

University of Pittsburgh School of Pharmacy
Advanced Pharmacy Practice Experience
Acute Care Rotation
Pharm 5400 series

Mission of the PharmD Program

Through our commitment to personalizing education, PittPharmacy inspires students to use their unique interests and talents to improve the lives of people through the safe, effective, and responsible use of medications and other interventions.

The PharmD program prepares students to be practitioners who advance the profession by fostering innovation, leadership, interprofessional collaboration, civic engagement, advocacy, life-long learning, and a professional attitude of inclusion.

Approved June 7, 2016

Course Title, Course Number, Credit Allowance

Advanced Pharmacy Practice Experience, Pharm 5400 series
Acute Care Rotation, 5 credits

Professional Year and Terms Offered (Fall, Spring, Summer)

Professional Year P-4, all terms

Days, Time, Location

Each experience takes place at an assigned site external to the school, is 5 or 6 weeks in duration and requires the student to be on-site for at least 40 hours per week. The exact time and location is dependent on the preceptor and site-specific characteristics.

Prerequisites/Co-Requisites

1. Students must successfully complete all required Doctor of Pharmacy course work in the first 3 professional program years.
2. Students must have a cumulative GPA ≥ 2.0 .
3. Students must meet all prerequisite conditions as set forth in affiliation agreements specific to the site.

Participating Faculty

COURSE COORDINATORS

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COURSE FACULTY

Varies with site

Course Description

During this rotation students will develop their pharmaceutical care skills for patients who are in an institution (e.g., hospital). Skills to be developed through direct patient care include:

- Proper use of patient-specific comprehensive data (patient/caregiver interviews, past medical records, medication history, physical exam findings, diagnostic and laboratory data) for making drug therapy decisions that reflect pharmaceutical care.
- Developing safe and cost-effective patient-specific pharmaceutical care plans with specific goals to resolve or prevent drug-related problems. These plans should be developed using previously gathered data and knowledge of pharmacokinetics, pharmacodynamics, social, cultural, ethical and humanistic factors.
- Proper implementation of patient-specific pharmaceutical care plans through written and oral communication. Plans should be communicated so that patients as well as other health care providers can understand their scope, nature and importance. Plans should inform all those involved of the risks and benefits of therapy, as well as clearly outline the proper use and desired outcome.
- Clearly document, using appropriate style and language, pharmaceutical care plans and patient care activities in the medical chart when appropriate.
- Monitoring of patient-specific pharmaceutical care plans through collection and interpretation of pertinent data. All care plans should be assessed to see if previously defined goals have been achieved. In assuming the responsibility for outcomes it may be necessary at times to reevaluate treatment plans or therapeutic goals.

PITTPharmacy Outcomes Addressed by the Course

PITTPharmacy 1 – Learner

PITTPharmacy 2 – Patient Assessor

PITTPharmacy 3 - Caregiver

PITTPharmacy 4 – Manager and Leader

PITTPharmacy 8 – Educator and Communicator

PITTPharmacy 9 – Professional and Advocate

PITTPharmacy 10 - Collaborator

Key Words Identifying Core Content

Pathology/Pathophysiology, Pharmaceutical Calculations, Pharmacogenomics/genetics, Clinical Pharmacokinetics, Pharmacology, Cultural Awareness, Ethics, Healthcare Systems, Pharmacoeconomics, Practice Management, Professional Communication, Professional Development/Social and Behavioral Aspects of Practice, Health Information Retrieval and Evaluation, Medication Dispensing, Distribution and Administration, Patient Assessment, Patient Safety, Pharmacotherapy, Public Health, Self-Care Pharmacotherapy

Learning Objectives

PITTPharmacy 1. Learner

- Demonstrate needed scientific and practice knowledge to achieve rotation outcomes
 - Disease states including pathophysiology, anatomy/physiology
 - Drug therapy including pharmacology, kinetics, dosing

PITTPharmacy 2. Patient Assessor

- Review manual or electronic patient record/profile to accurately identify factors affecting therapy, health or disease management
- Create and/or update patient record/profiles accurately and in a timely manner

- Accurately create a drug-related problem list with prioritization of problems
- Accurately assess patient health status and care needs based on race, cultural, or socioeconomic criteria

PITTPharmacy 3. Caregiver

- Assess appropriateness of patient medication therapy (e.g., drug, dose, routes, etc.)
- Make appropriate and complete recommendations for care: non-pharmacologic and pharmacologic therapies
- Establish therapeutic outcomes/goals
 - Identifies and evaluates feasible therapeutic alternatives
 - Designs drug therapy regimen
- Effectively manage treatments to enhance outcomes
- Accurately identify, manage, and prevent drug-related problems and make appropriate decisions
- Assess regimen for efficacy and toxicity
 - Selects parameters that are specific, measurable, achievable and associated with time frames
 - Redesigns regimen as necessary
- Recommend appropriate non-drug treatments (e.g., diet, smoking cessation, CAM)
- Retrieve, evaluate and use scientific information to provide information and/or make therapeutic decisions
 - Use a systematic, efficient and thorough procedure for information retrieval and evaluation
 - Justify in writing or verbally in clear, concise and persuasive language
- Demonstrate ability to appropriately triage patient for treatment or referral

PITTPharmacy 4. Manager and Leader

- Detect and report medication errors and adverse reactions
- Effectively collaborate with technical support staff to optimize care
- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Manage time wisely to maximize productivity and fulfill rotation obligations

PITTPharmacy 8. Educator and Communicator

- Effectively document interventions in patient record/profile
- Able to effectively communicate
 - Use skills for effective verbal communication
 - Use skills for effective written communication
 - Use appropriate persuasion techniques to positively impact drug use

PITTPharmacy 9. Professional and Advocate

- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Demonstrate the characteristics of a pharmacy professional

PITTPharmacy 10. Collaborator

- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Consult and collaborate with healthcare professionals, practicing as a member of an interprofessional team

Methods of Learning

Ability outcomes will be evaluated based on the student's performance of various tasks throughout the rotation. The methods of learning will vary with the rotation site, but will include observations, activities, and discussions with patients, pharmacists and other health professionals. Self-study and reflection will also be included.

