Course Number & Title
Advanced Pharmacy Practice Experience (APPE) 450: Ambulatory Care

Course Manager
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Credit Hours & Length of Rotation
Five credits; full time over five consecutive weeks OR part-time to complete a total of 200 hours. This experience is expected to occur in settings with 3-5 full days of patient care/clinic time involving direct patient care, the rest of the time can be used for student’s involvement in SOAP note documentation, patient care/follow up telecommunication, journal club presentation, counseling materials development, or other ambulatory care/patient activities.

Eligible Class Standing: P4
Prerequisites: Students must successfully complete the first three professional years (P1 through P3) and all Introductory Pharmacy Practice Experiences (IPPEs).

Catalog Description: The goal of this rotation is to provide students experience in an ambulatory care environment. Ambulatory care pharmacy practice is the provision of integrated, accessible health care services by pharmacists who are accountable for addressing medication needs, developing sustained partnerships with patients, and practicing in the context of family and community. The ambulatory care setting involves interprofessional communication and collaboration to provide acute and chronic patient care that can be accomplished outside the inpatient setting. Students will be expected to utilize abilities/skills and knowledge learned previously in the curriculum in order to participate in the Pharmacists’ Patient Care Process, which includes collecting and assessing patient-specific information; developing and implementing individualized patient-centered care plans; and monitoring and evaluating the effectiveness of care plans. Students will also educate patients or caregivers, and respond to drug information inquiries. This will be accomplished through a variety of oral and written communication techniques.

Course Outcomes
Upon completion of this experiential course, the student pharmacist will be able to:

1. Given a patient or caregiver, conduct an interview to collect subjective information required for professional functions at the practice site. (PPCP – Collect)
2. Given a patient, perform targeted assessments as appropriate to the practice site. (PPCP – Assess)
3. Given a patient or problem, collect from existing patient/medical records or health care provider specific information that is necessary for the task being performed. (PPCP – Collect)

4. Given patient-specific information, identify, assess and prioritize medical and drug-related problems. (PPCP – Assess)

5. Given a patient, identify disease prevention or detection needs. (PPCP – Assess)

6. Given a problem assessment, design evidence-based, cost-effective patient-centered care (pharmacologic and non-pharmacologic) plans and monitoring plans for specific patients. (PPCP – Plan and Follow-up: Monitor and Evaluate)

7. Given a patient, document practice activities consistent with site-specific documentation practices or a SOAP note for every patient encounter.

8. Given a case encountered on rotation, demonstrate knowledge of the pathophysiology of disease states commonly encountered in the setting and of basic information about the drugs/drug classes used to treat those disease states.

9. Given a patient case, educate patients or caregivers regarding patient-specific treatment and monitoring plans, including expected benefits, risks, administration techniques, and/or adherence strategies. (PPCP – Implement and Follow-up: Monitor and Evaluate)

10. Given a drug information question, formulate an efficient and effective answer using appropriate sources of drug information.

11. Given a patient case, orally present patient case information to the preceptor or health care team in an organized manner.

12. Given technologies available at the practice setting, effectively perform professional functions.

13. Demonstrate acceptable qualities and characteristics of professional behavior of altruism, honesty and integrity, respect for others, professional presence, and dedication and commitment to excellence.

**Terminal Performance Outcomes (TPOs)**

This course supports the following TPOs of the PharmD curriculum:

- **TPO 4** Collaborate with other health care professionals, patients, and caregivers in the development of individualized patient-specific care plans.

- **TPO 6** Develop monitoring plans to determine effectiveness of the care plan, to detect adverse drug effects, and to evaluate the actual or potential impact of drug-drug and drug-food interactions on patient health

- **TPO 7** Assess an existing patient’s therapy and recommend modifications to optimize patient care

- **TPO 16** Use electronic payment systems effectively to receive payment for professional services and products

- **TPO 29** Respond to general medication information requests from patients, health professionals, and lay media

- **TPO 36** Influence patients to improve adherence to recommended care plans including lifestyle behaviors, medication regimens, and self-monitoring

- **TPO 37** Communicate information to health care professionals, patients, and caregivers in a timely and effective manner

- **TPO 39** Recognize situations which are beyond one’s own scope of practice or professional competence and refer patients to other health care professionals or institutions for advanced levels of care

- **TPO 43** Carry out responsibilities in accordance with legal, ethical, social, economic, and professional norms

**Required and/or Recommended Texts/Readings**: Preceptors may require and/or recommend additional readings for their rotations. Students are expected to communicate with the preceptor regarding such requirements prior to the rotation start date.

