MILESTONE (7010.011-7010.032)
Pharmacy Skills Passport and Foundational Medication Knowledge
Fall 2024 and Spring 2025

Milestone Description

This milestone is designed for pharmacy students to attain and demonstrate the knowledge and skills that will be utilized during their Introductory and Advanced Pharmacy Practice Experiences (IPPE, APPE).

Additional information

The milestones reinforce and assess Foundational Medication Knowledge (i.e. select drugs from the Top 300 Rx/Top 100 OTC/Top 200 Injectable drugs and course relevant drugs) and Calculation skills.

Sections:

> Milestone 7010.011 Passport and Foundational Medication Knowledge (P1 year - Fall).
> Milestone 7010.012 Passport and Foundational Medication Knowledge (P1 year - Spring).
> Milestone 7010.021 Passport and Foundational Medication Knowledge (P2 year - Fall).
> Milestone 7010.022 Passport and Foundational Medication Knowledge (P2 year - Spring).
> Milestone 7010.031 Passport and Foundational Medication Knowledge (P3 year - Fall).
> Milestone 7010.032 Passport and Foundational Medication Knowledge (P3 year - Spring).

Course Credit: Milestone (Achieved / Not Achieved).

Pre-requisites: None

Co-requisites: None

Class meeting days, time, and location: Self-study

Fall Milestone Coordinators

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Spring Milestone Coordinators

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Fisch College of Pharmacy (FCOP) and UT Tyler Policies

This is part 1 of the syllabus. Part 2 contains UT Tyler and the FCOP course policies and procedures. These are available as a PDF at https://www.uttyler.edu/pharmacy/academic-affairs/. 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 (P1)

None. A list of the Top 300 Rx/Top 100 OTC/Top 200 Injectable drugs will be posted in Canvas.

Required materials (P2-P3)

Most course-required materials are available through the Robert R. Muntz Library. These materials are available online* (http://library.uttyler.edu/). Navigate to Access Pharmacy, once in Access Pharmacy open Study Tools and you will find the links for each card set.

1. 20245-2025* Top 300 Pharmacy Drug Cards. Kolesar JM, Vermeulen LC. Lange/McGaw Hill.
2. 2023-2024* Top 200 Injectable Flash Drug Cards. Kolesar JM, Vermeulen LC. Lange/McGaw Hill.
3. 2022-2023* Top 100 Nonprescription Drug Cards. Kolesar JM, Vermeulen LC. Lange/McGaw Hill.
4. Older card sets (e.g. 2018-2019 Top 100 Nonprescription Drug Cards) may be used if there is not a card in the products listed above. This will be noted in canvas when used.
   *Note that McGraw updates the cards without notice removing the previous edition.

Directions for accessing electronic versions

1. Go to AccessPharmacy through the UT Tyler Library.
2. In the top right corner, select "Sign in" and Create a Free MyAccess profile.
3. Go back to AccessPharmacy, select "Study Tools", select "Top 200 Drug Flashcards" or "Top 100 Nonprescription Drug Cards", etc.
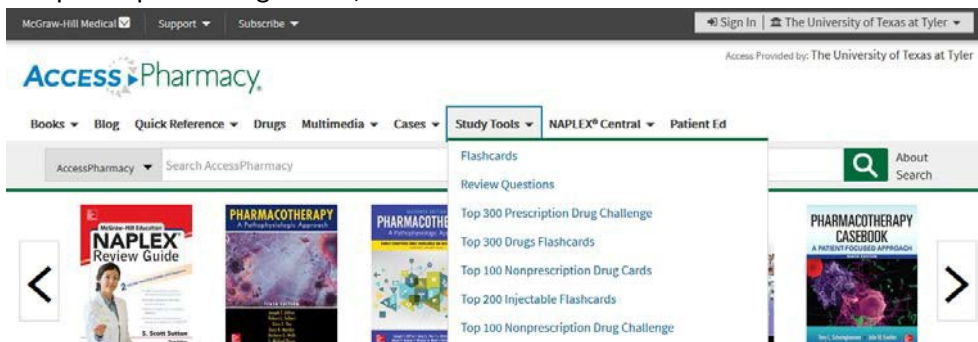
Course format

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

1. Independent study of selected skills and drug cards.
2. Demonstration of Top 300/200/100 Drug knowledge, pharmacy calculations, and pharmacy skills

Course Learning Outcomes (CLOs)						
CLOs	Related PLO(s)	EPAs	Assessment Methods	Grading Method	PPCP Skill(s) Assessed (1-5)	AACP Std 11 & 12 (1-4)
1. Knowledge recall of foundational knowledge regarding the Top 300 Rx/Top 200 Injectable drugs/Top 100 OTC.	1,7	5.2	MCQ + Fill in the Blank	ES	N/A	N/A
2. Demonstration of calculation skills	1	5.2	MCQ + Fill in the Blank	ES	N/A	N/A
Course Assessment Methods						
Assessment Domain	**Description:** Please provide a brief description of each summative assessment that you plan to use in this course to allow us to identify which ACPE standards are being assessed.					
2. Top 300/200/100 Drug Quizzes	Weekly quizzes using multiple choice questions and fill in the blank.					
3. Summative Examinations	Summative examination using multiple choice questions and fill in the blank.					