Textbooks and Other Learning Resources

Learning resources will vary with the rotation site. The following is a list of *suggested* resources to assist the student in performing activities:

1. Dipiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A Pathophysiologic Approach. 10th ed. McGraw-Hill, New York, NY, 2017.
2. Koda-Kimble MA, Young LY, Kradjan WA, Guglielmo BJ, Alldredge BK, Corelli RL, Williams BR. Editors. Applied Therapeutics: The Clinical Use of Drugs. 10th ed. Lippincott Williams & Wilkins, New York, NY, 2013.
3. Kasper DL, Braunwald E, Fauci A, Hauser S, Longo D, Jameson JL, editors. Harrison's Principles of Internal Medicine. 19th ed. McGraw-Hill, New York, NY, 2015.
4. Lacy CL, Armstrong LL, Goldman MP, Lance LL, editors. Drug Information Handbook. 26th ed. Lexi-Comp, Inc., Hudson, OH, 2017-18. (Pocket edition and PDA version also available.)
5. Many resources are available via University of Pittsburgh Health Sciences Library, including a variety of databases and full-text online journals, at <http://www.hsls.pitt.edu>.

Core Requirements and Grading

CORE REQUIREMENTS MUST BE COMPLETED. IF A CORE REQUIREMENT CANNOT BE COMPLETED DUE TO A SITE-SPECIFIC REASON, THE PRECEPTOR MUST PROVIDE AN EXPLANATION IN THE STUDENT'S EVALUATION. ASSIGNMENTS SPECIFIC TO THE SITE MAY SUPERCEDE OR SUPPLEMENT CORE REQUIREMENTS AT THE DISCRETION OF THE PRECEPTOR.

Core Requirements

- Provide a written reflection for the rotation which briefly details what the student did, the skills that were developed and how the experience and skills point toward the student's career objective. The curricular outcomes can serve as a platform for the link to the career focus. For example, a student might state that a particular experience helped to build their critical thinking skills in a specific manner and describe how they will incorporate that into their desired career objective. This reflection must appear in the student's presentation portfolio.
- Maintain daily monitoring forms for at least 25 patient days during the rotation. Monitoring each day should include conditions being treated, pharmacotherapy plans, physical findings and laboratory test values to determine appropriateness and safety of therapy, and outcomes.
- Complete and present a minimum of 1 formal and 3 informal case presentations. Each presentation should involve a different disease state or focus of therapy. The formal presentation should include an analysis of disease state and treatments, including references to national and/or institutional treatment guidelines, and should be presented in a PowerPoint format. Informal case presentations can be as simple as a discussion of a case with the preceptor or medical team and are not required to be accompanied by a PowerPoint.
- Identify and document on the PITT Form all patient-centered encounters (identifying, evaluating and resolving drug therapy problems, managing chronic disease, or improving health and wellness) with patient-specific solutions. All patient care activities should be documented, with the expectation that at least 40 PITT Forms are submitted by the end of the rotation.
- Provide drug information responses to the preceptor, pharmacy team, and/or health care medical team and submit written summaries, including references, to at least 3 drug information requests.

- Attend at least one interdisciplinary meeting (ex. Pharmacy and Therapeutics Committee meeting, Patient Care Conference, etc.) and provide a written summary of what was discussed.
- Provide a written discussion of the means of communication used between members of the interprofessional team. Does this have a positive or negative impact on the level of collaboration achieved by the team? What was the role and contribution of the pharmacist on the interprofessional team?

Documentation of completion of all assignments must be provided on the Activity Log. Some or all assignments may be placed in the Assessment Portfolio to document mastery of curricular outcomes. Examples of the student's best work, reflective connector, reflection, and PITT Form Summary report must be included in the student's Presentation Portfolio. The PITT Form Summary report is not required if the APPE is a pure elective experience.

Optional Requirements (if site offers opportunity for the experience)

- Present/lead one journal club article discussion.
- Prepare 2 written discharge/transfer medication counseling plans for patients at an age-appropriate level (5th grade).
- Attend 2 conferences such as medical or pharmacy grand rounds, noon conference, resident seminar, or patient care conference and, for one conference, provide a written summary of the content. Include the name of the primary speaker or presenter.

Course Grading

Students will be assessed using the Preceptor Evaluation of APPE Student form utilizing the Stages of Professional Mastery to assess their ability to function as a pharmacist. Grading is on a satisfactory / unsatisfactory basis. Honors will be awarded to those students who exhibit exceptional skills, mastery of all ability outcomes and perform additional activities beyond those required. Grades will be based on student's pharmacy practice skills, knowledge and attitude. Skills will be assessed through direct observation of patient care activities at the practice site.

Students will be required to perform a mid-point and final self-evaluation and the preceptors will collaborate to perform a mid-point (week 2) and final evaluation. The preceptors will provide feedback on student performance on an ongoing basis throughout the rotation. Formal feedback will be documented on the Preceptor Evaluation of APPE Student form and submitted electronically to the Office of Experiential Learning.

A grade of "Unsatisfactory" will be awarded to students who earn such grade with actions including but not limited to:

- Inability to complete core requirements, evaluations, and portfolio requirements by assigned deadlines
- Poor quality of work, including failure to meet site expectations
- Multiple unexcused absences from site
- A pattern of tardiness and/or unprofessional conduct
- Recommendation by preceptor for student removal from site due to unprofessional conduct including HIPPA or other institutional policy violations or unprofessional behavior
- Preceptor evaluation of unprofessional behaviors as denoted by responses of "NO" on evaluations under the "Professional Behaviors and Attitudes" section

An "unsatisfactory" grade received on an APPE will require the student to repeat the APPE (within the same category), at a later time, to be scheduled with the Office of Experiential Learning.

