University of Wisconsin-Madison School of Pharmacy

728-740



Acute Pharmaceutical Care Clerkship

2025 - 2026

Course Manual
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Course Description

Acute Pharmaceutical Care Clerkship (728-740) 6 Credits

The principles of the 740 course are rooted in the provision of direct patient care and experiencing the role of the pharmacist as a key member of teambased/interprofessional care for patients in the acute care setting. A pharmacist utilizes their professional judgement to ensure the safe and appropriate use of drugs by patients using the **Pharmacists' Patient Care Process (PPCP)**. The goals are to optimize the benefits patients receive from their medication regimen and minimize medication-related problems. This course fosters the development of this professional competence by exposing students to a practice-based experience that relies on their sound academic background in the basic and clinical sciences. The learners are **patient oriented** and **integrated** in contemporary hospital practice.

The care of patients in the acute care setting allows for daily implementation of the Pharmacists' Patient Care Process (PPCP). The learner will use their knowledge of drugs and diseases including the best available evidence for drug use, critical thinking skills, organization, priority setting, and effective communication to evaluate and apply the PPCP.



Learning Objectives

At the end of the 6-week rotation, the student pharmacist should be able to:

- 1. Construct individualized plans using the Pharmacists' Patient Care Process (PPCP) for patients in the acute care setting. (EO 1, 2, 3, 4, 6, 7, 11, 12)
- 2. Prioritize patients' drug and medical-related problems. (EO 3, 12)
- 3. Actively participate in the interprofessional healthcare team in evidence-based therapeutic decision-making. (EO 6, 7, 13)
- 4. Synthesize evaluation of an individual patient in a formal case presentation. (EO 2, 3, 4, 6)
- 5. Critique evidence to provide timely, thorough, and accurate responses to drug information inquiries utilizing critical thinking, problem solving, and communication skills. (EO 1, 2, 6, 12)
- 6. Assemble a comprehensive medication history to include prescription and non-prescription medications for patients in the acute care setting. (EO 3, 6)
- 7. Educate patients and caregivers on safe and effective use of medications in the acute care setting (EO 3, 6)
- 8. Develop and/or adjust medication dosage regimens based on pharmacokinetic data, plasma concentrations, and patient-specific factors. (EO 2, 4, 5)
- 9. Evaluate kidney function in patients in the acute care setting to ensure safe and effective medication therapies (EO 2, 3, 4)
- 10. Report medication errors to facilitate process improvement related to medication safety. (EO 6, 9, 11)
- 11. Review medication orders to ensure appropriateness and accuracy for dispensing. (EO 1, 2, 5, 12)
- 12. Describe the role of a pharmacist in responding to medical emergencies (EO 3, 5, 7)

Course Contacts

Course Coordinator

PH: 608-890-1422 (office)

Jessica Bergsbaken, PharmD, BCPPS Course Coordinator 1013 Rennebohm Hall 777 Highland Avenue Madison, WI 53705 jessica.bergsbaken@wisc.edu

The Course Coordinator is responsible for the overall coordination of the 740 APPE which includes course grading as required by the 740 course manual. The majority of specific assignment details, due dates, and case presentation scheduling will be determined by the student and preceptor in congruence with the 740 course manual. Course staff will be available by appointment. We also will be happy to respond to

questions via email. Students may utilize the Canvas discussion forum "Course Questions" to submit course-related questions (e.g., verifying due dates, explaining course content or assignments). If questions relate to personal issues or concerns, please email the course coordinator directly.

Experiential Office

<u>Mara Kieser</u>, MS, RPh Professor of Pharmacy (CHS) Assistant Dean <u>mara.kieser@wisc.edu</u>

Site Scheduling Questions

<u>Tina Rundle</u> Administrative Assistant tina.rundle@wisc.edu

Experiential Policies

Students are required to adhere to all <u>Experiential Education Policies</u> as well as the information and policies pertaining to APPE students in the <u>General Manual</u>. Students are responsible to be in compliance with these policies at all times.

Please refer to <u>Examples of Policy Violations</u> for a list of the most common violations.

