

# Experiential Education Manual

Version 2.6 May 2024

College of Clinical Pharmacy King Faisal University, Al-Ahsa Saudi Arabia

# Experiential Education Manual

Ver. 1.0:	May 2009
Ver. 2.0:	May 2012
Ver. 2.1:	May 2013
Ver. 2.2:	Jan 2015
Ver. 2.3:	May 2017
Ver. 2.4:	Jan 2020
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Ver. 2.6:	April 2024

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#### Ver.1.0: May 2009

Ver. 1.0 of the Experiential Education Manual was prepared and approved by the then-Training Committee, named the APPE manual, in May 2009. The outline of the Manual was reviewed and approved by External reviewers from the School of Pharmacy, Texas Tech University, and West Virginia University USA. Guidelines for IPPE-1 and iPPE-2 were separately compiled.

#### Ver.2.0: May 2012

The manual was revisited in May 2012 and approved by the Clinical Affairs Committee Ver. 2.0 comprises revised material approved by the Clinical Affairs Committee and implemented.

#### Ver. 2.1: May 2013

Experiential Education Manual Ver. 2.1 was extensively reviewed by the Experiential Education Committee, approved in May 2013, and implemented in June 2013. It consists of Rules, regulations, guidelines, and assessments for IPPE-1, IPPE-2, and APPE

#### Ver. 2.2: Jan 2015

The Manual Ver. 2.1 was extensively reviewed by the Experiential Education Committee, approved in January 2015, and implemented in June 2015. IPPE-1 and IPPE-2 have been increased from 4 to 5 weeks. During the 5th week, students will be assessed by OSCE at COCP, along with portfolios, projects, and report presentations.

APPE Students must pass the mid- and Final OSCE and final written exams and secure passing grades in their project poster and presentation evaluation.

Extensively revised Syllabi of Community Pharmacy Orientation and a new rotation in Drug Information Services added.

#### Ver. 2.3: Jan 2017

Reprint with amendments in some syllabi and committee members.

#### Ver. 2.4: Jan 2020

Reprint after review by new members of the committee.

#### Ver. 2.5: April 2021

Two new rotations were added, the committee changed, and some amendments were made to the rules and regulations about professional leaves.

#### Ver. 2.6: April 2024

The experiential educational manual was extensively reviewed by the Experiential Education Committee, approved in April 2024, and implemented in June 2024. IPPE-1, IPPE-2, and APPE have been increased from 4 to 5 weeks. The rotation objectives and evaluation forms were updated, and new rotations were added.

# **Table of Contents**

The College	05
Vision	05
Mission	05
Value Statement	05
Code of Ethics for Pharmacist	06
Experiential Education Committee	07
Introduction and General Rules for Experiential Education at COCP	08
Introduction	08
Prerequisites, immunization, and other policies	09
Students placement and registration	09
First day at training site	09
Policies for attendance, leave of absence, holidays.	10
Communication and attitude	10
Confidentiality	11
Dress code and trainee's badge.	11
Cancellation of rotation/training	11
APPE rotation failing process.	12
Important COCP contacts	13
Advanced Pharmacy Practice Experience	14
Coordinators and teaching faculty contact information.	15
Professional competencies to be achieved at the end of APPE.	16
Structure of APPE	16
Courses and rotations of APPE	17
General goals and objectives of APPE	19
Tasks and activities for students during APPE	21
Students' assessment	22
Textbooks and references	22
Detailed description of APPE rotations	23
Guidelines, templates, and assessment forms	55
End of rotation assessment forms	64
Introductory Pharmacy Practice Experience-2	87
Introductory Pharmacy Practice Experience-1	99

# The College: Vision, Mission, Values, and Code of Ethics

## **COCP** Vision

To be a role model in pharmacy education and practice through scientific research and community engagement in the global learning community.

## **COCP** Mission

Providing quality education to prepare graduates capable of fulfilling the health system's and local market's needs for evidence-based (cost-effective) patient-centered care and optimized medication management through community engagement, scientific research, and innovation.

#### **PharmD Program Mission**

To prepare PharmD graduates who will provide patient-centered care to meet the needs of the community and local job market.

## **Value Statement**

Based on Islamic Principles, the College of Clinical Pharmacy promotes an environment of mutual respect and collaboration where we value:

- 1. Responsible Citizenship.
- 2. Integration is based upon interdisciplinarity.
- 3. Innovation in originating, producing, and applying knowledge.
- 4. Respect for ideas, opinions, and diversity
- 5. Justice that boosts transparency and belonging.
- 6. Empowerment of expertise and capabilities

#### **COCP** Goals

- 1. Enhance the quality of Pharmacy education, learning outcomes, and competencies.
- 2. Continue to develop the human and financial resources and enhance the academic and administrative performance to achieve its mission.
- 3. Support program quality assurance by maintaining accreditation and initiating the accreditation of unaccredited programs.
- 4. Promote High-Quality research inspired by the Kingdom's national goals and the university identity.
- 5. Improve community engagement activities and develop selective community partnerships to achieve enriched community service and fulfill national goals and university identity.
- 6. Develop innovation and business systems at the college to contribute to the economic capabilities and autonomy of the institution.

# Code of Ethics for Pharmacists<sup>1</sup>

Pharmacists are health professionals who assist individuals in making the best use of medications. This Code, prepared and supported by pharmacists, is intended to state publicly the principles that form the fundamental basis of pharmacists' roles and responsibilities. These principles, based on moral obligations and virtues, are established to guide pharmacists in their relationships with patients, health professionals, and society.