Class Attendance Policy and Grade Implications

1. Any absences by students of one day or less per rotation should be handled by the student and the preceptor. In these instances it is the preceptor's responsibility to specify and outline a plan for the make-up of the missed day.
2. Any absences in excess of one day per rotation will require completion of an "Absence Request" form (*see E*Value site*). If possible, this form should be submitted to the preceptor and Ms. Anna Schmotzer in the Office of Experiential Learning at least one month prior to the scheduled absence. In the event the absence is not scheduled, the form should be submitted to the preceptor and Ms. Anna Schmotzer in the Office of Experiential Learning within three days of the student's return. It is the responsibility of the Director of Experiential Learning, working with the preceptor, to determine if the student can successfully complete the rotation and outline a plan for the make-up of the missed days.
3. Days missed due to interviews and attending professional meetings (e.g., *ASHP Midyear Meeting*) are considered absences and the guidelines outlined previously should be followed. Students must discuss interview schedules and professional meetings one month before the meeting. The guidelines outlined in item # 1 and # 2 must be followed.

Student Disability Statement

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor **and** Disability Resources and Services, 140 William Pitt Union, 412-648-7890, drsrecep@pitt.edu, or 412-228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Academic Integrity Statement

Students enrolled in the pharmacy program are also considered to be members of the pharmacy profession and must adhere to the same professional, ethical, and legal standards. It is a violation of the School's code of conduct policy for a student to engage in any act of academic misconduct, such as cheating, plagiarism, deceitful practice, unauthorized collaboration, harassment, or breach of confidentiality. It is also considered to be a violation of the code of conduct policy for a student to tolerate any of the aforementioned acts by other students. Unless authorized by the instructor, use of electronic devices of any kind during examinations is prohibited. Use of a personal digital assistant, palm top computer, cellular telephone or other electronic device during an examination is considered to be an act of academic misconduct.

Audio-Video Recording Statement

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's own private use.

Course Type:

Clinical (CLN)

University of Pittsburgh School of Pharmacy
Advanced Pharmacy Practice Experience
Ambulatory Care Rotation
Pharm 5400 series

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Ambulatory Care Rotation, 5 credits**

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Professional Year P-4, all terms

Days, Time, Location

Each experience takes place at an assigned site external to the school, is 5 or 6 weeks in duration and requires the student to be on-site for at least 40 hours per week. The exact time and location is dependent on the preceptor and site-specific characteristics.

Prerequisites/Co-Requisites

1. Students must successfully complete all required Doctor of Pharmacy course work in the first 3 professional program years.
2. Students must have a cumulative GPA ≥ 2.0 .
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Participating Faculty

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COURSE FACULTY

Varies with site

Course Description

During this rotation students will develop their pharmaceutical care skills for patients who are ambulatory (e.g., in a clinic or a pharmacy care center). Skills to be developed through direct patient care include:

- Proper use of patient-specific comprehensive data (patient/caregiver interviews, past medical records, medication history, physical exam findings, diagnostic and laboratory data) for making drug therapy decisions that reflect pharmaceutical care.
- Developing safe and cost-effective patient-specific pharmaceutical care plans with specific goals to resolve or prevent drug-related problems. These plans should be developed using previously gathered data and knowledge of pharmacokinetics, pharmacodynamics, social, cultural, ethical and humanistic factors.
- Proper implementation of patient-specific pharmaceutical care plans through written and oral communication. Plans should be communicated so that patients as well as other health care providers can understand their scope, nature and importance. Plans should inform all those involved of the risks and benefits of therapy, as well as clearly outline the proper use and desired outcome.
- Clearly document, using appropriate style and language, pharmaceutical care plans and patient care activities in the medical chart, when appropriate.
- Monitoring of patient-specific pharmaceutical care plans through collection and interpretation of pertinent data. All care plans should be assessed to see if previously defined goals have been achieved. In assuming the responsibility for outcomes it may be necessary at times to reevaluate treatment plans or therapeutic goals.

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PITTPharmacy 5 – Health Promoter and Provider

PITTPharmacy 8 – Educator and Communicator

PITTPharmacy 9 – Professional and Advocate

PITTPharmacy 10 - Collaborator

Key Words Identifying Core Content

Pathology/Pathophysiology, Pharmaceutical Calculations, Pharmacogenomics/genetics, Clinical Pharmacokinetics, Pharmacology, Cultural Awareness, Ethics, Healthcare Systems, Pharmacoeconomics, Practice Management, Professional Communication, Professional Development/Social and Behavioral Aspects of Practice, Health Information Retrieval and Evaluation, Medication Dispensing, Distribution and Administration, Patient Assessment, Patient Safety, Pharmacotherapy, Public Health, Self-Care Pharmacotherapy

Learning Objectives

PITTPharmacy 1. Learner

- Demonstrate needed scientific and practice knowledge to achieve rotation outcomes
 - Disease states including pathophysiology, anatomy/physiology
 - Drug therapy including pharmacology, kinetics, dosing

PITTPharmacy 2. Patient Assessor

- Review patient record/profile to accurately identify factors affecting therapy, health or disease management
- Create and/or update patient record/profiles accurately and in a timely manner
- Accurately create a drug-related problem list with prioritization of problems
- Conduct accurate and complete patient interviews to obtain medication histories
- Accurately perform necessary elements of physical assessment (e.g., blood pressure, foot exam)
- Accurately assess patient health literacy and compliance
- Accurately assess patient health status and care needs based on race, cultural, or socioeconomic criteria