Experiential Education Policies

- Academic and Non-Academic Misconduct
- Accommodations for Students with Disabilities
- Artificial Intelligence (AI)/Generative AI (GAI) Policy
- BID Checks
- Class Decorum
- CI Notification
- Collaboration
- Complaints Policy & Procedure
- <u>Dismissal from Site</u>
- <u>Diversity & Inclusion</u>
- Dress Code
- Email Communication
- Experiential Remote Policies
- <u>Health</u> Policy
- HIPAA
- Incidental Costs
- <u>Medication Safety</u>
- Parking/Transportation
- Patient Confidentiality
- Patient Courtesy
- Payments and PPE
- Plagiarism Policy
- Pharmacy Student Ratios
- <u>Pharmacy Practice Experience Changes</u>
- Professional Conduct
- Referencing Literature
- Registration Policy
- Sensitive Situations
- Sign-Up Policy
- <u>Site Requirements</u>
- <u>Sexual Harassment Policy</u>
- Social Media
- Staffing and Students
- <u>State Liability Coverage</u>

- Student Absence
- Use of Technology Devices
- Weather
- <u>Workplace</u> Confidentiality
- <u>Workplace</u> Property
- Examples of Policy Violations

General Manual - APPE

- APPE Policies and Procedures
- APPE Strategies for Success
- APPE Specific Policies
- APPE Evaluations

Additional Course Policies

Course Platform. Students enrolled in 728-740 are required to access the <u>Canvas</u> <u>course page.</u> The Canvas course will be used for general course communications, resources, and submission of assignments.

Due Dates/Deadlines. ALL course activity evaluation forms and required documents must be uploaded by the student to Canvas. The deadline is 11:59 PM on the last day of the rotation. Assignments not complete/posted by the due date and time will result in point deductions at the discretion of the course coordinator.

Experiential Checklist. The <u>740 Acute Care APPE Activity Checklist</u> is available for use and does NOT need to be uploaded at the end of the rotation.

Attendance. Students are expected to be present at their site or assigned unit 8 hours per day (does not include meals or breaks) Monday through Friday. Weekends are optional. Specific rotation hours vary depending on the patient care unit and will likely include Patient Rounds.

In order to optimize coverage and preceptor interaction, nontraditional hours of attendance (e.g. 2:00 PM to 11:00 PM or 11:00 PM to 7:00 AM) may be negotiated.

See the Attendance Policy for more information.

Professional Judgement. Student pharmacists can expect to provide information to members of the health care team. Team members don't expect students to know

everything off the top of their head. Students should ensure answers/recommendations are accurate and appropriate prior to communicating responses to the health care team. Students should further research and/or ask for support from preceptors if unsure on how to respond as recommendations can quickly reach patients. A good approach is to say, "I don't know, but I will look it up for you." Students and preceptors should develop an agreed upon process to navigate questions received from the health care team.

Evaluation & Grading

Grading Summary

Final letter grades will be assigned by the Course Coordinator, NOT the on-site preceptor.

| Grade | Range |
|-------|--------------|
| A | 93-100 |
| AB | 89-92 |
| В | 83-88 |
| ВС | 77-82 |
| С | 70-76 |
| D | 60-69 |
| F | Less than 60 |

Grading Rubric

Course grades are determined according to the following weighting:

| Activity | Weight |
|---|----------|
| Student Performance Evaluation | |
| Midpoint | Required |
| Final | 60% |
| Scored Activities | |
| Pharmacists' Patient Care Process (PPCP) | 10% |
| <u>Case Presentation</u> | 10% |
| Drug Information & AI Evaluation | 5% |
| Medication Histories & Medication Consultations | 5% |
| Pharmacokinetics (PK) Activity | 5% |

| Activity | Weight |
|--------------------------------------|----------|
| Acute Care Activities | 5% |
| Completion Activities | |
| Student Profile | Required |
| APPE Seminars | Required |
| Student Rotation Self-Evaluation | Required |
| Experiential Checklist | Required |
| Reflection Document | Required |
| <u>iTOFT</u> | Required |
| Preceptor, Site & Course Evaluations | Required |
| Rotation Hour Log | Required |

- See the <u>740 Grading Record</u> and the <u>740 Summary of Required</u>
 <u>Assignments</u> for summaries of what to submit, where to submit, and how to score each activity.
- For rotation-specific activities assigned by the site preceptor(s), if a student misses deadlines and/or does not complete the work in the timeframe assigned, the course coordinators may adjust the final course grade downward.
- The final course grade may also be adjusted downward at the discretion of the course coordinators given assessment of the student's overall course performance, including issues related to nonadherence to the School's professionalism policy.
- See additional information in the <u>General Manual</u> regarding point deductions or loss of credit as related to other course requirements.