#### 1. A pharmacist respects the covenantal relationship between the patient and the pharmacist.

Considering the patient-pharmacist relationship as a covenant means that a pharmacist has moral obligations in response to the gift of trust received from society. In return for this gift, a pharmacist promises to help individuals achieve optimum benefit from their medications, to be committed to their welfare, and to maintain their trust.

# 2. A pharmacist promotes the good of every patient in a caring, compassionate, and confidential manner.

A pharmacist centers professional practice on the patient's well-being. In doing so, a pharmacist considers the patient's needs and those defined by health science. A pharmacist is dedicated to protecting the patient's dignity. With a caring attitude and a compassionate spirit, a pharmacist focuses on serving the patient privately and confidentially.

#### 3. A pharmacist respects the autonomy and dignity of each patient.

A pharmacist promotes the right of self-determination and recognizes individual self-worth by encouraging patients to participate in decisions about their health. A pharmacist communicates with patients in understandable terms and respects personal and cultural differences among patients.

#### 4. A pharmacist acts with honesty and integrity in professional relationships.

A pharmacist must tell the truth and act with conviction of conscience. A pharmacist avoids discriminatory practices, behavior, or work conditions that impair professional judgment and actions that compromise dedication to patients' best interests.

#### 5. A pharmacist maintains professional competence.

A pharmacist must maintain knowledge and abilities as new medications, devices, and technologies become available and health information advances.

#### **6.** A pharmacist respects the values and abilities of colleagues and other health professionals. When appropriate, a pharmacist asks for the consultation of colleagues or other health professionals or refers the patient. A pharmacist acknowledges that colleagues and other health professionals may differ in the beliefs and values they apply to the patient's care.

#### 7. A pharmacist serves individual, community, and societal needs.

A pharmacist's primary obligation is to individual patients. However, a pharmacist's duties may sometimes extend beyond the individual. In these situations, pharmacists situate these obligations and act accordingly.

#### 8. A pharmacist seeks justice in the distribution of health resources.

When health resources are allocated, a pharmacist is fair and equitable, balancing the needs of patients and society.

<sup>&</sup>lt;sup>1</sup> Adopted by the membership of the American Pharmaceutical Association on October 27, 1994. Endorsed by the American Society of Health-System Pharmacists on June 3, 1996. Reviewed and endorsed by the Council on Pharmacy Practice in 2007 http://www.ashp.org/DocLibrary/BestPractices/EthicsEndCode.aspx.

# Experiential Education and Community Engagement Committee (2023-2024)

## **Committee Chair:**

Dr. Haytham Abdulaziz Wali, PharmD, BCIDP

## **Committee Members:**

- 1. Dr. Mohamed Albekery
- 2. Dr. Sulaiman Almohaish
- 3. Dr. Monther Alsultan
- 4. Dr. Abdullah Alhamid
- 5. Dr. Amira Radwan
- 6. Dr. Sahar Ibrahim
- 7. Dr. Maitham Abdullah Al Hawaj
- 8. Dr. Mohammad Mukhtar Ali
- 9. Dr. Maryam Aljabr
- 10. Mr. Abbas Aljerish

# **Contact Information:**

Experiential Education and Community Engagement Committee Chair

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## **Introduction: General Rules and Regulations**

#### **Experiential Education Components of the COCP PharmD Program**

The experiential education component of the PharmD program at COCP consists of 1932 contact hours, the details of which are as follows:

#### Introductory Pharmacy Practice Experience-1 (IPPE-1): PP-3, 2030231, 2 Credit Hours

IPPE-1 is offered during the summer semester after the completion of 2<sup>nd</sup> professional year. Students are trained for 200 hours, i.e., 8 hours daily, five days a week for five weeks (males in community pharmacies and females in outpatient pharmacies of tertiary care hospitals). IPPE-1 is preceded by a didactic/practical course on Pharmaceutical Care-1, which provides the students with experience in retrieving information directly from the patient regarding his health problem (history taking) and drug therapies (treatment history) as well as from medical charts, databases, and from the caregivers using appropriate, effective communication in both oral and written forms. Training sessions on patient counseling are also included in this course to practice the skills learned in Pharmaceutical Care-1. IPPE-1 will expose the students to an actual and virtual environment to experience medication therapy management, retrieving patient information, patient counseling, and monitoring, thus preparing the student for IPPE-2 and APPE later in the program.

#### Introductory Pharmacy Practice Experience-2 (IPPE-2): PP-11, 2030331, 2 Credit Hours

IPPE-2 is offered during the summer semester after the completion of 3<sup>rd</sup> professional year. Students are trained for 200 hours, i.e., 8 hours daily, five days a week for five weeks, in the region's Hospital Pharmacies of Tertiary Care Hospitals. IPPE-2 is preceded by IPPE-1, two courses on Pharmaceutical Care aimed at preparing students for direct patient-centered care, and a didactic course on Institutional Pharmacy Practice, which provides students with essential information on the structure and functions of Hospital Pharmacy and the role of a pharmacist as a member of a team of interprofessional health care providers. In addition to achieving the core competencies required for hospital work, IPPE-2 prepares students for Advanced Pharmacy Practice Experience.

