab)		**Calculations:** Calculations Lab **Room WTB 235**	1,2
Week 3 9/8/25	**Compounding/Patient Safety:** Microbiological Considerations	Ochoa	**Compounding/Calculations/Patient Safety:** Station Clean-Up Garbing/ Hand Washing Calculations	1,2,7
Week 4 9/15/25	**Compounding/ Patient Safety:** Primary and Secondary Engineering Controls	Ochoa	**Compounding/DDS:** Hood Cleaning Sterile Gloves/Fingertip Testing Adaptable Vial Systems	1,2,7
Week 5 9/22/25	**Compounding/Patient Safety:** Aseptic Techniques and Compounding Manipulations	Vega	**Compounding/DDS:** Positive and Negative Pressure Vial Preparation Reconstitute Vial Preparation Ampule Preparation	1,2,7
Week 6 9/29/25	**Compounding/Patient/Safety:** Aseptic Techniques and Compounding Manipulations	Vega	**Compounding/DDS:** Positive and Negative Pressure Vial Preparation Reconstitute Vial Preparation Ampule Preparation	1,2,7
Week 7 10/6/25	**Compounding/ Patient Safety/DDS:** Principles of Compatibility and Stability	Ochoa	**Compounding/Patient Safety:** Practice Midterm Exam: Reconstitute Vial Incompatibility	1,2,7
Week 8 10/13/25	**Compounding/Calculations/Patient Safety/DDS: Pre-Lab Midterm Exam Monday 10/13/25, 8 am-10 pm Room 235**		**Compounding/Patient Safety: Lab Midterm Exam Tuesday 10/14/25 and Friday 10/17/25 Time Slots Between 9 am-1 pm**	1,2,7
Week 9 10/20/25	**Compounding/DDS:** Considerations for IV Medications in Infants and Children	Vega	**Compounding/Patient Safety/Calculations:** Pediatric Preparations	1,2,7
Week 10 10/27/25	**Compounding/DDS:** Multiple Product Preparations for Parenteral Nutrition	Vega	**Compounding/Patient Safety/Calculations:** Total Parenteral Nutrition Preparation	1,2,7
Week 11 11/3/25	**Compounding/DDS/Patient Safety:** Preparation of Hazardous Drugs	Ochoa	**Compounding/Patient Safety:** Hazardous Drug Preparation Chemo Spill Kit	1,2,7
Week 12 11/10/25	**Compounding/ Patient Safety/Law:** Quality Assurance and Quality Control	Ochoa	**Compounding/Patient Safety:** Practice Final Exam: Growth Media Surface Sampling	1,2,7
Week 13 11/17/25	**Compounding/ Patient Safety/Law:** Quality Assurance and Quality Control	Ochoa	**Compounding/Patient Safety: Lab Final Exam Tuesday 11/18/25 and Friday 11/21/25 Time Slots Between 9 am-1 pm**	1,2,7
Holiday 11/24/25	Thanksgiving Holiday (NO Pre-Lab)		Thanksgiving Holiday (NO Labs)	
Week 14 12/1/25	**Compounding/Patient Safety:** Patient Safety Pre-Lab	Vega	**Compounding/Patient Safety:** Patient Safety Lab	1,2,7
Week 15 12/8/25	**Finals Week Pre-Lab Final Exam Monday 12/8/25, 9 am-12 pm Room 235**		**Finals Week (NO Labs) (Lab Final Exam Re-Tests)**	1,2,7