Assignments

This is an accordion element with a series of buttons that open and close related content panels.

Student Performance Evaluation (SPE) (60%)

Explanation: Although frequent feedback will be provided to students by preceptors, student performance in this course will be formally evaluated at the midpoint and at the end of the rotation.

Expectations: The preceptor will use the midpoint evaluation to provide formative feedback around the 3-week point in the course. Only the final evaluation will factor into the student's course grade at the end of the rotation.

Evaluation: The preceptor will use the online Student Performance Evaluation tool to evaluate the student. The score will be entered in the Grading Record. Grades will not be submitted until all requirements are complete. See the Student Performance
Evaluation in the General Manual for more information.

Pharmacists' Patient Care Process (PPCP) (10%)

Explanation: The goal of this assignment is to assess the students' ability to apply the **Pharmacists' Patient Care Process (PPCP)** in an acute care setting. This process involves **collecting, assessing, planning, implementing, and monitoring** patient care, and aims to ensure safe, effective, and individualized care for patients. Through this assignment, students will develop profile review skills and practice formal documentation in the acute care setting.

Expectations:

- All patients on the team should be monitored using the framework provided by the PPCP. Applying the PPCP model should be consistent with the practice of the pharmacists and the site.
- The 5 steps of the PPCP will form the basis for assessing the student's therapeutic drug monitoring proficiency.
- Reassessment should occur throughout the patient's hospital stay.
- Information collected about the patient, plan modification, and monitoring should be updated daily.
- Follow <u>HIPAA guidelines</u> located in the Experiential Education Policies when completing this activity
- See the Appendices for more detailed information about the **PPCP Model**.

Assignment Instructions: Part 1: Patient Profile Review

1 Collect

- The preceptor will assign a patient to collect comprehensive health information from the EHR. This may include but is not limited to:
 - History of Present Illness/Chief Complaint: Reason for admission
 - Past Medical history: Chronic conditions, past medical treatments, allergies
 - Current medications: Inpatient medications and outpatient medications (including prescription and over-the-counter medications, herbal supplements)
 - Lifestyle factors (when relevant): Diet, physical activity, alcohol use, smoking status, and medication adherence
 - Other relevant information: Socioeconomic factors, social support, and health literacy
 - **Objective information**: Lab values, vitals, test results, imaging, etc.

2. Assess

- Based on the information gathered, assess the appropriateness of the patient's current medication regimen
- Identify potential drug-related problems (e.g., adverse drug reactions, drug-drug interactions, improper dosing, nonadherence, etc.)
- Use clinical guidelines, evidence-based resources, and professional judgment in this assessment

3. **Plan**

- Develop an individualized care plan to optimize the patient's pharmacotherapy
- The care plan should:
 - Address identified drug-related problems.
 - Prioritize therapeutic goals based on patient needs and preferences.
 - Recommend adjustments to medications (e.g., dose modification, therapeutic alternatives).
- Identify and recommend appropriate monitoring and follow-up

Part 2: Documentation and Discussion

After completing the patient profile review and care plan development, the student will submit documentation using the usual documentation process at the site (e.g., SOAP note, SBAR note, PK dosing/monitoring note, other notes used to document clinical

interventions) or as deemed appropriate by the preceptor. Documentation should include #1-3 below. In addition, the student will reflect and discuss the points listed under #4 with the preceptor.

1. Subjective and Objective / Situation and Background

 Brief summary of the patient's medical history including pertinent subjective and objective information.

2. Assessment

• Detailed discussion of the identified drug-related problems, including the evidence supporting your assessment (e.g., clinical guidelines, pharmacological principles).