# **Advanced Pharmacy Practice Experience (APPE)** PP-24, 2030431; PP-25, 2030511; PP-26, 2030521: 35 Credit Hours

APPE is offered during the 5th year of the PharmD program after the successful completion of four years of the program. It consists of nine clinical rotations, with an additional tenth rotation in clinical research, each of five weeks duration. The student has to work eight hours/day, 40 hours/week, and 1760 hours in clinical settings during APPE. Backed up by knowledge and skills achieved through IPPE-1, IPPE-2, and didactic courses such as four courses in therapeutics, three courses in Pharmaceutical Care, and one course in Drug Information and literature evaluation, APPE is aimed at preparing the students to work as an effective and efficient member of the team of interprofessional health care providers as ethical pharmacy practitioners and medication therapy management specialists.

## Prerequisites for IPPE-1, IPPE-2, and APPE

- Students are required to have proof of immunization before beginning the IPPE. Proof of vaccination will be submitted to the Experiential Education and Community Engagement Committee. Required immunizations include MMR, polio, tetanus/diphtheria, pertussis, varicella (chicken pox), and completion of the hepatitis B vaccine series. Otherwise, they will be vaccinated at the KFU Health Center.
- 2. **IPPE-1:** The student has to pass the Pharmacology-2 course and has registered in Pharmaceutical Care-1.
- 3. **IPPE-2:** The student has to complete IPPE-1 and Therapeutics-1 and register for the Institutional Pharmacy Practice Course.
- 4. **APPE:** 
  - a. Before commencing APPE, the student must complete an accredited BLS course valid for at least 18 months.
  - b. Before joining APPE, the student must pass all didactic and experiential courses (i.e., complete 143 credit hours) in the PharmD program.

## Students' Placement for Training Sites and Registration

- 1. The Experiential Education and Community Engagement Committee, appointed by the Dean of the College of Clinical Pharmacy, will place the students in available slots.
- 2. Students will be placed in the APPE, IPPE-2, and IPPE-1 training sites according to the availability of specific rotations, their place in the merit list, and their residence. The merit list prepared by the committee is based on the following:
  - a. GPA of the student:
  - b. Result of previous experiential module (IPPE-1/IPPE-2, last APPE rotation).
- 3. Students' preferences regarding training at sites outside Al-Ahsa will be honored if possible.
- 4. Any matter of conflict or disagreement will be referred to the Dean, whose decision will be final.
- 5. After consultation with the Head of Academic Committee, College of Clinical Pharmacy, the students will register themselves for the Clerkship Semesters Courses 2030431, 2030511, and 2030521 with the Deanship of Registration.
- 6. The results of the IPPE-1 and IPPE-2 will be submitted at the end of the rotation. In contrast, those APPEs will be forwarded to the Deanship of Registration at the end of each semester only after the college receives the evaluation by the preceptor and rotation activity log for each rotation.

# First Day of Experiential Module (IPPE-1, IPPE-2, APPE)

- 1. All preceptors will have orientation sessions with the students regarding rotation objectives, daily activities, meeting times, modes of assessment, and unique requirements of particular training sites/rotations, if any. They will also provide orientations regarding the availability of learning resources at the site. The students will be introduced to other staff at the site.
- 2. The students will complete administrative requirements, such as registering with the Training department and obtaining training badges (ID) for the site.

## Policies for Attendance, Leave Rules, Holidays, and Other Responsibilities

- 1. Students must complete prescribed training hours for the relevant training program as mentioned in the General Rules and Regulations section, with a spirit of regularity and punctuality.
- 2. Students must attend all rotations activities as outlined in the relevant manual. They will record all these activities in the **portfolio**, which will be submitted to the preceptor for evaluation at the end of the rotation/training. The portfolio will contain:
  - a. The curriculum of the relevant experiential program, with learning objectives
  - b. Daily Activity Log signed by the preceptor.
  - c. All presentations, projects, assignments, case presentations, journal article presentations during the training/rotation
  - d. Records of any other activities performed during the training/rotation.
- 3. Leave applications must be approved by the preceptor before the requested dates and will be forwarded to the Chair of the Experiential Education Committee for approval. In emergency leave, formal documents must be submitted to the preceptor on the first day of reporting after emergency leave.
- 4. The student must make up the days/hours, work, and assignments for each absence.
- 5. More than two unexcused absences will result in failing the IPPE-1, IPPE-2, or APPE rotations.
- 6. Holidays: Students will follow the training site's holiday policy. However, the holiday period will not be counted towards the time/hours required to complete a specific experiential module. Therefore, the student has to make up the time/hours consumed during holidays. APPE students can avail themselves of two weeks of holiday for each Eid Al-Fitr and Eid Al-Adha, which are routinely adjusted in the APPE schedule yearly.
- 7. **Professional Leaves:** The students can avail of ten professional leaves during all 11 months of Advanced Pharmacy Practice Experience. The category of professional leave will include attending professional development workshops and conferences, presenting in site professional symposia or for interviews, or professional exams like SPLE. The student has to produce valid evidence for the professional leave, which may include:
  - a. Certificate of attendance/presentation
  - b. Call letter/email for interview
  - c. Exam registration ticket

## **Communication and Attitude**

- 1. The student is responsible for developing good communication skills with all health professionals and patients as learners.
- 2. Students are expected to display respect and courtesy to the preceptor. They should not publicly question the advice or directions of the preceptor and should discuss any disagreements privately.
- 3. Constructive criticism by preceptors or colleagues is one means of learning and is not meant to embarrass; so, it must be tolerated and taken up professionally as a means of academic improvement and personality development.
- 4. The student must exhibit the highest degree of professional conduct and attitude as a representative of the College of Clinical Pharmacy, King Faisal University, and the sacred pharmacy profession. This should be kept in mind when conflicts arise.
- 5. Each student must contact their assigned preceptor at least one week before the start of the rotation.

