



Training and Internship Administration
Vice Deanship for Training and Clinical Affairs
College of Pharmacy
Princess Nourah bint Abdulrahman University

Advanced Pharmacy Practice Experience Manual

Year 2023 - 2024



Princess Nourah bint
Abdulrahman University
College of Pharmacy



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Dean's Message

Dear Students,

Congratulation on your successful arrival to the internship year, which is the first building block for your professional path.

In the PharmD program, the College of Pharmacy keen to expose the students to various training experiences by making effective partnerships with hospitals and various drug sectors for the aim of creating a unique experience for our students in addition to graduating skilled pharmacists that own the necessary tools to practice in various pharmacy fields.

Wishing for you all the best in your new journey and always remember that you are our ambassadors at the training sites.

Najla A. Altwaijry, PhD

Dean of College of Pharmacy

Princess Nourah bint Abdulrahman University





Introduction

This manual is your first resource to understand the Internship process. This document is provided to act as a guide and answer questions you may have regarding the internship year. It is imperative that you refer to this manual and understand its contents throughout your Internship experience and you are ultimately responsible to adhere to all the regulation set out in this manual.

The completion of the courses during the Internship year is a major requirement for the completion of the Pharm D degree in college of Pharmacy where the many hours of study, discussion, and reflection in your academic core courses are finally put into practice. The college of Pharmacy offers a one-year Advance Pharmacy Practice Experience (APPE) that occur in the final year of the curriculum. The APPE is designed to provide excellent opportunities for students to put into practice much of the knowledge and skills acquired during their studies and to gain firsthand knowledge of work environment and possible future employment.

The APPE courses are structured with outcome expectations designed to reflect the attainment of practice related competencies as set forth by the international standards (i.e. Accreditation Council for Pharmacy Education “ACPE”). It consists of nine rotations (36 credit hours) that shall be on a continuous and uninterrupted basis. Each rotation is five weeks long (equals to 4 credit hours) to different training sites including hospitals, drug companies and community pharmacies.





Objectives of the internship year

- Training students to work professionally and learn work ethics.
- Introduce students to the standards of pharmaceutical care and practice.
- Developing students' clinical skills.
- Training to cooperate with the medical team in designing an integrated treatment plan to ensure the highest standards of quality and safety for the patient.
- Developing the student's professional and personal skills that support her competence in communicating with patients and the team.
- Introducing the student to all areas of pharmaceutical work.
- Gain the basic research skills.

Internship Eligibility

To qualify for an Internship, you must meet the following requirements:

- Successful completion of core courses from year 1 to year 5 (177 credits).
- Attend internship orientation (Internship Introductory Day).
- Submit all required documentations as requested by internship unit.



Advance Pharmacy Practice Experience Calendar



Internship year (2023-2024)		
Rotation number	Start	End
Rotation 1	2/7/2023	3/8/2023
Rotation 2	6/8/2023	7/9/2023
Rotation 3	10/9/2023	12/10/2023
Rotation 4	15/10/2023	16/11/2023
Rotation 5	19/11/2023	21/12/2023
Rotation 6	24/12/2023	25/1/2024
Rotation 7	28/1/2024	29/2/2024
Rotation 8	3/3/2024	4/4/2024
Official Vacation from 5/4/2024 to 13/4/2024		
Rotation 9	14/4/2024	16/5/2024



Internship Policies & Regulation

Documents submission to the Training and Internship Unit

- **Pre-internship requirements:**
 - Intern personal data: link will be sent by the training and internship unit.
 - Copy of Saudi ID or Iqama.
 - IBAN stamped from the bank.
 - Copy of Mother ID for non-Saudi interns from a Saudi mother.
 - Curriculum vitae (CV).
 - Basic Life Support (BLS) Certificate
 - Sign Internship Charter form
- **During internship requirements**
 - Any other requirement requested by the training and internship administration for training sites and research rotation (e.g., passport, interview, CV, GPA).
- **End of internship requirements**
 - Internship portfolio.





Internship's Rotation Guideline

- Interns are allocated to the training sites based on their preferences, the preceptor's availability, and site's requirements.
- Once interns have been assigned to the training site. Interns are not allowed to change the type/site of rotation under any circumstances without refer to the internship administration.
- Interns not allowed to communicate the training coordinator in the training site to get acceptance. It's internship unit responsibility to communicate with training coordinator in the training site to request training seat.
- No change of the intern's rotation schedule is allowed under any circumstances.
- All interns need to fulfill the core rotations including inpatient, outpatient and 2 different clinical rotations.

Attendance/absence policy and regulation

The pharmacy intern is expected to observe a policy of consistent and timely attendance from 8:00 a.m. to 4:00 p.m. The intern should follow the procedure for requesting a leave as the following:

- A. The leave should not exceed 5 days in one rotation (20%) and should not be in the beginning of the rotation.
- B. The form needs to be sent to the internship administration for final approval.
- C. No more than 50% of students in one site.

- **Annual leave:**

A maximum of accumulated 10 days of absence (Including emergency leaves) are allowed during the entire training period and should be requested in accordance with the following:

- 1- The leave should not exceed 5 days in one rotation (20%) and should not be in the beginning of the rotation.



- 2- The intern should first discuss her intention to request an annual leave with her assigned preceptor and get his approval.
- 3- The intern should fill the absence form and get her preceptor's signature in the form one week in advance.
- 4- The form needs to be sent to the internship administration for final approval.
- 5- No more than 50% of students in one site.

- **Educational leave:**

The intern is granted three days educational leave including participating in scientific conferences related to pharmacy. This has to be preceded by an official request to the training unit four weeks in advance for approval. Certificate of Attendance must be provided within three days to the Training and Internship Administration after the completion of the scientific conference. If failed to provide, the educational leave will be deducted from the annual leave.

- **Maternity leave:**

The intern is entitled to 2 weeks maternity leave. The intern should notify the internship unit about the expected day of delivery and update the unit if the delivery happened in different day. Any consequences resulted from the delay of notifying the internship unit about the delivery date, will be under the responsibility of the intern. This leave, however, has to be compensated before the end of the internship year.

- **Bereavement leave:**

The intern is entitled to 3 days leave for the death of first-degree relatives and one day for the death of second-degree relatives.

- **Sick leave:**

The intern must inform immediately her assigned preceptor and the internship administration. The sick leave report should be obtained from (Sehaty).

- **Absences:**

- In case of any absences, an excuse letter should be submitted to the internship unit in advance or at least 2 working days after the absence day. The maximum legitimate day of absences should not exceed 5 days from one rotation. All missing days should be compensated before the end of the internship year.
- Unexcused absence may cause a failure in the rotation.



- **Ramadan, Eid and National day holidays:**
The intern must follow the PNU training rotation schedule and in addition to the training site policy in relation to these holidays.
- **Exams and training courses:**
No special leave for exams (e.g., Saudi Pharmacist Licensure Examination (SPLE)) and training courses.



General Responsibility

Training and internship unit:

1. Regulate the internship and scheduling process.
2. Arrange training seats to provide good quality of training.
3. Communicate and coordinate with training sites and preceptors.
4. Collect the APPE rotation evaluation and document the grade.

Intern:

1. Submit all the required forms (e.g., research document, portfolio).
2. Adhere to training site policies.
3. Protect the patient and site confidentiality.
4. Follow the site/preceptor instructions.
5. Follow the vacations and leave policy.
6. Inform the training and internship unit in case of emergency situations.
7. Commit to the rotations offered by training and internship unit (any seat that is provided by the intern herself will not be considered).
8. Make sure that the preceptor has done the evaluation at the end of the rotation.
9. Exhibit a professional demeanor in manner, dress and adherence to professional standards at all times.
10. Follow the Princess Noura University dress code at all times, unless expressly directed to do otherwise by their preceptor.

Preceptor:

1. Follow the rotation objectives.
2. Guide the intern throughout the rotation.
3. Maintain the intern confidentiality.
4. Provide an oral mid and final evaluation to the intern.
5. Submit the evaluation.