3. **Plan**

 Description of care plan recommendations, monitoring, and follow up.

4. Discussion and Reflection with the Preceptor (verbal discussion only)

- Discuss the challenges faced during the patient profile review and documentation
- Reflect on the role of the pharmacist in an acute care setting and the importance of patient-centered care
- Identify areas for improvement in your skills and knowledge and how you plan to enhance them moving forward
- Discuss pertinent policies, protocols, and guidelines used by the site that impact the PPCP

Evaluation:

- Students are required to complete and formally document notes during the rotation. Two notes will be formally graded.
- The preceptor will evaluate each note using the <u>PPCP Evaluation Form</u> and enter both scores on the grading record.

Case Presentation (10%)

Explanation: The purpose of this activity is to provide students the opportunity to refine their skills in concisely presenting patients and provide the background for a therapeutic discussion.

Expectations:

- Students are required to present one oral case presentation to colleagues based on a patient receiving care at the APPE site
- The case presentation should focus on ONE disease state and ONE drug therapy
- Students will give a 30-minute formal verbal presentation using PowerPoint
- The patient to be presented will be selected by the student with input from the preceptor
- The date/time and method of delivery will be determined by the preceptor
- Students are expected to stand throughout the presentation in a style consistent with presenting a formal lecture
- If you are assigned to a site with multiple 740 students, please attend the case presentations of the other students whenever possible
- Example case presentations are available on the 740 Canvas page
- See the Appendices for more detailed information about the <u>Case Presentation</u>.

Evaluation:

- The preceptor will evaluate the presentation using the <u>Case Presentation</u> <u>Evaluation Form</u> and enter the score on the grading record.
- Students will upload the case PowerPoint presentation slides/handout by 11:59pm on the last day of the block

Drug Information & Artificial Intelligence (AI) Evaluation (5%)

Explanation: The purpose of this activity is to utilize evidence-based drug information retrieval and analysis skills, exploring both traditional drug information resources and artificial intelligence tools, to respond to drug information questions from members of the health care team. Additionally, students will practice concisely communicating responses to posed drug information questions.

Expectations:

- It is anticipated that a preceptor or members of the interprofessional team will ask the student many drug information questions. Questions should challenge the student requiring critical review and analysis of evidence-based resources. The question and answer should be clinically relevant to the care of a patient on the student's service.
- The student will work with the preceptor to select two drug information questions to research. Students will complete the <u>Drug Information & AI</u>

- <u>Worksheet</u> using both traditional drug information resources and artificial intelligence (AI) tools to answer the drug information questions.
- Before reporting information to the health care team, the student will review the response to the question with the preceptor.

Evaluation:

The student will upload their completed Drug Information & Al Worksheet to Canvas by the end of the rotation.

Two drug information questions/responses will be formally assessed by the preceptor during the rotation. These scores will be recorded on the student's electronic grading record.

The following criteria will be considered when assigning an overall score (there is no formal rubric other than criteria listed below):

- 1. Response is timely (timeframe for response should be clearly established and agreed upon by student and preceptor.)
- 2. Summarizes the question asked by the preceptor or member of the team
- 3. Cites the evidence used to answer the question, including the student's assessment of the reliability of the source of the information
- 4. Responds to the question with sufficient detail to result in action by the recipient

Scoring:

| 0 (NO) | 1 (Inconsistent) | 2 (YES) |
|--------------------------|------------------------|------------------------|
| | Some deficiencies with | Acceptable. Sufficient |
| Not done or Unacceptable | information provided | information provided |

Medication Histories and Medication Consultations (5%)

Explanation: The purpose of this activity is for students to demonstrate the ability to accurately collect and document medication histories and perform patient consultations.