6. Students should fill out/complete the preceptor/site evaluation form sent online by the assessment committee by the end of each rotation.

## Confidentiality

- 1. Students will not discuss their patients with other patients, friends, family members, or anyone unrelated to each case.
- 2. Confidentiality must be observed in all areas, such as pharmacy records, medical records, patient information, fee systems, and professional policies.
- 3. Students will refrain from discussing patients in front of others or in areas where people may overhear.
- 4. Students will not leave confidential documents (profiles, charts, prescriptions, history records, etc.) in public places. Students should understand that inappropriate conduct (e.g., breach of confidentiality)
- 5. Having personal relations with patients is strictly prohibited.
- 6. Students will not discuss the practices and the relationship between the patient/customer and the health care provider of the practice site in public.
- 7. If the student is asked to present a case, the actual name and registration number will not be mentioned in the presentation.
- 8. The student should sign a confidentiality statement if asked by the preceptor.
- 9. Students will follow the training site's rules, regulations, and policies if they intend to use information/data for research.

## **Dress Code and Trainee's Badges**

- 1. All male and female students will always wear college uniforms with clean, pressed white lab coats in patient care areas (unless restricted/modified due to practice site requirements).
- 2. All male and female students are directed to wear close-toe shoes during training hours.
- 3. The students must wear trainee identification badges issued by the site administration at all times during their training hours. In cases where site administration (such as community pharmacy) does not provide batches, students will wear the KFU Students Identity Badge.

# **Cancellation of a Rotation**

The College will cancel a particular IPPE-1,2 as a whole or an APPE rotation for a student if:

- 1. The college receives more than three complaints regarding students' attitude, regularity, and punctuality.
- 2. Two unexcused leaves during an APPE rotation or whole IPPE-1 or IPPE-2.
- 3. Students' unsatisfactory performance and failing grades in the final exam of rotation.
- 4. The preceptor will forward information to the college on specified proforma, signed by him and the student.
- 5. The student will repeat the canceled APPE rotation or IPPE-1 or IPPE-2 after completing the routine schedule of the experiential module or as decided by the Experiential Education and Community Engagement Committee.

## **APPE Rotation Failing Process**



## **Important College Contacts**

- 1. Experiential Education Committee Chair: Dr. Haytham Abdulaziz Wali
  - Phone (IP): +966 13 589 6476
  - Cell: +966 50 015 1733
  - Email: <u>hwali@kfu.edu.sa</u>
- 2. APPE Affairs Coordinator: Dr. Sulaiman Mohammed Almohaish
  - Phone (IP): +966 13 589 9832
    - Cell: +966 54 373 9730
  - Email: <u>salmohaish@kfu.edu.sa</u>
- 3. IPPE Affairs Coordinator: Dr. Monther Abdolmohsin Alsultan

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4. Graduation Project Affairs Coordinator: Dr. Abdullah Mahdi Alhamid

1644

Phone (IP): +966 13 589 7473
 Email: <u>aalhamid@kfu.edu.sa</u>

# Advanced Pharmacy Practice Experience (APPE)

# Coordinators and Teaching Faculty Contact Information

Area	Faculty Name	Title	Hospital	Email (Pager)
Infectious Diseases	Dr. Haytham Abdulaziz Wali	Assistant Professor	Al-Ahsa Hospital	<u>hwali@kfu.edu.sa</u>
Nephrology	Dr. Mohamed Abdulrahman Albekery	Assistant Professor	National Guard Health Affairs	<u>Malbekery@kfu.edu.sa</u>
Internal Medicine/Critical Care	Dr. Sulaiman Almohaish	Assistant Professor	King Fahad Hospital	<u>Salmohaish@kfu.edu.sa</u>
Psychiatry	Dr. Abdulrahman Abdullah Alnijadi	Assistant Professor	Al-Ahsa Mental Hospital	aalnijadi@kfu.edu.sa
Critical Care	Dr. Abdel Rahman Bashir Medani	Lecturer	Al-Ahsa Hospital	amedani@kfu.edu.sa
Internal Medicine	Dr. Mohamed Mukhtar Eltegani Ali	Lecturer	Prince Saud bin Jalawy hospital	mmali@kfu.edu.sa
Critical Care	Dr. Nosiyba Mostafa Adlan	Lecturer	Prince Sa <mark>u</mark> d bin Jalawy <mark>h</mark> ospital	nmabdullah@kfu.edu.sa
Medication Safety/Drug Information	Dr. Abdullah Al-Hamid	Assistant Professor	King Faisal University	aalhamid@kfu.edu.sa
Oncology	Dr. Dalia Ahmed Elmaghraby	Lecturer	National Guard Health Affairs	Delmaghraby@kfu.edu.sa
Cardiology	Dr. Amira Samir Radwan	Lecturer	King Fahd Hospital	ardawan@kfu.edu.sa
Internal Medicine	Dr. Ali Ahmed Alshammari	Teaching Assistant	Prince Saud bin Jalawy hospital	aalshammari@kfu.edu.sa
Cardiology	Dr. Ali Mahroos Aldayyen	Assistant Professor	Prince Sultan Cardiac Center	<u>aaldayyen@kfu.edu.sa</u>
Pediatrics	Dr. Amal Alsuliman	Associate Professor	Maternity and Children Hospital	aksuleiman@kfu.edu.sa
Ambulatory Care	Dr. Amal Khaleel Abulhommos	Lecturer	King Fahad Hospital	aabualhomos@kfu.edu.sa
Cardiology	Dr. Sahar Ibrahim	Lecturer	Prince Sultan Cardiac Center	smibrahim@kfu.edu.sa
Internal Medicine	Dr. Elwalid Abass Elhassan	Lecturer	King Fahad Hospital	eelhassan@kfu.edu.sa
Digital Health	Dr. Monther Alsultan	Assistant Professor	King Faisal University	<u>malsultan@kfu.edu.sa</u>