Milestone Determination.

To ACHIEVE the milestone, the student must do the following:	

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Foundational Medication Knowledge.
- ▪ Successful completion of Foundational Medication Knowledge assessments is defined as:
  - (1) Passing 13/14 weekly drug quizzes with a grade of 70% or higher, **or**
  - (2) Passing a summative examination with a grade of 70% or higher.
- ▪ Students who have not passed 13/14 weekly quizzes will be required to take the final exam.

Academic Alerts
Students who have not successfully completed pharmacy skills by on their first attempt or have a weekly quiz score below 70% will receive an academic alert.

P1	**Milestone 7010.011 Passport and Foundational Medication Knowledge (Fall P1 year).** • Successful completion of Foundational Medication Knowledge Assessments (Top 300/200/100: Tier 1 information) **Milestone 7010.012 Passport and Foundational Medication Knowledge (Spring P1 year).** • Successful completion of Foundational Medication Knowledge assessments (Top 300/200/100: Tier 1 information and Calculations)
P2	**Milestone 7010.021 Passport and Foundational Medication Knowledge (Fall P2 year).** • Successful completion of Foundational Medication Knowledge assessments (Top 300/200/100: Tier 2 information and Calculations) **Milestone 7010.022 Passport and Foundational Medication Knowledge (Spring P2 year).** • Successful completion of Foundational Medication Knowledge Assessments (Top 300/200/100: Tier 2 information and Calculations)
P3	**Milestone 7010.031 Passport and Foundational Medication Knowledge (Fall P3 year).** • Successful completion of Foundational Medication Knowledge Assessments (Top 300/200/100: Tier 2 information and Calculations) **Milestone 7010.032 Passport and Foundational Medication Knowledge (Spring P3 year).** • Successful completion of Foundational Medication Knowledge Assessments (Top 300/200/100: Tier 2 information and Calculations)

Remediation:

- Students have **2** chances to achieve the specific milestone each semester, i.e., the weekly quizzes, and the final summative examination. Therefore, students are provided the opportunity to remediate *within* the semester.

- If a student does ***not*** achieve the milestone by the final summative examination, they will be disenrolled from all courses scheduled for the next semester.

- To be re-enrolled in classes, the student must retake a milestone examination no later than 1 week prior to the next semester. The date and time to be determined by the FCOP Office of Academic Affairs.
  - o If the student achieves the milestone, they may be re-enrolled in classes. Please note that elective courses must be re-requested and previously selected electives may no longer be available for selection.
  - o If the student does ***not*** achieve the milestone with this attempt, they must petition the Professional and Academic Standards Committee for enrollment.
  - o If the PASC approves enrollment and subsequent reassessment of the milestone content <u>*and*</u> the student does not successfully achieve the milestone, the student must re-petition the Professional and Academic Standards Committee for enrollment.

- The deadlines to petition PASC and the appeal processes for PASC petitions are outlined in the Student Handbook.

Schedule Fall 2022-2023

P1 Fall (1/2 of the list) Tier 1 information[1]	P2 Fall (PTX 1, 2) / (1/4 of list) Tier 2 Information[1] + Calculations[2]	P3 Fall (PTX 5, 8) / (1/4 of list) Tier 2 Information[1] + Calculations[2]	CLO 1=CLO1 2=CLO2	Disease States S20.99
P1 Spring (1/2 of the list) Tier 1 information[1] + Calculations	P2 Spring (PTX 3, 5) / (1/4 of list) Tier 2 Information[1] + Calculations[2]	P3 Spring (PTX 5,7,9) / (1/4 of list) Tier 2 Information[1] + Calculations[2]		

Schedule Fall 2023-2024

P2 Fall (PTX 1, 2) / (1/4 of list) Tier 2 Information[1] + Calculations[2]	P3 Fall (PTX 6, 8) / (1/4 of list) Drug Cards (1/4 of the cards) Tier 2 Information + Calculations
P2 Spring (PTX 3, 5) / (1/4 of list) Tier 2 Information[1] + Calculations[2]	P3 Spring (PTX 7, 4, 9) / (1/4 of list) Tier 2 Information[1] + Calculations[2]

Tier 1 and Tier 2 Information:

Foundational Medication Knowledge Tier 1 and Tier 2 Assessments.

Tier 1 information: Generic name, Brand name, Class, Dosage Forms, Common FDA Indications, Off-Label Indications, MOA. This does *not* include dosing.