PITTPharmacy 3. Caregiver

- Assess appropriateness of patient medication therapy (e.g., drug, dose, routes, etc.)
- Make appropriate and complete recommendations for care: non-pharmacologic and pharmacologic therapies
- Establish therapeutic outcomes/goals
 - Identifies and evaluates feasible therapeutic alternatives
 - Designs drug therapy regimen
- Consult and collaborate with healthcare professionals, practicing as a member of an interprofessional team
- Effectively manage treatments to enhance outcomes
- Assess regimen for efficacy and toxicity
 - Selects parameters that are specific, measurable, achievable and associated with time frames
 - Redesigns regimen as necessary
- Effectively document interventions in patient record/profile
- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Accurately identify, manage, and prevent drug-related problems and make appropriate decisions
- Recommend appropriate non-drug treatments (e.g., diet, smoking cessation, CAM)
- Retrieve, evaluate and use scientific information to provide information and/or make therapeutic decisions
 - Use a systematic, efficient and thorough procedure for information retrieval and evaluation
 - Justify in writing or verbally in clear, concise and persuasive language
- Demonstrate ability to appropriately triage patient for treatment or referral

PITTPharmacy 4. Manager and Leader

- Detect and report medication errors and adverse reactions
- Effectively collaborate with technical support staff to optimize care
- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Manage time wisely to maximize productivity and fulfill rotation obligations

PITTPharmacy 5. Health Promoter and Provider

- Educate/interact with patients and healthcare professionals regarding health promotion, disease prevention and wellness.
- Participate in educational programs designed to benefit the health of the general public

PITTPharmacy 8. Educator and Communicator

- Effectively document interventions in patient record/profile
- Able to effectively communicate
 - Use skills for effective verbal communication
 - Use skills for effective written communication

- Use appropriate persuasion techniques to positively impact drug use

PITTPharmacy 9. Professional and Advocate

- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Demonstrate the characteristics of a pharmacy professional

PITTPharmacy 10. Collaborator

- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Consult and collaborate with healthcare professionals, practicing as a member of an interprofessional team

Methods of Learning

Ability outcomes will be evaluated based on the student's performance of various tasks throughout the rotation. The methods of learning will vary with the rotation site, but will include observations, activities, and discussions with patients, pharmacists and other health professionals. Self-study and reflection will also be included.

Textbooks and Other Learning Resources

Learning resources will vary with the rotation site. The following is a list of *suggested* resources to assist the student in performing activities:

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Core Requirements and Grading

CORE REQUIREMENTS MUST BE COMPLETED. IF A CORE REQUIREMENT CANNOT BE COMPLETED DUE TO A SITE-SPECIFIC REASON, THE PRECEPTOR MUST PROVIDE AN EXPLANATION IN THE STUDENT'S EVALUATION. ASSIGNMENTS SPECIFIC TO THE SITE MAY SUPERCEDE OR SUPPLEMENT CORE REQUIREMENTS AT THE DISCRETION OF THE PRECEPTOR.

Core Requirements

- Provide a written reflection for the rotation which briefly details what the student did, the skills that were developed and how the experience and skills point toward the student's career objective. The curricular outcomes can serve as a platform for the link to the career focus. For example, a student might state that a particular experience helped to build their critical thinking skills in a specific manner and describe how they will incorporate that into their desired career objective. This reflection must appear in the student's presentation portfolio.
- Complete a minimum of 4 patient care notes per week and provide a written detailed SOAP note for 1 of the cases each week. Include patient information obtained through patient interview, physical examination, diagnostic/lab testing, etc. Define therapeutic goals and include pharmacy care plan for each patient.

- Identify and document on the PITT Form all patient-centered encounters (identifying, evaluating and resolving drug therapy problems, managing chronic disease, or improving health and wellness) with patient-specific solutions. All patient care activities should be documented, with the expectation that at least 40 PITT Forms are submitted by the end of the rotation.
- Complete and present a minimum of 1 formal and 1 informal case presentation. Each presentation should involve a different disease state or focus of therapy. The formal presentation should include an analysis of disease state and treatments, including references to national and/or institutional treatment guidelines, and should be presented in a PowerPoint format. Informal case presentations can be as simple as a discussion of a case with the preceptor or medical team and are not required to be accompanied by a PowerPoint.
- Provide drug information responses to the preceptor, pharmacy team, and/or health care medical team and submit written summaries, including references, to at least 3 drug information requests.
- Perform medication counseling for a minimum of 20 patients and provide written summaries for 4 of those patients, including discussion of prescription, OTC, herbal, and non-pharmacologic treatments as appropriate to the case.
- Provide a written discussion of the healthcare professionals who are integrated in the typical care of the patient. Describe the expertise that each member brings to the team. Is everyone's knowledge and area of expertise always communicated and integrated in the decision making process? If not, how can this be improved?

Documentation of completion of all assignments must be provided on the Activity Log. Some or all assignments may be placed in the Assessment Portfolio to document mastery of curricular outcomes. Examples of the student's best work, reflective connector, reflection, and PITT Form Summary report must be included in the student's Presentation Portfolio. The PITT Form Summary report is not required if the APPE is a pure elective experience.

Optional Requirements (if site offers opportunity for the experience)

- Discuss with the preceptor the practice management issues specific to the site such as formulary management, billing/reimbursements, regulatory compliance, patient safety and access to medications.

Course Grading

Students will be assessed using the Preceptor Evaluation of APPE Student form utilizing the Stages of Professional Mastery to assess their ability to function as a pharmacist. Grading is on a satisfactory / unsatisfactory basis. Honors will be awarded to those students who exhibit exceptional skills, mastery of all ability outcomes and perform additional activities beyond those required. Grades will be based on student's pharmacy practice skills, knowledge and attitude. Skills will be assessed through direct observation of patient care activities at the practice site.

Students will be required to perform a mid-point and final self-evaluation and the preceptors will collaborate to perform a mid-point (week 2) and final evaluation. The preceptors will provide feedback on student performance on an ongoing basis throughout the rotation. Formal feedback will be documented on the Preceptor Evaluation of APPE Student form and submitted electronically to the Office of Experiential Learning.