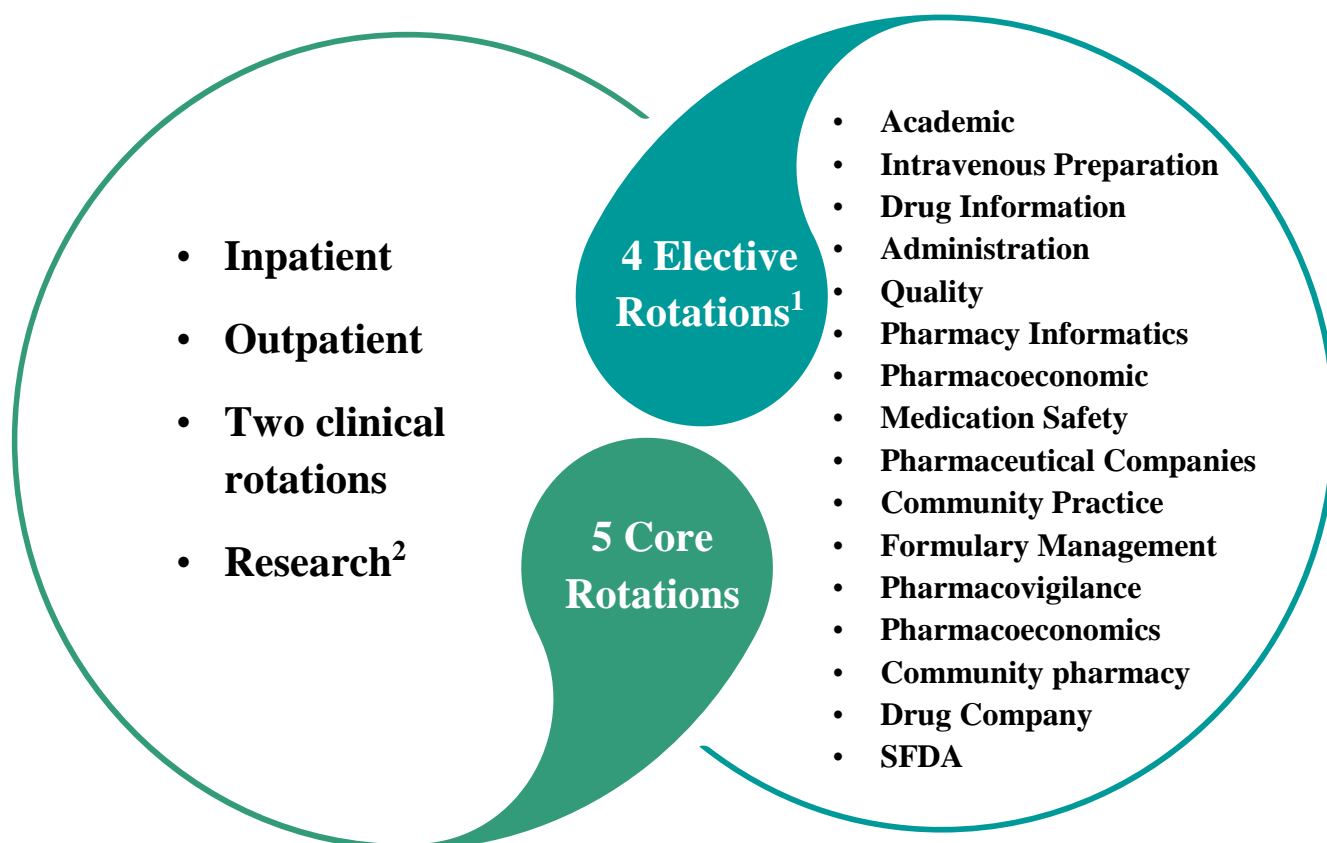
Training Site:

1. Provide an intern access or ID to be able to enter and practice at the site.
2. Orient the intern to the training site.
3. Communicate with the preceptor / team to start the training.
4. Provide appropriate communication with PNU training and internship unit whenever needed.





Advance Pharmacy Practice Experience Rotation Types/sites



¹ Elective rotation depend on intern's preference and the sites availability.

² Please refer to graduation research project for pharmacy intern for more information.
SFDA: Saudi Food and Drug Authority.



Examples of Training Sites

Hospitals



Community Pharmacy





Pharmaceutical Companies



Others





Evaluation

APPE Evaluation

- Advanced Pharmacy Practice Experiences (APPEs) are evaluated on 100 point each rotation. The evaluation system focuses on the interns' ability to demonstrate competent performance of the curricular outcomes and successful completion of the program. The cutoff point for the passing a rotation is a score of > 60%. Interns' required activities are to be graded separately; completion of such activities is a REQUIREMENT to pass the rotation.
- The evaluation form link will be sent to the training coordinator in the training site at the beginning and the end of the rotation.
- Students are to be formally assessed twice during the rotation, at the midpoint (verbal evaluation) and end of the rotation (via the evaluation form link).
- The intern shall have verbal feedback and discussion about their evaluation at the end of the rotation.
- Its intern's responsibility to ensure that the preceptor has evaluated her at the end of the rotation.
- The role of internship unit is to collect the submitted scores and don't interfere or amend any submitted scores.

Student feedback

Students will receive types of surveys which are mandatory to be filled including the following:

1. Survey to assess the preceptor at the end of each rotation.
2. Survey to assess the training site experience at the end of each rotation.
3. Survey to assess the internship year experience at the end of the internship year.
4. Survey to assess the Internship Students Development Program and Saudi Pharmacist Licensure Exam (SPLE) course.

The performance evaluation is based upon the following rating scale



Excellent (5)	Good (4)	Adequate (3)	Fair (2)	Poor (1)
<p>The intern has demonstrated excellence in this competency. The intern consistently performs the competency above expectations and requires minimal guidance and supervision from the preceptor.</p>	<p>The intern has adequately demonstrated this competency. The intern frequently performs the competency within expectations and requires minimal guidance and supervision from the preceptor.</p>	<p>The intern is developing skills in this competency; however, some minor improvement(s) are needed in order to meet the competency. The intern sometimes performs the competency within expectations and requires regular guidance and supervision.</p>	<p>The intern is fairly meeting the competency and substantial effort is needed in order to meet the competency. The intern rarely performs the competency within expectations and requires constant guidance and supervision</p>	<p>The intern is poorly meeting the competency and substantial effort is needed in order to meet the competency. The intern does not perform the competency and requires constant guidance and supervision.</p>



Internship Portfolio

Introduction:

The intern portfolio serves as a tool to organize selected pieces of work, and self-reflections on that work, that demonstrate intern achievement. The portfolio serves both an assessment function and a professional career development function for the individual intern. Each intern prepares a portfolio as a longitudinal activity, collecting evidence of accomplishments and providing self-reflections as she progresses through the internship year. The portfolio is expected to be submitted to internship unit by the end of internship year.

What is a Portfolio?

A portfolio is a purposeful collection of work (evidence) that provides a record of, and reflection on, an intern's activities and achievements. The portfolio has been designed as a composite of experiential learning activities. Interns can document significant events, projects, patient cases, and other items that can be used as evidence. This also allows to build a database of their experiences that they can use as they continue on to their next educational experience, their residency, or their future employment.

Portfolio Requirements:

- The intern needs to develop your portfolio so that it contains the following sections:
 1. General Information (contact information, education background, awards, research experience).
 2. CV.
 3. For each rotation please describe specific goals and expectations for the internship. Do not offer broad, general goals. Your goals can focus on job-related goals as well as personal growth goals. Indicate how your internship will help you accomplish your goals. What steps will you take to reach the goals you have set.
 4. Evidence of activities/assignments as required in the following APPE rotations. The "evidence" for each rotation are the documents/handouts that relate to the required



activities (Please note that this should be preceded by a summary sheet that explains the activity and describes your role and the results)

Mandatory APPEs

- For each Mandatory, provide at least two of the following evidences:
 - **Outpatient rotation:**
 1. Handout or other evidence that documents your presentation (the presentation may be a journal club, patient case, new drug review, etc).
 2. Summary of treatment recommendations, counseling, to patients.
 3. Handout or other evidence of an in service or educational session you provided to pharmacy, nursing or medical staff. Or if you have attended any educational session.
 4. Medication therapy management (MTM) evaluation.
 - **Inpatient rotation:**
 1. Handout or other evidence that documents your presentation (the presentation may be a journal club, patient case, new drug review, etc).
 2. Reflection about your experience in preparing and/or submitting an actual or simulated adverse event.
 3. Two written drug information responses.
 4. Handout or other evidence of an in service or educational session you provided to pharmacy, nursing or medical staff. Or if you have attended any educational session.
 - **Two clinical rotations:**
 1. Handout or slides used for formal patient case presentation.
 2. Journal club presentation - Handout or a brief written critique of the journal you discussed.
 3. Two written drug information responses.
 4. Handout or other evidence of an in-service or educational session you provided to pharmacy, nursing or medical staff.
 5. Summary of consultation that you provided to patients, SOAP note that documents your data gathering, assessment, recommendations, counseling and follow up.