**Required and/or Recommended Equipment**: The School of Pharmacy name badge must be worn during all rotations. Additional equipment must include lab coat, stethoscope, watch with second hand. Preceptors may require and/or recommend additional equipment for their rotations. Students are expected to communicate with the preceptor regarding such requirements prior to the rotation start date.

**ELP Policies**: Students and preceptors are expected to comply with the ELP Policies and Procedures Manual, posted on the website: [http://www.pharmacy.umaryland.edu/preceptors/policies.html](http://www.pharmacy.umaryland.edu/preceptors/policies.html)

**Preceptor and Site Criteria**: The preceptor must have a clinical faculty appointment from the University of Maryland School of Pharmacy. The preceptor is assigned to specific course(s) based upon experiences, credentials, and
roles/responsibilities at the site. The site or practice setting must offer sufficient opportunities for students to meet the course outcomes. The preceptor is encouraged to provide face-to-face feedback for the final evaluation and should assure that the course objectives, including the required hours of participation, were accomplished.

For ambulatory care rotations, preceptors will provide opportunities for students to access patient medical records, interview and examine patients, using relevant assessment techniques appropriate to the clinic setting, assess and develop/implement pharmacotherapeutic recommendations, and document interventions in an ambulatory care environment. In contemporary pharmacy practice, “ambulatory care” has been expanded and is now practice not only in ambulatory care clinics, but also in some community pharmacy and health system settings that deliver patient care in a comparable manner. Sites can include Medication Therapy Management (MTM), Collaborative Practice Services or Contemporary Community practice.

Most sites are likely to operate under protocol-driven and/or collaborative management agreements with either direct or indirect supervision by physicians. Some sites may even allow for fully independent management by the pharmacist (e.g. VA Healthcare Systems). The majority (>80%) of patient interactions must occur in person.

**Student Activities and Assignments:** Students will work with preceptors to complete activities and assignments, which will enable them to accomplish the course objectives by the end of the rotation. Preceptors may utilize a learning contract and rotation calendar to organize the experience, to clearly communicate expectations, and to account for student requirements such as ambulatory clinic, presentations, patient encounter documentation, and the required abilities checklist.

**Student Assessment and Grading:** The student will be assessed by the preceptor on performance and professionalism at the midpoint and at the end of the rotation. Midpoint evaluations are required to be completed in RXPRECEPTOR for each rotation to document student performance and allow for areas of focus and improvement during the latter half of the rotation. The midpoint evaluation will NOT be used in the calculation of the student’s grade. Within one week of completion of the rotation, the Preceptor Evaluation of Student must be submitted to the Experiential Learning Office. Failure to do so may result in an “Incomplete.” Evaluations should be completed online in RXPRECEPTOR.

**Performance Definitions:** Each performance item on the assessment tool, with the exception of professionalism/behavioral items, will be rated using the following definitions:

<table>
<thead>
<tr>
<th>Absent</th>
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<tr>
<td>Beginning</td>
<td>3.8</td>
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<tr>
<td>Developing</td>
<td>6</td>
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<tr>
<td>Intermediate</td>
<td>6.8</td>
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<td>Proficient</td>
<td>7.7</td>
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<td>Highly Proficient</td>
<td>8.3</td>
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All performance outcome sections are weighted equally.

**Final Letter Grade:** A red box indicates a professionalism failure or incomplete abilities checklist. Letter grades will be based on final scores as follows:

- **A**  >90-100%
- **B**  >80-89.999%
- **C**  >70-79.999%
- **F**  0-69.999%

**Grade Appeals:** Students who wish to appeal a rotation grade must do so within one week of the date of the preceptor’s completed evaluation. Please refer to the Academic Affairs policy regarding grade challenges and appeals.
Remediation Policy
This course follows academic policies for remediation established by the School of Pharmacy. Please refer to this course’s Blackboard site course information page for School policies or the School’s website at: http://www.pharmacy.umaryland.edu/preceptors/policies.html (view “Remediation policy”)