# **Professional Competencies**

To be achieved at the end of the rotation

# **Advanced Pharmacy Practice Experience**

Competency-1:	Disease State Knowledge and Management				
Competency-2:	Drug therapy planning and evaluation				
Competency-3:	Monitoring and evaluation				
Competency-4:	Professional Communication				
	Case presentation				
	<ul> <li>Professional communication &amp; professional reports</li> </ul>				
	<ul> <li>Patient interview, education, and counseling</li> </ul>				
Competency-5:	Drug Information and Literature Evaluation				
Competency-6:	Profe <mark>s</mark> sionalism				
	Time management     Life-long learning				
	Leadership and teamwork				
	Volunteering				
Competency-7:	Pharmacy operations and Management in various settings				
	Community Pharmacy				
	Institutional Pharmacy				
	<ul> <li>Drug Companies/Business settings</li> </ul>				
Competency-8:	Research and Scholarship				

Innovation and Creativity

# Structure of APPE

APPE-1 2030431 Summer Semester				APPE-2 2030511 First Semester				APPE-3 2030521 Second Semester			PharmD Qualified		
Rotation-1	Rotation-2	APPE-1 result based upon the result of 2 rotations.	Rotation-3	Rotation-4	Rotation-5	Rotation-6	APPE-2 result based upon the result of 4 rotations.	Rotation-7	Rotation-8	Rotation-9	Rotation-10	Research: compilation of data	Research Project Evaluation APPE-3 result submission
			Gra	duati	on Re	searcl	n Project (	Longit	udina	I)			

# **Courses and Rotations**

## Courses

Course Code	Course No.	Course Name	Duration/ Contact Hours	Credit Hours	Pre-requisite/ co- requisite
PP-24	2030431	APPE-1	Eight weeks/ 320 hours	0+ 5 Credit hours	Should pass all courses including IPPE-1 & IPPE-2
PP-25	2030511	APPE-2	16 weeks/640 hours	0+15 Credits hours	Should Pass APPE-1
PP-26	2030521	APPE-3	16 weeks/ 640 hours	0+15 Credits hours	Should pass APPE-2 /Submit/present Research Report
Total			40 weeks/1600 hours	35 Credit hours	
Evaluation			Pass/No	pass	
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# **Commencement of the Course**

APPE-1 will commence one week after the last day of the final exam of 4th year and will continue throughout the summer vacation. APPE-2 will continue with APPE-1 without any break during the fall semester, and APPE-3 will continue with APPE-2 throughout.

## **Clinical Rotations**

There are FOUR core rotations and FOUR elective rotations of Five weeks each:

Core Rotations						
1. Institutional Pharmacy Rotation	Five weeks					
2. Community Pharmacy/Out-patient Pharmacy	Five weeks					
3. Internal Medicine	Five weeks					
4. Critical Care	Five weeks					
Elective Rotations						
(student has to select FOUR rotations, based on availabil	ity of site and preceptor)					
1. Ambulatory Care	Five weeks					
2. Cardiology	Five weeks					
3. Psychiatry	Five weeks					
4. Infectious Diseases	Five weeks					
5. Hematology/Oncology	Five weeks					
6. Nephrology	Five weeks					
7. Drug Companies / Supply Chain / Drug Manufacturing	Five weeks					
8. General Pediatrics/Neonatal	Five weeks					
9. Drug Information/Evidence-based Medicine	Five weeks					
10. Academia/Research	Five weeks					
11. Informatics/Digital Health	Five weeks					
12. SFDA	Five weeks					

# **Graduation Research Project**

All students will be assigned a research supervisor from the COCP supervisors during their first APPE rotation. After discussing the topic with their supervisor, the students will select a research topic, complete their projects, and write a research report.

Assessment of Research Rotation will have the following components:

- 1. Evaluation of written research report by a panel of examiners.
- 2. Presentation and Defense of research project in presentation session, assessed by a panel of assessors, one of whom will be the student's supervisor.
- 3. Participation and defense of the project in the poster session evaluated by COCP faculty.