Elective APPEs

For each elective, provide at least two of the following evidences:

1. Presentation or project summary (handout, slides, or other evidence).
2. Other evidences:
 - For patient care electives, provide at least two of the following: SOAP (subjective, objective, assessment, and plan) notes, case presentation handout, journal club handout, or others.
 - For non-patient care electives, provide at least two submissions that document what you learned/accomplished during the rotation. Examples include, patient safety documentation, drug review, teaching experience, agendas from meetings you have attended, materials that describe the training you have participated in, or other as approved by your preceptor.

Reflective Essay

- In this at least one page essay, you should reflect on the meaning of the rotation experience for your intellectual development and career planning. Examples of reflections to include would be:
 - How this rotation experience impacts your professional growth and development?
 - Challenges and barriers?
 - Lesson learned?
 - In what ways did I meet my learning objectives? In what ways did I fall short?
 - What new insights did I gain into the practices and problems in this line of work?
 - What contributions did I make to this site?
 - What coursework or experiences do I need to continue my career preparation?
 - What were the best aspects of this experience?
 - What were the worst aspects of this experience?
 - What do I intend to do differently because of this experience?



Saudi Pharmacist Licensure Examination (SPLE)

What is SPLE?



The Saudi Pharmacist Licensure Examination (SPLE) is mandatory for PharmD/BS Pharmacy professionals if they want to practice in Saudi Arabia or get admitted to a postgraduate training program at the Saudi Commission for Health Specialties (SCFHS). Established to assess the readiness of graduates to practice in Saudi Arabia and get admitted to a postgraduate training program (PYG 1).

SPLE overview?

- The examination is comprehensive measure of knowledge in four major pharmacy content areas:
 - 10% - Basic Biomedical Sciences.
 - 35% - Pharmaceutical Sciences.
 - 20% - Social/Behavioral/Administrative Sciences.
 - 35% - Clinical Sciences.

Who can apply for the SPLE?

- Have a recognized primary degree (PharmD/BS Pharmacy)
- Commenced training in the internship year.
- One year away from graduation.
- **Information on SPLE application and preparation can be found in the SCFHS website:**
<https://medicine.kau.edu.sa/Files/140/Files/156041 Policies and Procedures.pdf>



- **What is the College of Pharmacy's SPLE preparatory course?**

It's an online course that offered by the College of Pharmacy to help prepare the interns to pass the SPLE. The course composed of four modules that align with the four SPLE competency areas (i.e. Biomedical Sciences, Pharmaceutical Sciences, Social/Behavioral/Administrative Sciences & Clinical Sciences). Each module provides important information about the topics covered on the SPLE as determined by SCFHS as reading materials, tables, and/or figures. At the end of each module, there are mock questions that interns need to be answered (at least 75% of questions) in order to move to the next module.

- **What are the requirements for interns to take the college approval to register in SPLE?**

1. Intern needs to complete all core rotations including inpatient, outpatient and two clinical rotations. If this was not the case for any unavoidable circumstances, the intern needs to complete at least 5 rotations before undertaking the SPLE.
2. Intern need to undertake the college preparatory online modules (Two attempts allowed).
3. Interns need to pass the mock exam prepared by the college which will be conducted late 2021.

The following documents need to be submitted to the internship unit:

- Certificate of completion of the online course
- Snapshot of the achieved grades.
- Proof of filling out the survey aimed to assess the SPLE preparatory online course.

- **If the intern encounters any difficulty or issue while accessing the online course, please email College of Pharmacy e-Learning Unit for support: cp-el@pnu.edu.sa.**





Appendixes



Core Rotations

Graduation Research Project

Description

The research project is a longitudinal experience throughout the internship year of PharmD program in which students engage in a research project under the mentorship of a faculty member who will follow their progress throughout the entire longitudinal experience.

Students will enroll in a five weeks research rotation for data collection. Prior to starting a research, students must go through the proposal stage, during which students will develop their proposal and have it reviewed by her research advisor in the beginning of their internship year. This means that students need months of planning and background research work before the starting data collection stage. Students are not allowed to enroll in a research course without an approved proposal.

During the proposal stage, students should discuss their research interests with their advisor, identify a research topic, conduct preliminary literature review, and develop a project proposal. The proposal should discuss problem statement, objectives, research methodology, research activities, and a time schedule in about 3-5 pages. A sample proposal is attached here for your reference.

During data collection and data analysis stage, students will have an assigned five weeks rotation and should have their Institutional review board (IRB) approval ready. If the IRB approval is not ready or get rejected, students will develop a research project that does not necessarily need an IRB (review article).

The objectives of the research project are to:

1. Develop basic research skills
 - Conduct literature review
 - Design study methodology
 - Improve scientific writing skills
 - Develop research question
 - Conduct statistical analysis
 - Improve research integrity



- Search in database
 - Critical appraisal and interpretation of published literature
2. Foster analytical thinking skills and the development of tools for rational decision making for our students.
 3. Provide training in the scientific research method that will translate into future careers involving research and/or clinical practice.
 4. Provide role models, mentorship, and guidance for students regarding research process
 5. Enhance the pharmacy school culture of self-directed and peer group-fostered learning.
 6. Enhance the oral and written communication skills of graduating students.

For more details, please refer to the Research Manual





Advanced Pharmacy Practice Experience (APPE)

In-patient pharmacy

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) in-patient pharmacy rotation aims to allow pharmacy interns to describe the concept, procedure, and policy of the department's distribution systems including floor stock, unit dose, narcotic control in the inpatient area, and Intravenous preparation (IV).

The in-patient rotation allows pharmacy interns to achieve the following:

General rotation goals.

1. Describe the following for all medication administered to assigned patients:
 - Indications for use and appropriateness of therapy.
 - Dosage and schedule.
 - Routes of administration and precautions.
 - Mechanism(s) of action.
 - Alternative treatment available.
 - Onset and duration of action.
 - Drug-drug interactions, drug-lab interactions.
 - Pharmacokinetics and biopharmaceutics.
 - Influence of disease state on drug absorption.
 - Therapeutic and toxic levels [if available].
 - Adverse effects.
 - Appropriate patient information.
 - Formulation and compatibilities [I.V. admixtures].
2. Demonstrate an understanding of workflow, policies and procedures related to in-patient pharmacy department.
3. Participate in the process of preparing, labeling, dispensing and counseling for inpatient and discharged patients.



4. Utilize appropriate resources to provide drug information and assess patient.
5. Demonstrate the ability to prioritize medication orders (i.e. STAT vs routine orders).
6. Identify strategies to reduce medication errors and participate in their implementation (e.g. high alert and look alike sound alike (LASA) medication).
7. Recognize medication storage regulations and how to access information related to appropriate medication storage.
8. Acquire skill in managing non-formulary, shortage and withdrawn medication.
9. Demonstrate an understanding of crash cart: medication list, layout, log sheet and pharmacist role.
10. Outline the hospital medication distribution system.
11. Practice prepackaging, compounding, calculation and extemporaneous preparation under supervision [if available].
12. Demonstrate cultural competency in caring for patients and in interacting with other healthcare providers.
13. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.

IV rotation goals (if applicable).

1. Demonstrate an understanding of the USP 797 regulations.
2. Prepare IV medication under supervision.
3. Utilize aseptic techniques related to IV compounding.
4. Calculate the quantity of active ingredient needed for each preparation.
5. Identify the process of checking, labeling and storage of IV component.
6. Utilize proper disposal techniques of Hazardous Material/Waste.

Narcotic goals:

1. Summaries the laws and regulations of narcotic and controlled medication in Saudi Arabia.
2. Recognize storage of narcotic and control medication regulations.



3. Identify the process of prescribing narcotics and control drugs by nursing units, inpatient and outpatient.
4. Recognize the process of disposing of narcotic and control drugs.
5. Explain the process of dealing with expired and returned narcotics.
6. Practice dealing with incidents related to narcotics and control drugs.

Student Responsibilities:

- 1- Attend on time.
- 2- Complete all assigned tasks by the preceptor.
- 3- Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient care team.
- 4- Demonstrate the ability to think rationally & logically.
- 5- Display professional comportment: appearance, attitude and behavior.
- 6- React Positively to Constructive Criticism.

Preceptor Responsibilities:

- 1- Orient the student to the practice site, schedule, break, evaluation method and overall responsibilities.
- 2- Monitor student progress to ensure stated objectives are adequately met.
- 3- Provide mid and final evaluation.

Site Responsibilities:

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide a student ID to be able to enter and practice at the site.
3. Communicate with the hospital team/service to start the training.
4. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Out-patient rotation

Goals and objectives:

The goal of this five-week rotation is to provide pharmacy interns with the opportunity to experience clinical services and patient care initiatives within the hospital and community pharmacy settings.