Portfolio: Each student will maintain a portfolio throughout APPE, APPC, and APEX rotations. It should be professional in appearance and organized into sections to include patient encounter documentations (i.e. Subjective Objective Assessment and Plan notes), drug information questions, presentation handouts, special projects, the updated abilities checklist, and evaluations. Portfolio contents must be void of any patient identifiers such as date of birth, name, contact information, and prescription numbers. It is a course manager’s responsibility to determine rotation grades. In addition to the preceptor’s evaluation, the course manager may review any student’s portfolio at any time for quality assurance. Any changes in the preceptor’s evaluation will be communicated in writing to the student and will be accompanied by a written explanation justifying the change. When requested, student portfolios MUST be submitted for review within 7 days following the request. Failure to do so will result in a one letter grade reduction.

Preceptor Assessment: The student will submit the Student Evaluation of Self/Preceptor/Site on-line no later than one week following the completion of the rotation. Each summer, preceptors will be provided summaries (no student names included) of their evaluations in order for them to improve rotations. If a preceptor has had only one student during the previous year, no summary will be sent.

Preceptor's Evaluation of Student

Evaluating/Rating Student Performance (Enter in RxPreceptor):
- Select appropriate rating (AB, BG, DV, IN, P, HP) in each column for each item and add comments as needed.
- Comments are strongly encouraged and must be included for any rating of “AB” for any item.
- The midpoint evaluation tracks student progress, provides formative feedback for students to improve performance, and guides activities for the remainder of rotation.
- If the student’s overall performance at midpoint is deficient (i.e. numerous “AB” and/or “BG” ratings), contact the course manager and/or ELP office.
- Grades will be assigned based on the final evaluation.

Performance Outcomes Criteria: The preceptor should evaluate the student at both the mid-point and at the conclusion of the rotation, using the following competency levels and descriptors. Each performance item on the assessment tool, with the exception of professionalism items will be rated using the competency levels of Absent, Beginning, Developing, Intermediate, Proficient, or Highly Proficient. The student may fit into more than one category; please select the competency level using the corresponding examples that best describe the student’s performance at the point of assessment.
<table>
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<tr>
<th>Absent</th>
<th>Beginning</th>
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<th>Intermediate</th>
<th>Proficient</th>
<th>Highly proficient</th>
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<tr>
<td><strong>Awareness</strong></td>
<td>Not aware of how to approach the skill</td>
<td>Aware of the deficiency in the skill and attempts to determine effort required to become competent</td>
<td>Initiates practice of the skill</td>
<td>Familiarity with skill develops through practice</td>
<td>Consistently demonstrates accurate performance of the skill</td>
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<td>Not able to consistently perform the skill.</td>
<td>Mostly consistent in identifying or solving problems related to the skill</td>
<td>Can identify and solve problems related to the skill</td>
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<td>Rarely able to identify or solve problems related to the skill</td>
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<td><strong>Ability</strong></td>
<td>Lacks ability to independently complete the skill</td>
<td>Sporadically, but rarely able to perform the skill</td>
<td>Sometimes able to complete this skill</td>
<td>Ability to complete this skill is adequate, but not independent</td>
<td>Able to independently complete the skill</td>
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<td><strong>Supervision</strong></td>
<td>Requires major supervision to complete the skill</td>
<td>Constant supervision and feedback are required to completed the skill</td>
<td>Supervision and feedback are required but need is decreasing</td>
<td>Supervision needed to master major concepts</td>
<td>Supervision is minimal</td>
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<td><strong>Mistakes</strong></td>
<td>Major mistakes are many when student attempts to complete the skill</td>
<td>Major mistakes are limited</td>
<td>No major mistakes</td>
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<td>Minor mistakes occur</td>
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<td>Unable to self-correct most errors</td>
<td>Able to self-correct</td>
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Updated 2/5/19
Following are the course outcomes and skills that the preceptor will assess on the midpoint and final evaluations:

**Outcome 1:** Given a patient or caregiver, conduct an interview to collect subjective information required for professional functions at the practice site.

**Skill 1 – Subjective History**
Given a patient/caregiver, the student is able to:
- Elicit a complete chief complaint and history of present illness.
- Elicit information regarding past medical history, social history, and family history as pertinent to the encounter.
- Conduct a review of systems as pertinent to the encounter.
- Collect a complete and accurate medication history (e.g. prescriptions, OTCs, herbals, dietary supplement).
- Elicit information regarding patient adherence to the medication regimen and/or treatment plan.