Tier 2 information: All information on the card including dosing.

⇓ Location of Tier 1 information

ALPRAZOLAM: Xanax, Various

Class: Benzodiazepine, Short or Intermediate Acting. C-IV

Dosage Forms. Tablet: 0.25 mg, 0.5 mg, 1 mg, 2 mg; **Tablet, Disintegrating:** 0.25 mg, 0.5 mg, 1 mg, 2 mg; **Tablet, Extended Release:** 0.5 mg, 1 mg, 2 mg, 3 mg; **Solution:** 1 mg/mL

Sandoz generic 1 mg pictured; Sandoz generic 2 mg pictured; Dava generic 0.5 mg pictured

Common FDA Label Indication, Dosing, and Titration.
1. Anxiety: immediate-release, orally disintegrating tablet or solution, 0.25-0.5 mg po tid; *max* daily dose, 4 mg in divided doses
2. Panic disorder, with or without agoraphobia: immediate-release or orally disintegrating tablets, 0.5 mg po tid, extended release 3-6 mg po daily; dose may be increased every 3-4 d by <1 mg/d

Off-Label Uses.
1. Alcohol withdrawal syndrome: 0.5-1 mg po bid × 7-10 d

MOA. Enhances the postsynaptic effect of the inhibitory neurotransmitter, γ-aminobutyric acid (GABA).

Drug Characteristics: Alprazolam

Dose Adjustment Hepatic	Reduce initial dose to 0.25 mg in advanced liver disease	Absorption	F = 80%, no effect of food on absorption of immediate release, food...
Dialyzable	Not dialyzable	Metabolism	Hepatic 20-30%; major substrate of CYP3A4/5
Box Warnings	Concurrent use with opioids	Elimination	Renal 80% with a half-life of 10-12 h
Contraindications	Hypersensitivity to benzodiazepines, narrow-angle glaucoma, concurrent ketoconazole, or itraconazole	Pharmacogenetics	None known
Briggs Pregnancy Recommendation		Human and animal data suggest risk	
Briggs Breastfeeding Recommendation		Limited human data—potential toxicity	

Medication Safety Issues: Alprazolam

Suffixes	Tall Man Letters	Do Not Crush	High Alert	Confused Names	Beers Criteria
XR	ALPRAZolam	ALPRAZolam XR	No	Zantac, LORazepam, Xopenex	Avoid

ALPRAZOLAM: Xanax, Various

Drug Interactions: Alprazolam

Typical Agents	Mechanism	Clinical Management
Alfentanil, opioids, and other respiratory depressants	Additive respiratory depression	Avoid if possible and consider dose reductions of both agents
CYP3A4/5 inducers	Increased alprazolam metabolism reduces alprazolam effectiveness	Monitor and consider dose increases of alprazolam
CYP3A4/5 inhibitors	Decreased alprazolam metabolism increases risk of alprazolam toxicity	Monitor and consider dose decreases of alprazolam
Digoxin	Reduced renal clearance of digoxin and increased digoxin toxicity	Monitor digoxin levels and consider dose reductions
Ethinyl estradiol and other estrogen-based birth control products	Inhibition of alprazolam metabolism and additional toxicity	Use with caution

Adverse Reactions: Alprazolam

Adverse Reactions: Alprazolam

Common (>10%)	Less Common (1-10%)	Rare but Serious (<1%)
Ataxia, lethargy, retrograde amnesia, somnolence, weight gain, change in appetite, constipation, fatigue, cognitive dysfunction, decreased libido	Tachycardia, palpitations, nausea and vomiting, blurred vision, confusion	Seizures, mania, depression, liver failure, Stevens-Johnson syndrome

Efficacy Monitoring Parameters. Reduction in anxiety symptoms.

Toxicity Monitoring Parameters. Severe drowsiness, thoughts of suicide, seizures, slow or irregular heart beat; monitor BP, HR.

Key Patient Counseling Points. May cause drowsiness; avoid driving or other tasks requiring motor coordination. Avoid alcohol. Do not crush or break extended release product. Oral disintegrating tablet may be divided but are unstable after breaking. May mix solution in liquid or semi-solid food for administration. If only 1/2 tablet taken, discard the other half. Allow oral disintegrating tablet to dissolve on your tongue. Do not self-increase or abruptly discontinue use.

Clinical Pearls. Not for use in children. Consider reduced dose of benzodiazepines in hepatic impairment. Avoid use in elderly; appear more sensitive to the effects. Use other CNS depressants concurrently with caution, may have additive effects. Avoid concomitant use with opioids. Avoid abrupt discontinuation after chronic use, may cause seizures. In general, should only be used for short periods of time, reevaluate need frequently. New boxed warning for benzodiazepines expected in 2021, warning about misuse, addiction, and withdrawal reactions.