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- Inability to complete core requirements, evaluations, and portfolio requirements by assigned deadlines
- Poor quality of work, including failure to meet site expectations
- Multiple unexcused absences from site
- A pattern of tardiness and/or unprofessional conduct

- Recommendation by preceptor for student removal from site due to unprofessional conduct including HIPPA or other institutional policy violations or unprofessional behavior
- Preceptor evaluation of unprofessional behaviors as denoted by responses of “NO” on evaluations under the “Professional Behavior and Attitudes” section

An “unsatisfactory” grade received on an APPE will require the student to repeat the APPE (within the same category), at a later time, to be scheduled with the Office of Experiential Learning.

Class Attendance Policy and Grade Implications

4. Any absences by students of one day or less per rotation should be handled by the student and the preceptor. In these instances it is the preceptor’s responsibility to specify and outline a plan for the make-up of the missed day.
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COURSE FACULTY

Varies with site

Course Description

During this rotation students will develop competence in community pharmacy practice. Experiences may include but are not limited to:

- Establishing/enhancing patient-specific pharmacy databases through patient interviews
- Evaluating and preparing prescriptions for dispensing to patients.
- Providing medication and other health-related information and education to patients.
- Counseling patients and caregivers.
- Provide initial and ongoing evaluation of drug therapy.
- Communicate with patients about non-prescription products, devices, and diagnostics.
- Advanced drug compounding.
- Maintaining and controlling medication inventory and purchasing.
- Understanding distribution and documentation systems.
- Developing competent pharmacy management skills.
- Assuring medication safety in community pharmacy systems.
- Manage and supervise pharmacy personnel.

PITTPharmacy Outcomes Addressed by the Course

PITTPharmacy 1 – Learner

PITTPharmacy 2 – Patient Assessor

PITTPharmacy 3 - Caregiver

PITTPharmacy 4 – Manager and Leader

PITTPharmacy 5 – Health Promoter and Provider

PITTPharmacy 6 – Preparer and Dispenser

PITTPharmacy 8 – Educator and Communicator

PITTPharmacy 9 – Professional and Advocate

PITTPharmacy 10 - Collaborator

Key Words Identifying Core Content

Extemporaneous Compounding, Pharmaceutical Calculations, Pharmacology, Cultural Awareness, Ethics, Pharmacoeconomics, Pharmacy Law and Regulatory Affairs, Practice Management, Professional Communication, Professional Development/Social and Behavioral Aspects of Practice, Health Information Retrieval and Evaluation, Medication Dispensing, Distribution and Administration, Patient Safety, Pharmacotherapy, Public Health, Self-Care Pharmacotherapy

Learning Objectives

PITTPharmacy 1. Learner

- Demonstrate needed scientific and practice knowledge to achieve rotation outcomes
 - Disease states including pathophysiology, anatomy/physiology
 - Drug therapy including pharmacology, kinetics, dosing

PITTPharmacy 2. Patient Assessor

- Review patient record/profile to accurately identify factors affecting therapy, health or disease management
- Create and/or update patient record/profiles accurately and in a timely manner
- Conduct accurate and complete patient interviews to obtain medication histories
- Accurately assess patient health literacy and compliance
- Accurately assess patient health status and care needs based on race, cultural, or socioeconomic criteria

PITTPharmacy 3. - Caregiver

- Assess appropriateness of patient medication therapy (e.g., drug, dose, routes, etc.)
- Make appropriate and complete recommendations for care: non-pharmacologic and pharmacologic therapies
- Establish therapeutic outcomes/goals
 - Identifies and evaluates feasible therapeutic alternatives
 - Designs drug therapy regimen
- Effectively manage treatments to enhance outcomes
- Assess regimen for efficacy and toxicity
 - Selects parameters that are specific, measurable, achievable and associated with time frames
 - Redesigns regimen as necessary
- Accurately identify, manage, and prevent drug-related problems and make appropriate decisions
- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Recommend appropriate non-drug treatments (e.g., diet, smoking cessation, CAM)
- Demonstrate ability to appropriately triage patient for treatment or referral

PITTPharmacy 4. Manager and Leader

- Detect and report medication errors and adverse reactions
- Participate in discussions regarding compliance regulations (e.g., accreditation, legal, regulatory, safety)
- Participate in discussions concerning health care policy
- Manage the storage, preparation, dispensing and ordering of medications
- Effectively collaborate with technical support staff to optimize care
- Participate in the design, development, and marketing of patient services
- Participate in the pharmacy's quality improvement program
- Manages/adjudicates insurance coverage issues
- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Manage time wisely to maximize productivity and fulfill rotation obligations

PITTPharmacy 5. Health Promoter and Provider

- Educate/interact with patients and healthcare professionals regarding health promotion, disease prevention and wellness.
- Participate in educational programs designed to benefit the health of the general public

PITTPharmacy 6. Preparer and Dispenser

- Interpret, evaluate and clarify written prescriptions or drug orders to ensure appropriate effective, safe, and economical patient care
- Fill prescriptions or drug orders correctly (medication selection, quantity, labeling) according to State and Federal regulations
- Perform accurate calculations and documents all procedures
- Demonstrate proper techniques to accurately and safely compound (including parenteral admixtures)

PITTPharmacy 8. Educator and Communicator

- Effectively document interventions in patient record/profile
- Able to effectively communicate
 - Use skills for effective verbal communication
 - Use skills for effective written communication
 - Use appropriate persuasion techniques to positively impact drug use

PITTPharmacy 9. Professional and Advocate

- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Demonstrate the characteristics of a pharmacy professional

PITTPharmacy 10. Collaborator

- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Consult and collaborate with healthcare professionals, practicing as a member of an interprofessional team

Methods of Learning

Ability outcomes will be evaluated based on the student's performance of various tasks throughout the rotation. The methods of learning will vary with the rotation site, but will include observations, activities, and discussions with patients, pharmacists and other health professionals. Self-study and reflection will also be included.