## **Graduation Project Completion Requirements**

By the end of the APPE internship year, the interns must present their projects as a PowerPoint or poster presentation. The presentation is expected to meet the following criteria:

- 1. The project should have statistically analyzable final or preliminary results. Presenting a graduation project with no results or results that cannot be statistically analyzed will mark the project as incomplete.
- 2. All the interns in the graduation project group have to present a part of the presentation. If an intern was absent during the presentation day or did not present anything, they would be considered <u>"non-participant"</u> and have to start a new project.
- 3. The graduation project presentation should contain **AT LEAST** the following outlines:
  - a. Introduction: This section describes the gap in the existing literature about the research topic, the rationale behind conducting the study, and the research project objectives.
  - b. **Methodology**: Describing in detail the methods, procedures, and materials of the study, including the statistical analyses and the ethical approval if applicable.
  - c. **Results**: This section describes the complete study findings, including the baseline characteristics and the study's primary and secondary outcomes.
  - d. **Discussion**: Describe how the study findings can contribute to the existing literature, how the study results can be applied in the future, and the study's limitations.
  - e. **Author Contribution**: The intern's contribution to the project should be listed according to the Contributor Roles Taxonomy (CRediT). An explanation and an example of this approach can be found in this <u>CRediT author statement</u>.
  - f. Acknowledgements: If applicable.

If any of the above requirements cannot be met for a valid reason, a written justification must be submitted by the internship group and reviewed by the research committee. Afterward, the group will be provided with a decision on whether the project is acceptable.

# Final APPE Assessment (Pass/Fail)

The student will be declared Pass if he:

- 1. Completes all the rotations included in the APPE course (APPE-1, APPE-2, APPE-3),
- 2. Successfully present and defend his research project.

Assessment of each rotation consists of a formative Mid-point evaluation and a summative final evaluation according to the predefined Assessment Criteria (Refer to Appendix)

# **General Goals and Objectives of APPE**

## Goals

- 1. To develop a sufficient, relevant, and expanded knowledge base to utilize appropriate resources necessary to provide patient-centered care in various clinical settings in an interprofessional environment.
- 2. To develop clinical skills necessary to assume accountability and responsibility for evidencebased therapeutic planning, intervention, outcome evaluations, and provision of drug information while providing patient-centered care as a team of health care providers.
- 3. To develop professionalism and interpersonal skills as a member of a team of interprofessional health care providers necessary for the provision of optimal patient care and pharmacy services.

# Learning Objectives

After successful completion of APPE, the student will be able to:

## A. Manage Disease States

After successful completion of the clerkship, the student will be able to:

- 1. Take and record the patient history, including HPI, PMH, FH, and SH, and record the findings of clinical examination.
- 2. Interpret the information from the patient's laboratory examination in assessing the disease state(s) and reaching/confirming the patient's final diagnosis.
- 3. Discuss the currently acceptable options of investigation and treatment for the patient's disease state based on the best evidence available.
- 4. Utilize information from forms 1, 2, and 3 in formulating an **individualized therapeutic plan** for the patient, which will include:
  - a. Therapeutic objectives, with the endpoint of the therapy
  - b. Pharmacologic and non-pharmacologic treatment plan
  - c. Follow-up evaluation plan.
  - d. Evaluation of therapeutic outcomes
- 5. Discuss various therapeutic options with the patient (if feasible) and with the other health care providers, if asked for.
- 6. Discuss potential drug-disease, drug-drug, drug-laboratory tests, and drug-dietary problems before making recommendations on drug therapy. These recommendations will include:
  - a. Selection of Drug(s) or non-drug therapy
  - b. Dosage
  - c. Route of Administration
  - d. Frequency of Administration
  - e. Duration of Therapy
  - f. Drug dosage Adjustment Consultation
  - g. Therapeutic Drug Monitoring (TDM)

## B. Exhibit Skills for Patient Monitoring

After successful completion of the clerkship, the student will be able to:

1. Monitor daily progress of the patient's disease state(s) and drug therapy based on relevant laboratory data, physical findings, subjective findings, and consultation with the medical team.

- 2. Identify existing or potential adverse reactions or treatment of failures, provide assessment, and recommend management approaches.
- 3. Utilize the medication history and patient's medical record to identify drug incompatibilities, interactions, and abuses, assess their clinical significance, and discuss potential solutions.
- 4. Apply pharmacokinetic dosing principles to select drugs and monitor specific drug therapy.

#### C. Review Patient Chart/Data and Suggest Interventions

After successful completion of the clerkship, the student will be able to:

- 1. Demonstrate the ability to retrieve required information from the medical record (paper or electronic) and assess patient-specific information necessary for drug therapy monitoring. In that regard, the students will familiarize themselves with the following:
  - i. Chart arrangement.
  - ii. Specific types of information are contained therein. For example, admission notes, history, and findings from physical examination, physician orders, laboratory results, and progress notes (S.O.A.P notes).
  - iii. Medication administration record, diabetic management sheet, and patient file.
  - iv. Medical abbreviations.
- 2. Plan interventions based on the information retrieved if asked for.
- 3. Present the information concisely and thoroughly.

#### **D. Review and Interpret Laboratory Findings**

After successful completion of the clerkship, the student will be able to:

- 1. Recognize the significance of both normal and abnormal laboratory tests and reports.
- 2. Interpret the laboratory findings related to the patient's diagnosed disease(s) and provide an evaluation for follow-up.
- 3. The lab findings should be utilized in formulating the individualized drug therapy plan, conducting follow-up evaluations, and identifying the drug therapy problems.

#### **E. Retrieve Medication History**

After successful completion of the clerkship, the student will be able to:

1. Obtain, through direct interview, a patient's medication history to identify prescription and non-prescription usage, medication administration habits, procurement sources for drugs, compliance with prescribed therapy, and previous adverse drug reactions or allergies.