The out-patient rotation allows pharmacy intern to:

1. Describe the following for all medication administered to assigned patients:
 - Indications for use and appropriateness of therapy.
 - Dosage and schedule.
 - Routes of administration and precautions.
 - Mechanism(s) of action.
 - Alternative treatment available.
 - Onset and duration of action.
 - Drug-drug interactions, drug-lab interactions.
 - Pharmacokinetics and biopharmaceutics.
 - Influence of disease state on drug absorption.
 - Therapeutic and toxic levels [if available].
 - Adverse effects.
 - Appropriate patient information.
2. Demonstrate an understanding of workflow, policies and procedures related to out-patient pharmacy department.
3. Participate in the process of preparing, labeling, dispensing and counseling for outpatient
4. Demonstrate an understanding of a refill medication.
5. Identify strategies to reduce medication errors and participate in their implementation (e.g. high alert and look alike sound alike (LASA) medication).



6. Recognize medication storage regulations and how to access information related to appropriate medication storage.
7. Inspect and make use of auxiliary labels and expiry dates of the medications.
8. Acquire skill in managing non-formulary, shortage and withdrawn medication.
9. Calculate an appropriate dose, syringe, tables.
10. Utilize appropriate resources to provide drug information and assess patient.
11. Demonstrate cultural competency in caring for patients and in interacting with other healthcare providers.
12. Demonstrate appropriate team behaviors and professionalism.
13. Promote self-directed learning through a self-initiated, proactive, evidenced based clinical pharmacy practice.
14. Conduct topic discussion based on rotation requirement and student interest.

Student Responsibilities:

1. Attend on time.
2. Complete all assigned tasks by the preceptor.
3. Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient care team.
4. Demonstrate the ability to think rationally & logically.
5. Display professional comportment: appearance, attitude and behavior.
6. React positively to constructive criticism.

Preceptor Responsibilities:

1. Orient the student to the practice site, schedule, break, evaluation method and overall responsibilities.
2. Monitor student progress to ensure stated objectives are adequately met.
3. Provide mid and final evaluation.

Site Responsibilities:

1. Orient the student to the practice site including pharmacy system, policy and procedure, direction, parking, etc.



2. Provide a student ID to be able to enter and practice at the site.
3. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Direct Patient Care-Clinical Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) clinical rotation provides practical experience for clinical pharmacy interns. The experience they get familiarizes them with the role of the clinical pharmacist in the hospital setting. They also obtain expertise in working with an interdisciplinary team as well as optimizing pharmacotherapeutic management. Further, APPE enables interns to gain knowledge of improving patient care and safety. Pharmacy students who participate in this rotation acquire knowledge, skills, and abilities beneficial to their professional careers.

Administration rotation allows pharmacy interns to:

1. Describe the state of common diseases in the clinical area and their pathophysiology.
2. Perform clinical presentation, diagnosis, and provide an evidence-based pharmacotherapy plan.
3. Collect patient information, including medication history, home medication, lab, and allergy, among others.
4. Recommend changes to the drug therapy regimen through monitoring and assessing/reassessing patient information.
5. Identify adverse drug reactions and interactions such as drug-drug, drug-food, drug-disease, or drug-lab.
6. Develop collaborative professional relationships and demonstrate excellent communication skills when providing verbal information, presentations, and recommendations to the medical team.
7. Effectively communicate the drug treatment plan to the patient with the appropriate precautions and expectations.
8. Conduct discussions on topics based on the requirement of rotation and student interests.
9. Promote self-directed learning through a self-initiated, proactive, and evidenced-based clinical pharmacy practice.



10. Demonstrate cultural competency in caring for patients and in interacting with other healthcare providers that are encountered in a primary/ambulatory care setting.
11. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.

Intern Responsibilities:

1. Attend and participate in rounds.
2. Work up patients through patient care process.
3. Present new patient(s), recommendations and care plan to preceptor.
4. Use monitoring plan to follow-up daily with existing patients.
5. Present to preceptor any important medication therapy related updates on existing patients.
6. Conduct medication review(s), reconciliation and patient education (as required).
7. Answer relevant drug information questions as requested by patients, inter-professional team.
8. Display professional comportment: appearance, attitude, and behavior.
9. Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient-care team.
10. Document of all pharmacy interventions and all ADRs.

Preceptor Responsibilities:

1. Orient the student to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assign patients to the student for work up.
3. Discuss medication-related interventions and recommendations for approval.
4. Monitor student progress to ensure stated objectives are adequately addressed and met.
5. Guide and answer student questions and share knowledge and skills with the student.
6. Maintain student confidentiality.
7. Provide mid evaluation at the beginning of third week and final evaluation at the end of rotation.



Site Responsibilities:

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide an intern ID to be able to enter and practice at the site.
3. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE) Ambulatory Care Rotation

Description:

The ambulatory care rotation is one of the mandatory APPE rotations. The clinical pharmacist role at ambulatory care setting is hugely essential and beneficial together with other disciplines in a collaborative and multidisciplinary environment. Interns are assigned to practice sites with clinical pharmacists with expertise in chronic disease state management in the ambulatory or primary care settings such as diabetes clinics, anticoagulation clinics, heart failure clinics, obesity clinics, transplant pharmacotherapy clinic and asthma clinics etc. Basically, this rotation is to allow students to develop and explore their roles in a multidisciplinary health team and optimizing pharmacotherapeutic management.

Goals and objectives:

The interns will experience several opportunities to improve and use their clinical knowledge of the most common chronic diseases seen in the ambulatory setting as well as enhance patient care and safety. Furthermore, this rotation emphasizes patient care services, clinical skills, problem solving, and critical thinking by allowing students to integrate and apply, reinforce, and advance the knowledge, skills, attitudes, and values developed throughout the curriculum. Accordingly, interns are expected to participate in a different ambulatory care activity with their preceptor and communicate effectively with health care providers, provide patient counselling and education to healthcare provider.

Upon completion of this course, the student will be able to:

1. Apply principles of pharmacotherapy to patient care.
2. Participate in direct patient care including obtaining patient medical and medication histories, perform physical assessments if applicable, evaluate drug therapies, develop pharmacy care plans, and monitor patients' therapeutic outcomes under their preceptor's supervision.
3. Recognise, resolve, and prevent medication-related problems and manage medication therapy to ensure that medications are appropriate, safe, effective, and used correctly.
4. To minimize medication errors; prevent duplication of medications, overdoses, interactions, and any adverse drug reactions.
5. Recommend drug alternatives, addition, discontinuation, and dose adjustment/titration according to institution approved collaborative agreement.
6. Communicate effectively with health care provider, patients and caregivers to provide health information in a clear manner using appropriate terminology and vocabulary for healthcare professionals.
7. Provide patient education and counselling regarding the medication.



8. Use appropriate drug reference sources to find drug-related information to identify, resolve, and prevent drug-related problems.
9. Explain the pathophysiology, signs, symptoms, and treatment options for common diseases seen in the ambulatory care setting.
10. Demonstrate professional attitude, ethical behaviour, confidentiality, and cultural awareness, professional dress code according to the organization policy.

Required activities:

Under preceptor supervision and with feedback, students on Ambulatory Care Practice Experiences should participate in activities with related tasks that enable practice and improvement of skills needed to become a patient-centred pharmacist. The activities and associated tasks listed below are required for this rotation.

1. Collect information to identify a patient's medication- related problems and health-related needs.

- a. Collect a medical and social history from a patient, caregiver and/or other health care professional.
- b. Collect a complete medication history and herbals from a patient or caregiver.
- c. Discuss with patients any side effects of medication.
- d. Ensure a patient's medication adherence.
- e. Use health records to determine a patient's health-related needs relevant to the setting of care and the purpose of the encounter.

2. Analyse information to determine the effects of medication therapy, identify medication-related problems, and prioritize health-related needs.

- a. Evaluate a patient's signs and symptoms.
- b. Measure the patient's vital signs and interpret the results (e.g., temperature, PR, RR, and BP).
- c. Interpret laboratory test results.
- d. Identify drug interactions and adverse effects.
- e. Accomplish a comprehensive medication review (reconciliation).
- f. Determine a prioritized health-related problem list.
- g. Evaluate an existing drug therapy regimen.

3. Establish patient-centred goals and create a care plan for a patient in collaboration with the patient, caregiver(s), and other healthcare providers that is evidence-based and cost-effective.

- a. Follow evidence-based disease management.
- b. Develop a treatment plan with the patient, caregiver or other health care professionals.
- c. Ensure no drug-drug interactions, including educating prescribers about alternatives.



- d. Assess monitoring parameters to evaluate the therapeutic and adverse effects related to the treatment plan.
- e. Decide the time interval(s) to collect samples for monitoring.
- f. Provide a patient-specific education plan.