Expectations: Students will be expected to assist with medication histories and medication consultations for all patients on their team. There may also be opportunities to serve as a consultant in other areas of the facility to assist with the same activities. These activities will be performed under the direct observation of their preceptor(s) until the student has demonstrated acceptable performance allowing more independence with these skills. See the Appendices for more detailed information about the evaluation forms, examples of collection tools, and pointers for successful completion

Medication Histories:

- Two medication histories will be evaluated during the rotation using the patient history (admission/interview) evaluation form.
- If the site does not generally perform patient medication histories, consider the following alternative options:
 - Student spends time with individuals who do perform medication reconciliation (e.g., med rec tech)
 - Student performs targeted medication histories for patients
 - Student calls patient's outpatient pharmacy to gather fill history information

Medication Consultations:

- Two medication consultations will be formally evaluated during the rotation using the consultation evaluation form.
- If the patient has several medications/new medications, the student will be responsible for consulting with the patient on all medications. However, the student will be evaluated on two medications in detail. The two medications to be formally evaluated must be determined by the preceptor prior to the consultation.
- A care transition from the hospital to any other setting has been identified as a contributing factor for medication errors and the potential for adverse drug events. Students should be involved with facilitating "hand off" to facilities (e.g., skilled nursing facilities, home pharmacies) following discharge in alignment with the site's process/policy when relevant to the discharge medication reconciliation process.

Evaluation:

- Two medication histories and two medication consultations will be graded by the preceptor using the <u>Medication History Evaluation</u> <u>Form and the Medication Consultation Evaluation Form</u>
- Grading for each medication history and consultation should be documented on a separate evaluation form (for a total of 4 evaluation forms)
- The scores will be recorded by the preceptor on the student's electronic grading record

Pharmacokinetics (PK) Activity (5%)

Explanation: The purpose of this activity is to assess students' ability to integrate pharmacokinetic principles into assessments and recommendations for patients' care plans.

Expectations:

- Ideally one of the two required notes for the PPCP activity should include a pharmacokinetic drug assessment. Alternatively, a focused assessment of a patient could allow for these recommendations.
- Medications that are commonly monitored in the acute care setting according to recommended serum drug concentrations may include: vancomycin, tobramycin, gentamicin, phenytoin, digoxin, voriconazole, and tacrolimus or others as established by the site.
- Students are expected to perform the pharmacokinetic calculations, provide medication recommendations, and identify appropriate monitoring and follow up while utilizing relevant protocols and/or guidelines.

Evaluation:

• The preceptor will evaluate the student using the <u>PK Evaluation Form</u> and enter the score on the grading record.

Acute Care Activities (5%)

Explanation: The purpose of these activities are to expose students to unique aspects of patient care in the acute care setting.

Expectations:

1. Renal dosing

Assessment of renal function should be incorporated for each patient profile review as part of the PPCP. Students will identify at least **2 patient scenarios** requiring medication dosage adjustments due to impaired renal function (e.g., reduced creatinine clearance, acute kidney injury). If no opportunities are present given the makeup of the patient care unit, the preceptor may propose scenarios in active patients – how would the patient's medication regimen change in the setting of acute kidney injury? On hemodialysis or CRRT? In either instance, the student will present their assessments and recommendations to the preceptor, and to the medical team as appropriate. These renal dosing recommendations may be included as part of a note for the PPCP activity, but are not required.

2. Medication errors and adverse drug reactions

Students must be familiar with the site's internal medication error reporting system and are expected to participate in the reporting of a medication error using the site's internal reporting system. The student is also expected to report an adverse drug event using the site's internal reporting system. If the error meets serious ADE criteria additional reporting to the FDA's MedWatch system and/ or to the ISMP Medication Error Reporting Program should be completed.

3. **Inpatient order verification**

Students must have knowledge and understanding of the inpatient order verification process. The student and preceptor should discuss the steps necessary to verify the accuracy of inpatient orders and the process for rectifying issues within an order if identified. A minimum of 30 patient orders should be reviewed under the direct supervision of the preceptor. These reviews should be distributed evenly throughout the rotation (e.g., ~5 per week) as feasible per the structure of the rotation.

4. Emergency response discussion

The student and preceptor will discuss the pharmacist's role in emergency response situations, including responding to codes (e.g., cardiac arrest, rapid response) and other urgent scenarios at the site. The preceptor will describe the site's emergency protocols, the pharmacist's responsibilities during a code, required training or certifications, and the role of interdisciplinary collaboration. The student will reflect on potential challenges and best practices for ensuring timely medication access and clinical decision-making during emergencies. The discussion should also include a review of crash cart management, medication preparation, and communication strategies. The student will summarize key takeaways and identify areas for further learning to the preceptor.