#### F. Professionally provide Drug Information

After successful completion of the clerkship, the student will be able to:

- 1. Apply skills related to utilizing the drug information resources to answer drug use and toxicity questions.
- 2. Demonstrate the ability to retrieve evidence-based drug information, critically evaluate it, and utilize it when answering a question.
- 3. Respond to drug information requests appropriately and on time.
- 4. Communicate information verbally and in written form.

#### G. Perform Discharge Medication Counseling

Before counseling a patient, the student should comprehensively understand the medication to be discussed, including the drug's indications, mechanism of action, pharmacology, appropriate use and

administration, storage, common adverse effects, and precautions. The student should review this information with the preceptor before interacting with the patient.

After successful completion of the clerkship, the student will be able to :

- 1. Provide organized and individualized instruction to patients about their diseases and drugs prescribed to improve their understanding and willingness to accept proper treatment.
- 2. Advise patients on proper utilization of prescription and nonprescription drugs, including expected drug effects and potential drug-drug and drug-dietary interaction warning, storage, etc.

# **Activities of The Student During APPE**

Each student will be assigned to a preceptor and, thus, to a specific medical team, and they are expected to become active members of such teams.

During the five-week clinical rotations, students are required to participate in direct patient care as outlined below actively:

- 1. Maintain a rotation activity log duly signed by the preceptor at the end of a specific activity.
- 2. Attend daily rounds and morning meetings with the assigned medical team.
- 3. Monitor patients assigned by the preceptor. The student must maintain a patient-specific document, such as a **data collection sheet** to record patient database information, drug therapy problems, monitoring, parameters, recommendations, and follow-up.
- 4. Record patient data, analyze and present the case in SOAP format.
- 5. Meet with preceptor daily for discussion sessions that may include:
  - a. Giving informal oral presentations of assigned patients to preceptor and fellow students.
  - b. Provide daily updates to preceptor and fellow students on patients you are following.
  - c. Discusses reading material assigned by the preceptor.
- 6. Conduct at least two patient interviews to obtain drug histories.
- 7. Conduct a patient counseling session.
- 8. Journal Club Presentation: Present at least one article per rotation, assigned by the preceptor.
- 9. Topic-Case Presentation: Present at least one topic presentation and end with a SOAP case.
- 10. Provide drug information questions assigned by the preceptor if asked for.
- 11. When arranged, attend clinic-pathologic conferences in the department/grand rounds or other selected medical conferences.
- 12. Attend APPE weekly meetings as per the schedule given by the preceptor.
- 13. Attend all the activities, like CME sessions, other than those mentioned above, but with the preceptor's permission.
- 14. Maintain rotation portfolio containing:
  - a. Student's Goals: What does he want to learn during rotation?
  - b. Rotation Syllabus: Goals Objectives Activity Log signed by preceptor.
  - c. All assignments, projects, and presentations. SOAP notes
  - d. Record of Intervention made during the rotation.
  - e. Reflective narrative by the student regarding his learning experience during the rotation

# Assessment of APPE

# Assessment of APPE rotation

1. Students will be evaluated in the following domains per the Rotation Assessment Form.

Knowledge and Skills	50
Use of Information Resources	20
Professional Development	30
Total	100

- 2. Students will be evaluated twice during the rotation. The midpoint rotation Evaluation will be formative to assess the progression of students' performance toward completing the rotation. The preceptor will discuss his deficiencies with the students, which he needs to overcome to complete the rotation.
- 3. The final evaluation of the rotation will be summative, resulting in progress to the next rotation or to repeat the rotation (Fail/Pass).
- 4. The same rotation evaluation form will be provided to all the external training sites to offer uniform assessments for all the students' rotations.

# Final Assessment of APPE as a Whole

The following are mandatory requirements for successful completion of APPE for all PharmD students:

- 1. Passing grades in Mid and Final OSCE in aggregate
- 2. Passing the research rotation
  - i. Complete and submit the project report by the deadline set by the EECE Committee; **AND**
  - ii. Prepare PowerPoint presentation and present in the COCP Research Day with a minimum of 60% grade; **OR**
  - iii. Prepare a poster and exhibit on the COCP Research Day and secure a minimum 60% grade in evaluation.

The weightage of various segments will be as follows:

1.	End of Rotations exam for Two Rotations in APPE-1	15%			
2.	End of Rotations exam for Four Rotations in APPE-2	30%			
3.	End of Rotations exam for Four Rotations in APPE-2	30%			
4.	Research	25%			
Total 1					

# **Textbooks / References**

- 1. DiPiro JT, ed. Pharmacotherapy: A Pathophysiologic Approach. Eleventh edition. McGraw Hill Medical; 2020.
- 2. Nemire RE, Kier KL, Assa-Eley M, eds. Pharmacy Student Survival Guide. Third edition. McGraw-Hill Education Medical; 2014.
- 3. Pharmacy Practice Clinical Manual Boh L, ed, 2ed. Lippincott, 2002.
- 4. Thompson JE, Davidow LW. A Practical Guide to Contemporary Pharmacy Practice. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2009.
- 5. Materials as assigned by preceptor or participating health care professionals

# **Description of APPE Rotations**

- 1. Institutional Pharmacy
- 2. Community/Outpatient Pharmacy
- 3. Internal Medicine
- 4. Cardiology
- 5. Pediatrics
- 6. Medical ICU
- 7. Hematology/Oncology
- 8. Nephrology
- 9. Infectious Diseases
- 10. Psychiatry
- 11. Drug Information Services
- 12. Drug Company
- 13. Academia
- 14. Digital Health
- 15. Saudi Food and Drug Authority (SFDA)
- 16. Ambulatory Care

## **APPE Institutional Pharmacy Rotation**

Under the preceptor's supervision, the student will provide direct patient-centered care in the institutional settings. The student will experience the operation and management of institutional pharmacy systems and the functions and responsibilities of a pharmacist in the different inpatient areas, including long-term, cardiology, intensive care, pediatric oncology, etc. Students will have the opportunity to be involved in all aspects of the medication use process and drug distribution and delivery in the institutional setting to fulfill the following objectives.