4. Implement a care plan in collaboration with the patient, caregivers, and other health professionals.

- a. Write a note documenting the findings, recommendations, and plan from a patient encounter.
- b. Educate a patient regarding the appropriate use of a new medication, device to administer a medication or self-monitoring test.
- c. Provide the patient with medication adherence aids.
- d. Assist a patient with behaviour change (e.g., use shared decision-making and motivational strategies).
- e. Ensure lifestyle changes.

5. Follow-up and monitor a care plan.

- a. Collect monitoring parameters at the appropriate time interval(s).
- b. Assess the selected monitoring parameters to determine the therapeutic and adverse effects related to the treatment plan.
- c. Suggest modifications or adjustments to an existing medication therapy regimen based on patient response.
- d. Present a patient case to a preceptor or colleague.

6. Collaborate as a member of an interprofessional team.

- a. Communicate a patient's medication-related problems to another health professional.
- b. Use setting appropriate communication skills when interacting with others.

7. Minimize adverse drug events and medication errors.

- a. Report any adverse drug reaction (ADR) and medication errors to stakeholders.

8. Ensure that patients have been immunized against vaccine- preventable diseases.

- a. Determine whether a patient is eligible for and has received CDC-recommended immunizations.

9. Educate patients and professional colleagues regarding the appropriate use of medications.

- a. Lead a discussion regarding a recently published research manuscript and its application to patient care.
- b. Prepare and present a brief educational program regarding medication therapy to health providers or to the patients.
- c. Provide proper patient counselling regarding their medication.



10. Use evidence-based information to advance patient care.

- a. Retrieve and analyse scientific literature to make a patient-specific recommendation.
- b. Retrieve and analyse scientific literature to answer a drug information question.

11. Record clinical pharmacist notes in an electronic system.

- a. Enter patient-specific information or any intervention regarding the pharmaceutical care plan into an electronic health record system.

Trainee Responsibilities:

- 1- Contact the site education coordinator at least 2 weeks prior to the start of the rotation to help plan for the first day and discuss expectations of the experience. Inquire about introductory or review readings and site policies that they would need to know prior to orientation.
- 2- Complete all assigned tasks by the preceptor.
- 3- Provide all the required activities (e.g., in-service activities, presentations, adverse drug reaction reports/medication error reporting) to the pharmacy or patient care team.
- 4- Attend on time. Punctuality is essential. Notify the preceptor, as soon as possible, of any excuse for absence.
- 5- Demonstrate a level of maturity required in a professional practice environment: appearance, attitude, and behaviour.

Preceptor Responsibilities:

- 1- A preceptor must be willing to mentor trainee(s).
- 2- The preceptor should orient the trainees to the practice site, schedule, break, evaluation method and overall responsibilities on day one of the Ambulatory care rotation.
- 3- Supervision and guidelines of trainees when handling drug information questions, counselling and consultations.
- 4- The preceptor should monitor trainee progress to ensure stated objectives are adequately met.
- 5- The preceptor may use his/her discretion in allowing off-site experiences such as continuing education seminars, pharmacy conferences, etc. to count toward the experience requirements.
- 6- The preceptor should provide ongoing formative feedback.
- 7- The preceptor should provide verbal mid and written final evaluation.



8- Final evaluation forms are due on the last day of the rotation after being discussed with the trainee.

Site Responsibilities:

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide the trainee with ID to be able to enter and practice at the site.
3. Provide access to appropriate drug information resources.
4. Communicate with the hospital team/service to start the training.
5. Provide appropriate communication with PNU training and internship unit whenever needed.





Elective Rotations

Advanced Pharmacy Practice Experience (APPE)

Intravenous Preparation Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) intravenous preparation rotation aims to allow pharmacy interns to describe the concept, procedure, and policy of intravenous preparation area (IV).

The IV rotation allows pharmacy interns to achieve the following:

- 1- Understand policy and procedure related to the intravenous preparation area (Knowledge).
- 2- Able to implement standards for preparing compounded sterile medications (USP 797). (skill).
- 3- Critically use available information to ensure safe and effective IV medication use. (cognitive).

Student Responsibilities:

1. Attend on time.
2. Complete all assigned tasks by the preceptor.
3. Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient care team.
4. Be Initiative and show ability to Think Rationally & Logically.
5. Display professional comporment: appearance, attitude and behavior.
6. React Positively to Constructive Criticism.

Preceptor Responsibilities:

1. Orient the student to the practice site, schedule, break, evaluation method and overall responsibilities.
2. Monitor student progress to ensure stated objectives are adequately met.
3. Provide mid and final evaluation.



Site Responsibilities:

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide a student ID to be able to enter and practice at the site.
3. Communicate with the hospital team/service to start the training.
4. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Drug Information Rotation

Goals and objectives:

The goal of Advanced Pharmacy Practice Experience (APPE) is to provide experience and understand the scope of Drug Information (DI) services, as well as develop skills to provide drug information, evidence-based practice, and medication use policy services.

The drug information rotation allows pharmacy students to:

1. Understand the structure and workflow of a Drug Information Service.
2. Be able to analyze the most appropriate drug information resources including primary, secondary, and tertiary sources for answering questions related to clinical practice.
3. Be aware of the similarities and differences of secondary and tertiary information resources for specific types of drug or medical information.
4. Identify the appropriate search strategy for a given DI question that will result in high-quality literature retrieval.
5. Develop strategies for accessing information pertaining to adverse drug reactions and pharmacovigilance.
6. Identify role of DI pharmacist in managing drug shortages, including identifying alternative treatments, developing protocol for restrictive use, and addressing formulary concerns.
7. Identify the role of drug information pharmacist in participating in pharmacy and therapeutic committee.
8. Learn about the excellent oral and written communication skills.

Student Responsibilities:

1. Attend on time.
2. Complete all assigned tasks by the preceptor.
3. Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient care team.
4. Display professional comportment: appearance, attitude and behavior.



Preceptor Responsibilities:

1. Orient the student to the practice site, schedule, break, evaluation method and overall responsibilities.
2. Supervision and guidelines of students when handling drug information questions and consultations.
3. Monitor student progress to ensure stated objectives are adequately met
4. Provide mid and final evaluation.

Site Responsibilities:

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide a student ID to be able to enter and practice at the site.
3. Provide access to appropriate drug information resources.
4. Communicate with the hospital team/service to start the training.
5. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Administration Rotation

Goals and objectives:

This rotation serves to introduce the interns to core elements of hospital pharmacy practice, management functions and pharmacy leadership styles, providing them the opportunity to experience and learn from the many unique challenges facing hospital pharmacy management teams in today's complex health care environment. The intern will work assigned pharmacy leadership and will acknowledge the different scopes and roles in pharmacy leadership from department-specific leadership and personnel management, to system pharmacy leadership and other levels of leadership. Interns will be exposed to different job responsibilities in order to gain confidence, critical thinking, leadership skills and a better appreciation of the role of pharmacy director/manager in the provision of healthcare to be an effective team player.

Administration rotation allows pharmacy interns to:

1. Understand the mission, vision, goals and the organizational structure of the department of pharmacy.
2. Understanding the organization Hierarchy and List the departments, organizations and/or businesses that the pharmacy department must work with in order to achieve its goals and objectives.
3. Understanding the pharmacy chain of command and line of authority and responsibilities as per pharmacy Departmental structure.
4. Explain various aspects of leadership, including leadership styles and management functions like planning, organizing, directing, and controlling.
5. Explain the process of staff recruiting, development including pharmacy residency program (if applicable).



6. Quality improvement principles and KPI management in pharmacy, to learn how to develop new ideas and approaches to improve quality or overcome barriers to advance the pharmacy department and the profession in general.
 - How to assign and follow up KPIs.
 - How to conduct quality improvement projects.
 - Complete management-focused mini projects, as assigned.
 - Perform information gathering and critical analysis as part of projects assigned during the experience.
7. Describe how legal, regulatory, and/or accrediting agencies affect the activities of the pharmacy department.
8. Role of pharmacy administration in hospital committees: e.g.
 - PTC (Pharmacy and therapeutic committee) those roles applied but not limited to:
 - Describe the process for approval of treatment guideline/protocol, pre-printed medication orders and drug policy development.
 - Describe the drug formulary review process including pharmacist involvement in P&T Committees.
 - Understands the difference between formulary, non-formulary, patient's own medications, narcotics, controlled and investigational drugs.
 - Explain the pharmacy role in codes and medical emergencies in the hospital.
 - Medication /Patient Safety committee.
 - Pharmacovigilance.
9. Understand and Demonstrate Effective leadership skills e.g effective and appropriate written, verbal and nonverbal communication that's including how to chair/call for meeting, taking minutes and Participate in hospital-wide meetings with preceptors.
10. Introduction to Informatics and pharmacy automation from a managerial angle.
11. Understands the importance of role modeling, mentorship, continuing professional development and education policies in building pharmacy leaders.
12. Have an idea about third-party billing, legal requirements in general if applicable or Tender or medication procurement decisions.