**Skill 2 – Interviewing Techniques**
During patient/caregiver interviews, the student is able to:
- Exhibit command of verbal expression (e.g. fluency, grammar, vocabulary, tone, volume, modulation of voice, rate of speech, and pronunciation).
- Effectively engage the patient/caregiver with non-verbal expression (e.g. eye contact, gesture, posture, use of silence/active listening).
- Appropriately respond to patient/caregiver's needs and feelings.
- Demonstrate an organized, but flexible, approach to the interview.
- Adapt to literacy and cultural needs.

**Outcome 2:** Given a patient, perform a targeted assessment as appropriate to the practice site.

Given a patient subjective history, the student is able to:
- Identify and perform site appropriate assessments necessary for determining efficacy/toxicity of current drug therapy or to evaluate new complaints.

**Outcome 3:** Given a patient or problem, collect from existing patient/medical records or a health care professional the patient-specific information that is necessary for the task being performed.

**Skill 1 – Subjective History Collection from Non-Patient Sources**
Given a patient or problem, the student is able to:
- Identify and collect pertinent subjective information from non-patient sources such as existing medical records, pharmacy records, and other providers (e.g. refill records, past medical history, past visit history).

**Skill 2 – Objective History Collection from Non-Patient Sources**
Given a patient or problem, the student is able to:
- Identify pertinent laboratory data or testing that is required to assess efficacy/toxicity of current drug therapy or to evaluate new complaints.
- Elicit laboratory and testing results from existing medical records, pharmacy records, or other providers.
- Accurately perform necessary calculations based on the data collected (e.g. CrCl, adjust phenytoin levels, risk calculations, etc.)

**Outcome 4:** Given patient specific information, identify, assess and prioritize medical and drug-related problems.

**Skill 1 – Problem Identification**
Given all relevant subjective and objective information, the student is able to:
• Clearly identify all diseases or medical conditions (i.e. problem list does not include merely a list of symptoms).
• Correctly identify presence of or risk for the following drug-related problems:
  
  Indication- Untreated Indication; Drug Use Without Indication
  Effectiveness- Ineffective Treatment Regimen; Subtherapeutic Dose; Improper Drug Selection
  Safety- ADR, Drug Interaction, Overdosage, Adherence - Failure to Take/Receive Drug

Skill 2 – Problem Assessment
Given a medical or drug-related problem, the student is able to:
• Identify therapeutic goals/endpoints.
• Assess problem etiology.
• Assess problem severity/stability.
• Appropriately prioritize problems.

Outcome 5: Given a patient, identify disease prevention or detection needs.

Given a patient, the student is able to:
• Utilize patient-related variables (i.e. age, family/social history, etc.) to identify risk factors for diseases.
• Identify vaccinations that should be administered.
• Recommend drug and non-drug therapy to prevent disease and promote health (e.g. calcium and vitamin D for bone health, ASA for primary prevention).
• Recommend appropriate health screenings.

Outcome 6: Given a problem assessment, design evidence-based, cost-effective patient-centered care (pharmacologic and non-pharmacologic) plans and monitoring plans for specific patients.

Skill 1 – Evidence-based Treatment Plans
Given a problem assessment, the student is able to:
• Recommend pharmacologic therapy for each of the problem(s) assessed that is likely to result in desirable health outcome(s).
• Recommend appropriate non-pharmacologic therapy for each of the problem(s) assessed.
• Base recommendations on published clinical practice guidelines, patient-related variable, and/or primary literature.

Skill 2 – Evidence-Based Monitoring Plans
Given a problem assessment, the student is able to:
• Develop and implement (when possible) a monitoring plan for the treatment recommendation(s) that will evaluate therapeutic efficacy.
• Develop and implement (when possible) a monitoring plan for the treatment recommendation(s) that will evaluate drug toxicity.
• Base monitoring plan on severity of condition, published clinical practice guidelines, primary literature, and/or package inserts.

Outcome 7: Given a patient, document practice activities consistent with site-specific practices or a SOAP note if no documentation system is in place. To be successful, a student should complete a SOAP note for every patient encounter.