Textbooks and Other Learning Resources

Learning resources will vary with the rotation site. The following is a list of *suggested* resources to assist the student in performing activities:

11. Dipiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A Pathophysiologic Approach. 10th ed. McGraw-Hill, New York, NY, 2017.
12. Koda-Kimble MA, Young LY, Kradjan WA, Guglielmo BJ, Alldredge BK, Corelli RL, Williams BR. Editors. Applied Therapeutics: The Clinical Use of Drugs. 10th ed. Lippincott Williams & Wilkins, New York, NY, 2013.
13. Kasper DL, Braunwald E, Fauci A, Hauser S, Longo D, Jameson JL, editors. Harrison's Principles of Internal Medicine. 19th ed. McGraw-Hill, New York, NY, 2015.
14. Lacy CL, Armstrong LL, Goldman MP, Lance LL, editors. Drug Information Handbook. 26th ed. Lexi-Comp, Inc., Hudson, OH, 2017-18. (Pocket edition and PDA version also available.)
15. Many resources are available via University of Pittsburgh Health Sciences Library, including a variety of databases and full-text online journals, at <http://www.hsls.pitt.edu>.

Core Requirements and Grading

CORE REQUIREMENTS MUST BE COMPLETED. IF A CORE REQUIREMENT CANNOT BE COMPLETED DUE TO A SITE-SPECIFIC REASON, THE PRECEPTOR MUST PROVIDE AN EXPLANATION IN THE STUDENT'S EVALUATION. ASSIGNMENTS SPECIFIC TO THE SITE MAY SUPERCEDE OR SUPPLEMENT CORE REQUIREMENTS AT THE DISCRETION OF THE PRECEPTOR.

Core Requirements

- Provide a written reflection for the rotation which briefly details what the student did, the skills that were developed and how the experience and skills point toward the student's career objective. The curricular outcomes can serve as a platform for the link to the career focus. For example, a student might state that a particular experience helped to build their critical thinking skills in a specific manner and describe how they will incorporate that into their desired career objective. This reflection must appear in the student's presentation portfolio.
- Perform and document on the PITT Form 20 prescription counseling experiences provided to patients, reflecting different medications and different patients.
- Perform and document via brief written SOAP notes, as well as on the PITT Form, 20 OTC counseling experiences provided to patients, reflecting different products or conditions.
- Provide a written description of the means of communication used between members of the interprofessional team. Does this have a positive or negative impact on the level of collaboration

achieved by the team? What was the role and contribution of the pharmacist on the interprofessional team?

- Discuss with the preceptor specific pharmacy procedures to assess prescriptions for appropriateness based on patient parameters (ages, sex, weight, allergies, disease state), drug interactions, refill status, and insurance issues.
- Discuss with the preceptor pharmacy procedures for inventory ordering, receiving, checking, and stocking. Also, include how drug shortages are handled.
- Discuss with the preceptor controlled substance security, record keeping, and CII inventory management.
- Discuss with the preceptor procedures to handle medication errors, expired medications, and disposal of hazardous substances.
- Fill a minimum of 250 prescriptions.

Documentation of completion of all assignments must be provided on the Activity Log. Some or all assignments may be placed in the Assessment Portfolio to document mastery of curricular outcomes. Examples of the student's best work, reflective connector, reflection, and PITT Form Summary report must be included in the student's Presentation Portfolio. The PITT Form Summary report is not required if the APPE is a pure elective experience.

Optional Requirements (if site offers opportunity for the experience)

- Maintain a log of all compounded products, including calculations performed.
- Provide drug information responses to the preceptor, staff, or patients and submit written summaries, including references, to at least 3 drug information requests.
- Discuss with the preceptor pharmacist-delivered patient care services offered at the site (ex. MTM, blood pressure screening, blood glucose screening, immunizations, etc.), including student participation.
- Discuss with the preceptor pharmacy business procedures related to payment of bills, charging of customer accounts, product pricing, and assessment of financial performance.
- Discuss with the preceptor procedures for personnel scheduling, discipline, and performance evaluation.

Course Grading

Students will be assessed using the Preceptor Evaluation of APPE Student form utilizing the Stages of Professional Mastery to assess their ability to function as a pharmacist. Grading is on a satisfactory / unsatisfactory basis. Honors will be awarded to those students who exhibit exceptional skills, mastery of all ability outcomes and perform additional activities beyond those required. Grades will be based on student's pharmacy practice skills, knowledge and attitude. Skills will be assessed through direct observation of patient care activities at the practice site.

Students will be required to perform a mid-point and final self-evaluation and the preceptors will collaborate to perform a mid-point (week 2) and final evaluation. The preceptors will provide feedback on student performance on an ongoing basis throughout the rotation. Formal feedback will be documented on the Preceptor Evaluation of APPE Student form and submitted electronically to the Office of Experiential Learning.

A grade of "Unsatisfactory" will be awarded to students who earn such grade with actions including but not limited to:

- Inability to complete core requirements, evaluations, and portfolio requirements by assigned deadlines
- Poor quality of work, including failure to meet site expectations
- Multiple unexcused absences from site
- A pattern of tardiness and/or unprofessional conduct

- Recommendation by preceptor for student removal from site due to unprofessional conduct including HIPPA or other institutional policy violations or unprofessional behavior
- Preceptor evaluation of unprofessional behaviors as denoted by responses of “NO” on evaluations under the “Professional Behavior and Attitudes” section

An “unsatisfactory” grade received on an APPE will require the student to repeat the APPE (within the same category), at a later time, to be scheduled with the Office of Experiential Learning.

Class Attendance Policy and Grade Implications

7. Any absences by students of one day or less per rotation should be handled by the student and the preceptor. In these instances it is the preceptor’s responsibility to specify and outline a plan for the make-up of the missed day.
8. Any absences in excess of one day per rotation will require completion of an “Absence Request” form (*see E*Value site*). If possible, this form should be submitted to the preceptor and Ms. Anna Schmotzer in the Office of Experiential Learning at least one month prior to the scheduled absence. In the event the absence is not scheduled, the form should be submitted to the preceptor and Ms. Anna Schmotzer in the Office of Experiential Learning within three days of the student’s return. It is the responsibility of the Director of Experiential Learning, working with the preceptor, to determine if the student can successfully complete the rotation and outline a plan for the make-up of the missed days.
9. Days missed due to interviews and attending professional meetings (e.g., *ASHP Midyear Meeting*) are considered absences and the guidelines outlined previously should be followed. Students must discuss interview schedules and professional meetings one month before the meeting. The guidelines outlined in item # 1 and # 2 must be followed.