Intern Responsibilities:

1. Adhere to the rotation schedule and deadlines for assignments.
2. Consistent and proactive in experiential education, which necessitates active participation and communication.
3. Report all the activities (including the completion of an assignment) to the preceptor.
4. Attend and participate (if applicable) in hospital-wide meetings with the preceptor.
5. Take minutes for all Meetings attended.
6. Display professional comportment: appearance, attitude, and behavior.
7. Provide a mini project and at least 1 activity (e.g., in-service, presentation, community or hospital service) to the pharmacy or patient-care team.
8. Deliver a presentation on specific topics as assigned by preceptor.

Preceptor Responsibilities:

1. Orient the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities including departmental manual, Policies and procedures, etc.
2. Assign a mini project and activity for the intern to start working on it.
3. Give the intern the opportunity to attend meeting for example P&T committee.
4. Arrange a meeting other pharmacy managers/leader to discuss the responsibilities to discuss their role if possible.
5. Discuss the topics mentioned in the objectives with the intern.
6. Monitor intern progress to ensure stated objectives are adequately addressed and met.
7. Guide and answer intern questions and share knowledge and skills with the student.
8. Maintain intern/department confidentiality.
9. Provide final evaluation at the end of the week.



Site Responsibilities

1. Orient the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities including departmental manual, Policies and procedures, etc.
2. Assign a mini project and activity for the intern to start working on it.
3. Give the intern the opportunity to attend meeting for example P&T committee.
4. Arrange a meeting other pharmacy managers/leader to discuss the responsibilities to discuss their role if possible.
5. Discuss the topics mentioned in the objectives with the intern.
6. Monitor intern progress to ensure stated objectives are adequately addressed and met.
7. Guide and answer intern questions and share knowledge and skills with the student.
8. Maintain intern/department confidentiality.
9. Provide final evaluation at the end of the week.

Mini Project and Activities Suggestions:

1. Identifies the need for a new service or program, or improvements to an existing service program.
2. Ways of improving the waiting time in outpatient pharmacy.
3. How to reduce the returned/missing medications from the wards.
4. Improving work environment for staff.
5. Review of medication use policy that is not followed in the hospital.





Advanced Pharmacy Practice Experience (APPE)

Quality Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) Quality Rotation aims to introduce the pharmacy intern to the fundamental concept of the quality, policy, and procedure undertaken to ensure the quality of the pharmaceutical products. Additionally, it aims to enhance the pharmacy intern experience and knowledge in preventing and managing medication-related problems.

Pharmacy Quality Rotation allows pharmacy intern to become familiar with:

1. The fundamental concept and structure of quality control.
2. Reviewing the policy and procedure undertaken to ensure the quality of the pharmaceutical products and workplace.
3. Recognition of the accreditation standards and processes that the organization needs to meet.
4. Identification of quality improvement tools and techniques.
5. Review and the analysis of objective data and use these data to develop quality action plans.
6. The participation of all regulatory inspections for the pharmacy and wards.
7. The involvement in product evaluation and selection process.
8. The action taken if stock is damaged, contaminated, beyond the expiry date, or has an inconsistent batch number.
9. Identification of the storage requirements of different types of products and hazardous medication.
10. Perceived action taken if the company recalls or drug alerts following agreed guidelines.
11. Demonstration professional attitudes and behaviors that characterize a professional pharmacist.
12. Demonstration self-directed learning abilities during the rotation.



Intern Responsibilities:

1. Attending and participating in daily activities.
2. Attendance of the quality-related committees and team meetings.
3. Ensuring the product packaging, distribution, and storage meet the quality specifications.
4. Addressing and reporting product quality concerns.
5. Suggesting solutions to resolve medication-related problems.
6. Displaying professional comportment: appearance, attitude, and behavior.
7. Providing at least one activity (e.g., in-service, presentation).

Preceptor Responsibilities

1. Orientation of the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assigning duties to the intern for workup.
3. Discussion of the quality concepts with the intern.
4. Monitoring the intern progress to ensure that the stated objectives are adequately addressed and met.
5. Guiding and answering intern questions and sharing knowledge and skills with the intern.
6. Maintaining intern confidentiality.
7. Providing mid and final evaluation at the end of the week.





Advanced Pharmacy Practice Experience (APPE)

Pharmacy Informatics/Automation Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) in pharmacy informatics will provide a practical understanding of the language and concepts of information technology (IT) thereby exposing the intern to the interdisciplinary environment of informatics project teams. The purpose of this experience is to advance the understanding of the intern to the professional duties and responsibilities of a pharmacy informatics specialist.

Pharmacy informatics/automation rotation allows pharmacy interns to:

- Familiarize with pharmacy automation solutions and informatics systems used in the pharmacy.
- Understands the advantages and limitations of pharmacy automated solutions and informatics systems.
- Describe the roles and responsibilities of pharmacy informatics specialist.
- Explain how pharmacy automated solutions and informatics systems affects patient safety and pharmacy workflow.

Student Responsibilities:

1. Attend daily to the assigned area.
2. Participate in the various discussion activities and meetings.
3. Display professional comportment: appearance, attitude, and behavior.
4. Complete all activities and tasks assigned by the preceptor.

Preceptor Responsibilities:

1. Orient the intern to the practice site, staff, schedule (days and hours), break, evaluation methods.
2. Monitor intern progress to ensure stated objectives are adequately addressed and met.
3. Provide hands on training if applicable.



4. Guide and answer intern questions and share knowledge and skills with the intern.
5. Maintain intern confidentiality.
6. Provide final evaluation at the end of the rotation.

Site Responsibilities:

1. Communicate with the preceptor about the starting date.
2. Provide access and ID to the intern.
3. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Pharmacoeconomic Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) Pharmacoeconomic rotation aims to introduce the pharmacy intern to the fundamental concept of the pharmacoeconomic, planning process and cost-effective analysis. Besides, it aims to improve the pharmacy intern experience and knowledge to enhance therapeutic decision making.

Pharmacoeconomic rotation allows pharmacy intern to:

1. Understand the fundamental concept and terms of pharmacoeconomic
2. Identify the types of health economic evaluation (cost-benefit analysis, cost-effective analysis and cost-utility analysis)
3. Identify the financial planning and horizon scanning of new medicines.
4. Describe the sensitivity analysis technique
5. Understand the decision analysis technique for comparing alternative treatment options
6. Design strategy to avoid the costs associated with non-adherence medication, unused medication or adverse drug of medications
7. Utilize the appropriate pharmacoeconomic resources and references.
8. Assess the cost of medication and therapeutic intervention
9. Engage in drug pricing evaluation and comparisons
10. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.

Intern Responsibilities:

1. Attendance and participation in daily activities.
2. Attending the pharmacoeconomic related committees and team meetings.
3. Suggestion of solutions to minimize the costs associated with the unused medication.
4. Participating in assessing the cost of medical products and services.
5. Using the appropriate pharmacoeconomic resources.
6. Performing information gathering and critical analysis as part of projects assigned during the experience.



7. Displaying professional comportment: appearance, attitude, and behavior.
8. Providing at least one activity (e.g., in-service, presentation)

Preceptor Responsibilities:

1. Orientation of the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assigning duties to the intern for workup.
3. Discussion of the quality concepts with the intern.
4. Monitoring the intern progress to ensure stated objectives are adequately addressed and met.
5. Guiding and answering intern questions and sharing knowledge and skills with them.
6. Maintaining intern confidentiality.
7. Providing mid and final evaluation at the end of the week.





Advanced Pharmacy Practice Experience (APPE)

Medication Safety Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) Medication safety rotation aims to provide interns with a broad perspective of the types of activities involved in managing medication safety related issues in a health-system.

Medication safety rotation allows pharmacy intern to become familiar with:

1. Reviewing adverse drug events including medication-related significant safety events
2. Reporting Medication Error Data and Adverse Drug Reaction data to the Pharmacy and Therapeutics Committee.
3. Reviewing policies and procedures that have medication safety implications.
4. Ensures compliance with medication safety regulations and standards.
5. Participate in a medication use evaluation.
6. Tools and methods that are used to improve medication Safety.