Given a patient’s final assessment and plan, the student is able to:
• Record patient encounters in a manner that conforms to the practice site’s standards.
• Provide complete, accurate, organized, and concise written communication regarding the patient encounter.
• Use appropriate terminology and abbreviations (e.g. avoid “do not use” abbreviations, use lay-terms for patient’s Personal Medication Record [PMR]).

Outcome 8: Given a case encountered on rotation, demonstrate knowledge of the pathophysiology of disease states commonly encountered in the setting and of basic information about the drugs/drug classes used to treat those disease states.

The student is able to:
• Recall knowledge about drug name, mechanism of action, usual dosing, common side effects, and major drug interactions for drugs commonly and routinely encountered on the rotation.
• Discuss disease pathophysiology and explain how subjective and objective findings correlate to pathophysiology for diseases commonly and routinely encountered on the rotation.

Outcome 9: Given a patient case, educate patients or caregivers regarding patient-specific treatment and monitoring plans, including expected benefits, risks, administration techniques, and/or adherence strategies.

Given a patient, the student is able to:
• Counsel the patient and/or caregiver on his/her treatment plan (drug and non-drug), including therapy benefits/risks.
• Counsel the patient and/or caregiver on self-monitoring parameters.
• Accurately educate the patient and/or caregiver regarding directions/instructions for use, and when indicated, demonstrate administration technique and evaluate the patient and/or caregiver’s ability to administer/use medication(s).
• Evaluate the patient and/or caregiver’s comprehension of the education delivered.
• Assess the patient’s ability to adhere to the new treatment plan and make appropriate recommendations for improvement.
• Respond appropriately to questions posed by the patient and/or caregiver.
• Use appropriate terminology for the patient/caregiver.

Outcome 10: Given a drug information question, formulate an efficient and effective answer using appropriate sources of drug information.

Given a question, the student is able to:
• Collect pertinent background information for each question to be answered.
• If necessary, effectively use secondary literature searches to identify primary literature.
• Use primary and tertiary references as appropriate in formulating responses.
• Respond to questions in a clear and concise manner with supporting evidence/rationale via written or verbal communication as appropriate to the situation.
• Provide timely responses as appropriate to the nature of the question.
• If a written answer is submitted, appropriately reference the document.

Outcome 11: Given a patient case, orally present patient case information to preceptor or health care team in an organized manner.

After interacting with a patient or given a patient case, the student is able to discuss the patient with his/her preceptor or team by:
• Presenting the case in standard format (e.g. CC/HPI followed by subjective information, followed by objective information).
• Verbally presenting only the information relevant to the problem(s) at hand.
• Offering his/her own assessment of the problem(s) without prompting.
• Offering his/her own plan for the problem(s) without prompting.

Objective 12: Given technologies available at the practice setting, effectively perform professional functions.
• Complete training in a timely manner.
• Follow appropriate procedures, including documentation.
• Utilize the capabilities of the technology and/or available data to identify and solve problems.

Objective 13: Demonstrate acceptable qualities and characteristics of professional behavior of altruism, honesty and integrity, respect for others, professional presence, and dedication and commitment to excellence.

Professionalism Criteria
By the end of the rotation, a student must earn “Acceptable” for all five professionalism criteria in order to pass the rotation. These criteria do not count toward the evaluation points for a grade. An “Unacceptable” rating on any professionalism metric at the final evaluation will result in a failure in the course.
• **Altruism:** Student makes an unselfish commitment to serve the best interests of the patient and rotation *via* prioritizing rotation requirements, demonstrating effective listening skills, interacting with others in a compassionate manner, and developing trusting relationships.
• **Honesty and Integrity:** Student displays honesty and integrity *via* abiding by patient (HIPAA) and student (FERPA) confidentiality requirements, and maintaining academic honesty.
• **Respect for Others:** Student treats others as he/she would want to be treated *via* arriving on time for rotation activities, respecting the feelings, needs, thoughts, and opinions of the preceptor/faculty/colleagues, demonstrating ability to receive constructive feedback, and providing constructive feedback in a respectful and educational manner.
• **Professional Presence:** Student instills trust *via* attending and participating in rotation requirements, dressing appropriately for the rotation, and accepting responsibility for one’s own actions.
• **Dedication and Commitment to Excellence:** Student strives for excellence and assume responsibility for his/her learning and professional development *via* adequately preparing for all rotation sessions, embracing responsibility for one’s own learning, and actively seeking guidance and mentoring as needed.