Student Disability Statement

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor **and** Disability Resources and Services, 140 William Pitt Union, 412-648-7890, drsrecep@pitt.edu, or 412-228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Academic Integrity Statement

Students enrolled in the pharmacy program are also considered to be members of the pharmacy profession and must adhere to the same professional, ethical, and legal standards. It is a violation of the School’s code of conduct policy for a student to engage in any act of academic misconduct, such as cheating, plagiarism, deceitful practice, unauthorized collaboration, harassment, or breach of confidentiality. It is also considered to be a violation of the code of conduct policy for a student to tolerate any of the aforementioned acts by other students. Unless authorized by the instructor, use of electronic devices of any kind during examinations is prohibited. Use of a personal digital assistant, palm top computer, cellular telephone or other electronic device during an examination is considered to be an act of academic misconduct.

Audio-Video Recording Statement

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student’s own private use.

Course Type:

Clinical (CLN)

April 2017

University of Pittsburgh School of Pharmacy
Advanced Pharmacy Practice Experience
Institutional Pharmacy Practice
Pharm 5400 series

Mission of the PharmD Program

Through our commitment to personalizing education, PittPharmacy inspires students to use their unique interests and talents to improve the lives of people through the safe, effective, and responsible use of medications and other interventions.

The PharmD program prepares students to be practitioners who advance the profession by fostering innovation, leadership, interprofessional collaboration, civic engagement, advocacy, life-long learning, and a professional attitude of inclusion.

Approved June 7, 2016

Course Title, Course Number, Credit Allowance

Advanced Pharmacy Practice Experience, Pharm 5400 series
Institutional Pharmacy Practice Rotation, 5 credits

Professional Year and Terms Offered (Fall, Spring, Summer)

Professional Year P-4, all terms

Days, Time, Location

Each experience takes place at an assigned site external to the school, is 5 or 6 weeks in duration and requires the student to be on-site for at least 40 hours per week. The exact time and location is dependent on the preceptor and site-specific characteristics.

Prerequisites/Co-Requisites

1. Students must successfully complete all required Doctor of Pharmacy course work in the first 3 professional program years.
2. Students must have a cumulative GPA ≥ 2.0 .
3. Students must meet all prerequisite conditions as set forth in affiliation agreements specific to the site.

Participating Faculty

COURSE COORDINATOR

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COURSE FACULTY

Varies with site

Course Description

During this rotation students will develop competence in hospital pharmacy operations. Experiences may include but are not limited to:

- Maintaining and controlling medication inventory
- Understanding distribution and documentation systems
- Preparation of intravenous medications including total parenteral nutrition and chemotherapy
- Pharmacy department management
- Quality assurance issues
- Medication formulary management
- Pharmacy provision of clinical services

PITTPharmacy Outcomes Addressed by the Course

PITTPharmacy 1 – Learner

PITTPharmacy 2 – Patient Assessor

PITTPharmacy 3 -- Caregiver

PITTPharmacy 4 – Manager and Leader

PITTPharmacy 6 – Preparer and Dispenser

PITTPharmacy 8 – Educator and Communicator

PITTPharmacy 9 – Professional and Advocate

PITTPharmacy 10 - Collaborator

Key Words Identifying Core Content

Pathology/Pathophysiology, Pharmaceutical Calculations, Pharmacogenomics/genetics, Clinical Pharmacokinetics, Pharmacology, Ethics, Healthcare Systems, Pharmacoeconomics, Practice Management, Professional Communication, Professional Development/Social and Behavioral Aspects of Practice, Health Informatics, Health Information Retrieval and Evaluation, Medication Dispensing, Distribution and Administration, Patient Assessment, Patient Safety, Pharmacotherapy, Public Health, Self-Care Pharmacotherapy

Learning Objectives

PITTPharmacy 1. Learner

- Demonstrate needed scientific and practice knowledge to achieve rotation outcomes
 - Disease states including pathophysiology, anatomy/physiology
 - Drug therapy including pharmacology, kinetics, dosing

PITTPharmacy 2. Patient Assessor

- Review manual or electronic patient record/profile to accurately identify factors affecting therapy, health or disease management
- Create and/or update patient record/profiles accurately and in a timely manner
- Accurately create a drug-related problem list with prioritization of problems
- Accurately assess patient health status and care needs based on race, cultural, or socioeconomic criteria

PITTPharmacy 3. Caregiver

- Assess appropriateness of patient medication therapy (e.g., drug, dose, routes, etc.)
- Make appropriate and complete recommendations for care: non-pharmacologic and pharmacologic therapies

- Establish therapeutic outcomes/goals
 - Identifies and evaluates feasible therapeutic alternatives
 - Designs drug therapy regimen
- Effectively manage treatments to enhance outcomes
- Accurately identify, manage, and prevent drug-related problems and make appropriate decisions
- Assess regimen for efficacy and toxicity
 - Redesigns regimen as necessary
- Retrieve, evaluate and use scientific information to provide information and/or make therapeutic decisions

PITTPharmacy 4. Manager and Leader

- Detect and report medication errors and adverse reactions
- Participate in discussions regarding compliance regulations (e.g., accreditation, legal, regulatory, safety)
- Participate in drug approval/formulary process/therapeutic guideline development
- Participate in discussions concerning health care policy
- Manage the storage, preparation, dispensing and ordering of medications
- Effectively collaborate with technical support staff (i.e. pharmacy technicians) to optimize care
- Participate in the design, development, and marketing of patient services
- Participate in the pharmacy's quality improvement program
- Manage time wisely to maximize productivity and fulfill rotation obligations

PITTPharmacy 6. Preparer and Dispenser

- Interpret, evaluate and clarify prescriptions or drug orders to ensure appropriate effective, safe, and economical patient care
- Fill prescriptions or drug orders correctly (medication selection, quantity, labeling) according to State and Federal regulations
- Perform accurate calculations and documents all procedures
- Demonstrate proper techniques to accurately and safely compound (including parenteral admixtures)
- Understand the role of the pharmacist in medication management, including order processing, dispensing, patient safety, resource management, and regulatory compliance.