Student Responsibilities:

1. Attendance and participation in daily activities.
2. Attending all medication safety related committees and team meetings.
3. Suggestion of solutions to minimize medication errors.
4. Participating in assessing the cost of medical products and services.
5. Performing information gathering and critical analysis as part of projects assigned during the experience.
9. Displaying professional comportment: appearance, attitude, and behavior.
10. Providing at least one activity (e.g., in-service, presentation).

Preceptor Responsibilities:

1. Orientation of the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assigning duties to the intern for workup.
3. Discussion of the quality concepts with the intern.



4. Monitoring the intern progress to ensure stated objectives are adequately addressed and met.
5. Guiding and answering intern questions and sharing knowledge and skills with them
6. Maintaining intern confidentiality.
7. Providing mid and final evaluation at the end of the week.





Advanced Pharmacy Practice Experience (APPE)

Academic Rotation

Goals and objective:

The Advanced Pharmacy Practice Experience (APPE) Academic rotation aims to provide the pharmacy intern to observe and participate in teaching, administrative and academic experience for considering a career in academia. In addition, it enhances the pharmacy intern knowledge, problem-solving skills, critical thinking and decision-making skills.

Academic rotation allows pharmacy intern to:

1. Understand the structure, role and responsibility of the academic staff.
2. Determine the appropriate learning, teaching and assessment methods (e.g., large classroom instruction, small group instruction, discussion-based teaching).
3. Identify different teaching and assessment tools.
4. Prepare and develop teaching material based on the course description.
5. Define and differentiate the various domains of learning.
6. Know how to write and score assignments and quizzes.
7. Perceive quality standards in teaching/learning programs.
8. Participate in administrative duties and related meetings.
9. Demonstrate the ability to effectively answer student inquires.
10. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.
11. Demonstrate self-directed learning abilities during the rotation.

Student eligibility:

In order to be eligible for academic rotation, intern must meet the following requirements:

1. GPA should not be lower than 4.5.
2. Display professional attitude and behavior.
3. Display leadership skills e.g., appreciation letter, class or group leader, club member, research, event organizer. etc.
4. The intern record should be free from any warning letter and disciplinary board.



Note: the training and internship unit has the authority to select the interns and make exceptions.

Student Responsibilities:

1. Sign confidentiality form.
2. Review the course description and outline.
3. Participate in taking the attendance, observing the teaching skills and involve in the class activity.
4. Attended all assigned lectures.
5. Complete all assigned reading materials & discussed it with the preceptor.
6. Prepare exit project.
7. Present Journal Club
8. Prepare and deliver at least one lecture.
9. Attend at least one lab and two meetings.
10. Participate in administrative work.
11. Communicate with students and answer their questions under supervision.
12. Display professional appearance and follow the dress code.
13. Submit portfolio at the end of the rotation.
14. Participate in writing/scoring assignments and/or quizzes only under supervision (optional).
15. Participate in research and project (optional).
16. Participate in community services, OSCE organization, simulation and standardized patient, events, research day, and others (optional).

Faculty Responsibilities:

1. Orient the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities and deadline.
2. Assign duties and deadlines for the student that align with the rotation objectives.
3. Involve the intern in teaching and administrative tasks if appropriate.
4. Orientate the intern to the college structure
(<https://pnu.edu.sa/ar/Faculties/Pharmacy/Pages/structure.aspx>).



5. Mentor the intern throughout her academic rotation and be actively available when needed.
6. Maintain the intern confidentiality.
7. Provide mid and final evaluation.

Unit Responsibilities:

- Match the intern with the assigned faculty member.





Advanced Pharmacy Practice Experience (APPE)

Integrated Clinical Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) integrated rotation is a clinical rotation supported by simulation. It combines simulation and direct-patient care as an educational environment to enhance the pharmacy student clinical knowledge, problem-solving skills, and non-technical skills in safe environment.

Integrated Clinical rotation allows pharmacy interns to:

1. Prepares the pharmacy interns with basic clinical knowledge and skills and apply it to practice and simulation.
2. Provides an in-depth knowledge base regarding common internal, cardiology and infectious disease problems.
3. Applies therapeutic drug monitoring and provide appropriate documentation.
4. Describes the mechanism of action, therapeutic response, dosing, potential drug interactions, and adverse effects for the most common medications.
5. Monitors daily progress of the patient's disease state(s) and drug therapy based upon relevant laboratory data, physical findings, and subjective findings.
6. Selects and discuss the rationale for treatment for various disease state based on the best evidence available.
7. Identifies existing or potential adverse reactions and/or treatment of failures, provide assessment and recommend management approaches.
8. Enhances pharmacy intern's clinical skills including patient presentation, medication reconciliation, patient counseling, etc.
9. Utilizes appropriate drug information resources to develop responses to information requests.
10. Evaluates the quality of the literature utilized in making recommendations
11. Understands and apply the hospital policy and protocol.
12. Develops effective communication skills with patient and health care team.



13. Develops self-assessment skills and take responsibility for lifelong learning and professional development in pharmacy.

Student Responsibilities:

- **In simulation center**

1. Prepare and discuss the assigned scenario with the group.
2. Attend and participate in the assigned scenario at the day of simulation.
3. Discuss and debrief the scenario with the group.
4. Prepare group activity at the end of the week.

- **In hospital**

1. Attend and participate in rounds.
2. Work up patients through patient care process.
3. Present new patient(s), recommendations and care plan to preceptor.
4. Use monitoring plan to follow-up daily with existing patients.
5. Present to preceptor any important medication therapy related updates on existing patients.
6. Conduct medication review(s), reconciliation and patient education (as required).
7. Answer relevant drug information questions as requested by patients, inter-professional team.
8. Display professional comportment: appearance, attitude, and behavior.
9. Provide at least 1 activity (e.g., in-service, presentation) to the pharmacy or patient-care team.
10. Document of all pharmacy interventions and all ADRs.

Preceptor Responsibilities:

- **In simulation center (SSDC)**

1. Prepare and send the scenario form to the simulation center for booking confirmation
2. Arrange a dry run with simulation center.
3. Send the assigned topic and guideline to the students before the starting date.
4. Facilitate the scenario during the session.



5. Discuss the case with the students.
6. Provide final evaluation at the end of the week.

- **In hospital (KAAUH):**

1. Orient the student to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assign patients to the student for work up.
3. Discuss medication-related interventions and recommendations for approval.
4. Monitor student progress to ensure stated objectives are adequately addressed and met.
5. Guide and answer student questions and share knowledge and skills with the student.
6. Maintain student confidentiality.
7. Provide final evaluation at the end of the week.

Site Responsibilities:

- **In simulation center (SSDC)**

1. Facilitate the dry run and session.
2. Providing information technology (IT) support during session.
3. Book room if needed.

- **In hospital (KAAUH)**

1. Orient the student to the practice site including hospital system, policy and procedure, direction, parking, etc.
2. Provide a student ID to be able to enter and practice at the site (VDI account and Track care).
3. Provide access to appropriate medical, nursing, and pharmacy records to support the learning objectives and activities for the rotation.
4. Communicate with the hospital team/service to start the training.
5. Provide appropriate communication with PNU training and internship unit whenever needed





Advanced Pharmacy Practice Experience (APPE)

Community Practice Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) Community Practice Rotation is a 5-week rotation in a community pharmacy. The rotation will primarily focus on patient care services and secondarily on patient-focused dispensing functions in these pharmacies. These services will focus on the identification, resolution, and prevention of medication-related problems dealing with general medical issues and medication therapy management.

Community practice rotation allows pharmacy interns to be familiar with:

1. The properties and formulations of common prescription drugs, nonprescription medications, dietary supplements, traditional non-drug therapies, and natural products.
2. Interpretation and processing of medication orders accurately, ultimately, and efficiently.
3. Various brands and generic drug names, manufacturer, and dosage forms.
4. Performance of accurate calculations to dispense and compound medications if applicable.
5. The appropriate drug reference; sources for drug information and apply it in responding to questions.
6. Recalling and conducting effective counseling on prevention and treatment of common chronic diseases in the Saudi Arabia community.
7. The communication of relevant, concise, and timely information in a clear manner. This is done through the appropriate use of terminology and vocabulary for the intended audiences, e.g. patients, caregivers, pharmacists, technicians, and healthcare providers.
8. Identifying and reporting medication errors and adverse drug reactions and address issues related to medication safety.