Evaluation: The preceptor will evaluate the student on each acute care activity using the following scale:

| 0 (NO) | 1 (Inconsistent) | 2 (YES) |
|--------------------------|------------------------|------------------------|
| | Some deficiencies with | Acceptable. Sufficient |
| Not done or Unacceptable | information provided | information provided |

Student Rotation Self-Evaluation (Required)

Explanation: See the <u>Student Rotation Self-Evaluation Process</u> for details.

Expectations:

The following is an overview of the process:

- A BASELINE self-evaluation is done ONCE prior to the start of the first APPE rotation of the year. The baseline self-evaluation must be reviewed with the site preceptor during the first week of the first block.
- SMART Goals must be entered by the end of week 2 for each block.
- A post-rotation self-evaluation must be completed at the end of each rotation. It
 must be reviewed by the student and site preceptor during the last week of each
 block.
- In subsequent blocks, the post-rotation self-evaluation from the previous block must be reviewed with the site preceptor during the first week.
- Failure to complete the self-evaluation will result in an "incomplete" for the block.

Reflection Document (Required)

Students shall upload a reflection document to the 740 Canvas course reflection assignment.

The reflection document should include the following:

• Reflect upon and describe one experience during this rotation that made an impact on your learning experience or professional development, and explain why.

iTOFT (Required)

Explanation: See the <u>APPE Evaluations</u> in the General Manual for a full description of the <u>tool</u>.

Expectations: Preceptors will verify when the iTOFT evaluation is completed. The iTOFT evaluation is accessible from the grading record.

Evaluation: The iTOFT evaluation is required, but the evaluation score is not factored into the final course grade.

Appendices

- 728-740 Experiential Checklist
- 728-740 Summary of Required Assignments
- 728-740 Grading Record
- Interprofessional Patient Rounds
- iTOFT Evaluation Form
- Pharmacists' Patient Care Process
 - PPCP Model
 - PPCP System Based Patient Monitoring Form
 - PPCP Evaluation Form
- Case Presentation
 - Case Presentation Activity Description
 - Case Presentation Evaluation Form
- Drug Information & AI Evaluation
 - <u>Drug Information & AI Worksheet</u>
- Medication History and Consultation
 - Medication History Pointers
 - Medication History Evaluation Form
 - Medication Consultation Pointers
 - Medication Consultation Evaluation Form
- Pharmacokinetics (PK) Activity
 - PK Evaluation Form

Resources

General Course References

- 1. Ebling Library.
- 2. Laboratory Resources
 - a. <u>UW Health Lab Test Directory</u>
 - b. Merck Manual -Normal laboratory Values.

- 3. Applied Therapeutics: The Clinical Use of Drugs (most recent edition).
- 4. Pharmacotherapy: A Pathophysiologic Approach (most recent edition).
- 5. Applied Pharmacokinetics (most recent edition).
- 6. Harrison's Principles of Internal Medicine (most recent edition).

Pharmacists' Patient Care Process (PPCP)

- 1. Hepler CD. Unresolved issues in the future of pharmacy. Am J Hosp Pharm. 1988;45:1071-81.
- 2. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. Am J Hosp Pharm. 1990;47:533–543.
- 3. Strand LM, Cipolle R, Morley PC. Drug related problems: their structure and function. Drug Intel Clin Pharm. 1990;24(11):1093-1097.
- 4. Strand LM, Guerrero RM, Nickman NA, Morely PC. Integrated patient-specific model of pharmacy practice. Am J Hosp Pharm. 1990;47:550-4.
- 5. American College of Clinical Pharmacy. Standards of practice for clinical pharmacists. Pharmacotherapy. 2014;34(8):794-797.
- 6. Joint Commission of Pharmacy Practitioners. Pharmacist Patient Care Process, May 29, 2014.

Case Presentation

1. References as determined by topic. Use most recent edition of the AMA Manual of Style found online as eBook.