PITTPharmacy 8. Educator and Communicator

- Able to effectively communicate
 - Use skills for effective verbal communication
 - Use skills for effective written communication
 - Use appropriate persuasion techniques to positively impact drug use

PITTPharmacy 9. Professional and Advocate

- Demonstrate appropriate human relations skills: displaying interest in others; sensitivity, empathy, acting in the best interest of others
- Demonstrate the characteristics of a pharmacy professional

PITTPharmacy 10. Collaborator

- Consult and intervene with patients and health care professionals regarding self-care and prescription medications
- Consult and collaborate with healthcare professionals, practicing as a member of an interprofessional team

Methods of Learning

Ability outcomes will be evaluated based on the student's performance of various tasks throughout the rotation. The methods of learning will vary with the rotation site, but will include observations, activities, and discussions with patients, pharmacists and other health professionals. Self-study and reflection will also be included.

Textbooks and Other Learning Resources

Learning resources will vary with the rotation site. The following is a list of *suggested* resources to assist the student in performing activities:

16. Dipiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A Pathophysiologic Approach. 10th ed. McGraw-Hill, New York, NY, 2017.
17. Koda-Kimble MA, Young LY, Kradjan WA, Guglielmo BJ, Alldredge BK, Corelli RL, Williams BR. Editors. Applied Therapeutics: The Clinical Use of Drugs. 10th ed. Lippincott Williams & Wilkins, New York, NY, 2013.
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20. Many resources are available via University of Pittsburgh Health Sciences Library, including a variety of databases and full-text online journals, at <http://www.hsls.pitt.edu>.

Course Requirements and Grading

CORE REQUIREMENTS MUST BE COMPLETED. IF A CORE REQUIREMENT CANNOT BE COMPLETED DUE TO A SITE-SPECIFIC REASON, THE PRECEPTOR MUST PROVIDE AN EXPLANATION IN THE STUDENT'S EVALUATION. ASSIGNMENTS SPECIFIC TO THE SITE MAY SUPERCEDE OR SUPPLEMENT CORE REQUIREMENTS AT THE DISCRETION OF THE PRECEPTOR.

Core Requirements

- Provide a written reflection for the rotation which briefly details what the student did, the skills that were developed and how the experience and skills point toward the student's career objective. The curricular outcomes can serve as a platform for the link to the career focus. For example, a student might state that a particular experience helped to build their critical thinking skills in a specific manner and describe how they will incorporate that into their desired career objective. This reflection must appear in the student's presentation portfolio.
- Complete and present a minimum of 1 formal and 1 informal case presentation. Each presentation should involve a different disease state or focus of therapy. The formal presentation should include an analysis of disease state and treatments, including references to national and/or institutional treatment guidelines, and should be presented in a PowerPoint format. Informal case presentations can be as simple as a discussion of a case with the preceptor or medical team and are not required to be accompanied by a PowerPoint.
- Describe in writing the process for reporting, evaluating, and mitigating Adverse Drug Reactions and Medication Errors. Give examples of one Adverse Drug Reaction and one Medication Error that were reported or investigated.
- Identify and document on the PITT Form all patient-centered encounters (identifying, evaluating and resolving drug therapy problems, managing chronic disease, or improving health and wellness) with patient-specific solutions. All patient care activities should be documented, with the expectation that at least 25 PITT Forms are submitted by the end of the rotation.
- Maintain a log of 15 intravenous products prepared using sterile technique. The log should include drug name, diluent, rate of infusion, stability, and intended use.

- Provide drug information response to the preceptor, pharmacy team, and/or health care medical team and provide written responses, including references, to at least 3 drug information requests.
- Provide a written description of a time when you had to communicate with a healthcare professional for clarification, correction, or verification of a medication order. Was this encounter an example of interprofessional collaboration or conflict resolution? If it was conflict resolution, how would you change the process to encourage team collaboration?
- Attend at least one interdisciplinary meeting (ex. Pharmacy and Therapeutics Committee meeting, Patient Safety Committee, etc.) and provide a written summary of what was discussed.
- Discuss with your preceptor the drug distribution process including order entry and/or verification, pharmacist review, order filling, delivery, and administration. Also include a discussion of how drug shortages are handled.
- Discuss with your preceptor the role of the pharmacist in medication safety. Include the role of automation (robotics, automated dispensing cabinets, bar code scanning, etc) and electronic medical record, if applicable.

Documentation of completion of all assignments must be provided on the Activity Log. Some or all assignments may be placed in the Assessment Portfolio to document mastery of curricular outcomes. Examples of the student’s best work, reflective connector, reflection, and PITT Form Summary report must be included in the student’s Presentation Portfolio. The PITT Form Summary report is not required if the APPE is a pure elective experience.

Additional Requirements (if site offers opportunity for the experience)

- Discuss with your preceptor clinical pharmacy services at the site. Include the responsibilities of each pharmacist involved in services other than dispensing.
- Discuss with your preceptor the different regulatory bodies with oversight of the institution and the responsibilities of the pharmacy in regard to institutional regulatory readiness.

Course Grading

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12. Days missed due to interviews and attending professional meetings (e.g., *ASHP Midyear Meeting*) are considered absences and the guidelines outlined previously should be followed. Students must discuss interview schedules and professional meetings one month before the meeting. The guidelines outlined in item # 1 and # 2 must be followed.

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Course Type:

Clinical (CLN)

April 2017