9. Describing and participating in the various aspects of managing a community pharmacy, e.g., policies and procedures, inventory, reports, personnel, marketing, career options, etc.
10. Developing the sense and responsibility towards health promotion to the community.
11. Demonstrating communications, attitudes, behaviors, and appearance that is culturally sensitive and comply with the pharmacy image.
12. Recognition of patient's beliefs, biases, economic status, and social situation influence the provision of pharmacy care and incorporate into decision making.
13. Demonstrating professional attitudes and behaviors that characterize a professional pharmacist.
14. Demonstrating self-directed learning abilities during the rotation.

Intern responsibilities:

1. Attends daily to the assigned shift.
2. Participates in various community pharmacy activities, e.g., counseling, dispensing, and inventory.
3. Answers relevant drug information questions as requested by patients, preceptor, or pharmacy team.
4. Displays professional comportment: appearance, attitude, and behavior.
5. Completes all activities and tasks assigned by the Preceptor.

Preceptor responsibilities:

1. Orient the intern to the practice site, staff, schedule (days and hours), break, evaluation methods.
2. Explains prescription workflow, drug information resources, front store layout and stock arrangement, policies and procedures, dress code, and expectations.
3. Discuss the pharmacist role in community pharmacy.
4. Monitoring intern progress to ensure stated objectives are adequately addressed and met.
5. Guiding and answering intern questions and sharing knowledge and skills with them
6. Maintains intern confidentiality.
7. Provides a final evaluation at the end of the rotation.



Site Responsibilities:

1. Communicating with the pharmacy chain team/service to start the training.
2. Providing appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Pharmaceutical Companies Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) pharmaceutical companies' rotation exposes the interns to the responsibilities and opportunities within the pharmaceutical companies and prepare them with advanced soft skills, problem-solving skills, and non-technical skills relating to the pharmaceutical industry that are applicable to other pharmacy careers as well.

Pharmaceutical companies' rotation will allow the intern to become familiar with:

1. Develop an appreciation of various roles of pharmacists in the industry field.
2. Develop an awareness of corporate organizations, national and international regulatory constraints in the pharmaceutical industry.
3. List the core functions and responsibilities of professional staff within departments of the pharmaceutical industry.
4. Understand the impact of advertisement, post-marketing surveillance and pharmacovigilance on products within the healthcare industry.
5. Develop certain transferable skills (nonspecific to a pharmacy degree) including organization, ingenuity, leadership, and collaboration.
6. Develop advanced professional and inter-professional skills including communication skills.

Intern Responsibilities:

1. Actively engaged in all the tasks and activities required for this rotation.
2. Attend hospital site visits with preceptor or assigned employee.
3. Follow the company policies.



Preceptor Responsibilities:

1. Orient the student to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Discuss policies, procedures, roles and responsibilities for the assigned department.
3. Monitor student progress to ensure stated objectives are adequately addressed and met.
4. Guide and answer student questions and share knowledge and skills with the student.
5. Maintain student confidentiality.
6. Provide mid evaluation at the beginning of third week and final evaluation at the end of rotation.

Site Responsibilities:

1. Provide a trainee ID or access permission to be able to enter and practice at the site.
2. Inform the intern about hospital visits 24 hrs. ahead if applicable especially when the intern is using her own transportation.
3. Provide access to hospital sites when visiting.
4. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Pharmacovigilance Rotation

Goals and objectives:

The Advanced Pharmacy Practice Experience (APPE) Pharmacovigilance rotation guides the pharmacy interns to detect, assess and prevent adverse drug reaction "ADR". It also provides the interns with fundamental knowledge and experience of ADRs risk and/or benefit analysis. Furthermore, it enhances the pharmacy students' knowledge, problem-solving skills, and non-technical skills.

Pharmacovigilance rotation allows pharmacy interns to:

1. Understand the structure and responsibility of pharmacovigilance in Saudi Food and Drug Administration (SFDA).
2. Understand the fundamental knowledge of pharmacovigilance.
3. Recognize the adverse drug reactions (ADRs) when they occur.
4. Participate in the actions taken in the prevention of ADRs when possible.
5. Identify the risk factors and possible mechanisms underlying adverse reactions.
6. Involve in the estimation of quantitative aspects of benefit/risk analysis and dissemination of information needed to improve drug prescribing and regulation.
7. Manage the management of ADRs, including communication skills.
8. Demonstrate the ability to report ADRs.
9. Utilize the drug quality surveillance.
10. Determine the type of ADRs reporting system available in Saudi Arabia.
11. Identify the types of ADRs that should be documented.
12. Review of the established process related to ADRs analysis.
13. Utilize the international institutions working in pharmacovigilance.
14. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.
15. Demonstrate self-directed learning abilities during the rotation.



Intern responsibilities

1. Attend and participate in daily activities.
2. Present ADRs and recommendations to preceptor.
3. Conduct medication review(s), reconciliation and patient education (as required).
4. Answer relevant drug information questions as requested by preceptor or SFDA team.
5. Display professional comportment: appearance, attitude, and behavior.
6. Provide at least 1 activity (e.g., in-service, presentation).
7. Document of all interventions and all ADRs.

Preceptor responsibilities:

1. Orient the student to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
2. Assign duties to the student for work up.
3. Discuss pharmacovigilance management topics with the student.
4. Monitor student progress to ensure stated objectives are adequately addressed and met.
5. Guide and answer student questions and share knowledge and skills with the student.
6. Maintain student confidentiality.
7. Provide final evaluation at the end of the week.

Site Responsibilities:

1. Orient the student to the practice site including system, policy and procedure, direction, parking, etc.
2. Provide a student ID to be able to enter the practice site.
3. Provide access to the system to support the learning objectives and activities for this rotation.
4. Communicate with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE)

Formulary Management

Goals and objectives:

The formulary management rotation aims to allow pharmacy interns to understand the role of the pharmacist within the Pharmaceutical and Therapeutic Committee (P&T committee) when dealing with hospital formulary.

The formulary management rotation allows pharmacy interns to achieve the following:

1. Understand basic formulary management principles (knowledge).
2. Implement evidence base medicine to drive decision making (cognitive).
3. Ability to summarize and interoperate complex evidence in a logical manner (Skill).

Student responsibilities:

1. Attend on time.
2. Complete all assigned tasks by the preceptor.
3. Provide at least 1 activity (e.g., in-service, presentation) to the preceptor.
4. Display professional comportment: appearance, attitude and behavior.
5. React positively to constructive criticism.

Preceptor responsibilities.

1. Orient the student to the practice site, schedule, break, evaluation method and overall responsibilities.
2. Monitor student progress to ensure stated objectives are adequately met.
3. Provide mid and final evaluation.

Site responsibilities:

1. Orient the student to the practice site including policy and procedure, direction, parking, etc.
2. Communicate with the hospital team/service to start the training.



3. Provide appropriate communication with PNU training and internship unit whenever needed.





Advanced Pharmacy Practice Experience (APPE) Executive Directorate for Quality Evaluation of Medicine Rotation

Goals and objectives

The Advanced Pharmacy Practice Experience (APPE) Quality Evaluation of Medicine Rotation aims to introduce the pharmacy intern to the fundamental concept of the quality evaluation and the regulations and guidelines for the medical products registration process. Additionally, it aims to enhance the pharmacy intern experience and knowledge in role in the field of quality evaluation of medicinal products.

Quality Evaluation of Medicines Rotation allows pharmacy intern to become familiar with:

1. Identify the basic principles and terminologies underlying quality evaluation of medicinal products.
2. Define the evaluator role in quality evaluation of medicinal products.
3. Recognize regulations and guidelines for the medicinal products registration process.
4. Recognize common technical document (CTD) modules and sections.
5. Describe the quality requirements of medicinal products registration/variations.
6. Understand the overall manufacturing processes and analytical methods for the medicinal products
7. Define the evaluator role in quality evaluation of medicinal products.
8. Demonstrate professional attitudes and behaviors that characterize a professional pharmacist.
9. Demonstrate self-directed learning abilities during the rotation.
- 10.

Intern Responsibilities:

8. Attending and participating in daily activities.
9. Attendance of the quality-related committees and team meetings.
10. Addressing and reporting product quality concerns.
11. Suggesting solutions to resolve medication-related problems.
12. Displaying professional comportment: appearance, attitude, and behavior.
13. Providing at least one activity (e.g., in-service, presentation).

Preceptor Responsibilities:

8. Orientation of the intern to the practice site, schedules (days and hours), break, evaluation methods, and overall responsibilities.
9. Assigning duties to the intern for workup.
10. Discussion of the quality concepts with the intern.
11. Monitoring the intern progress to ensure that the stated objectives are adequately addressed and met.
12. Guiding and answering intern questions and sharing knowledge and skills with the intern.
13. Maintaining intern confidentiality.
14. Providing mid and final evaluation at the end of the week.





Training and Internship Administration Staff

Training and Internship Administration

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