## Learning Outcomes

After this rotation and associated activities, the student should be able to:

#### Knowledge

- Describe the various pharmacy policies, procedures, and protocols for safe and effective medication use, including medication preparation and administration standardization and protocols and guidelines for specific disease states.
- Recognize the management of systems for storing, preparing, and dispensing medications in institutional settings.
- Evaluate the appropriateness of the physician medication order based on standards of ISMP and ASHP in health care settings.

#### Skills

- Demonstrate the ability to retrieve, evaluate, and apply clinical and scientific publications in the decision-making process within the inpatient settings.
- Demonstrate ability to interpret and process various medication orders and dosage forms.
- Practice the proper medication prescribing guidelines recommended by ISMP in healthcare settings. This includes avoiding non-approved abbreviations, completing patient information, using look-alike medication, etc.
- Communicate medication-related information with colleagues and other healthcare professionals by presenting information in a practical, timely, and well-organized manner.

#### Values

- Demonstrate appropriate team behaviors and professionalism between colleagues and other healthcare staff.
- Participate in the pharmacy and hospital's quality improvement programs and projects.
- Participate, with the preceptor, in various pharmacy meetings and committees that pharmacists are usually involved in and be able to prepare reports to support different committees in the hospital.
- Communicate with both patients and other health care professionals effectively and appropriately.
- Participate in educational activities for pharmacists, nurses, and other health care professionals.
- Communicate effectively with other health care providers to deliver recommended changes, prescribing errors, clarifications, and therapy medications.

# **Advanced Institutional Pharmacy Practice-Specific Requirements**

- 1. Attend the weekly Pharmacy/Hospital ground round.
- 2. Attend the pharmacy meeting/committee after getting permission from the preceptor.
- 3. Submit the following requirements within a week after the end of the rotation after the preceptor's signature. They will be graded as part of the student's portfolio.

One quality or safety project report	10 points
One topic presentation related to institutional pharmacy practice (15-20	10 Points
minutes)	
Four documented therapeutic interventions	8 points (4x2)
Three proofs of ISMP statement/guidelines discussion for safe medication	6 points (3x2)
prescribing/administration/delivery in the inpatient setting (discussion with the	
preceptor could be individual or group)	
Three proofs of ASHP statements/guidelines related to institutional pharmacy	<mark>6</mark> points (3x2)
practice (discussion with the preceptor could be individual or in group)	er

A portfolio submission that is more than one week late will result in a deduction of 5 points, and if submitted for more than two weeks, 10 points.

## **APPE Community/Outpatient Pharmacy Rotation**

The student will function as a trainee under the immediate supervision of a licensed pharmacist. They should carry out all the professional functions and services the pharmacist assigns them to render within the community/outpatient pharmacy. Students will be exposed to non-prescription, herbal, and cosmetic pharmaceutical products. In addition, the students will have the opportunity to be involved in all aspects of the community/outpatient pharmacy activities, including but not limited to medication dispensing, patient counseling, inventory control, and extemporaneous pharmacy compounding whenever available.

## Learning Outcomes

After this rotation and associated activities, the student should be able to:

#### Knowledge

- Describe various pharmaceutical services that are rendered in the community/outpatient pharmacy.
- Explain the process of maintaining inventory and ordering drugs and supplies.
- Demonstrate basic knowledge and practice of controlled substance prescribing, filling, handing, and dispensing in community pharmacy.

#### Skills

- Observe Saudi pharmacy law while providing services, including dispensing prescription- only and over-the-counter drugs.
- Utilize electronic references on medications to support patient counseling.
- Apply the proper medication prescribing guidelines recommended by ISMP in community pharmacies. These guidelines include avoiding non-approved abbreviations, completing patient information, using look-alike medication, etc.
- Report prescribed medication-related errors and ADR in the community/outpatient pharmacy after investigation and documentation.

#### Values

- Demonstrate leadership, accept responsibility, and advocate for patients' rights to safe and effective medications in a health care setting.
- Show empathy and respect when counseling patients.
- Handle non-drug-related requests by community customers.
- Work effectively within the community/outpatient pharmacy team.
- Provide expert advice on choosing over-the-counter medications.
- Treat patients professionally, maintaining their confidentiality.
- Communicate effectively with patients and customers in the community/outpatient setting.
- Show empathy and respect when counseling patients.
- Work effectively within the community/outpatient pharmacy team.

# Advanced Community/Outpatient Pharmacy Practice Specific Requirements

Discuss with the preceptor (in individual or group) the following related topics:

- Discuss <u>at least three</u> ISMP guidelines for safe medication prescribing.
   Discuss <u>at least three</u> ASHP statements/guidelines related to community pharmacy practice.
- Attend the weekly clinical pharmacy ground round and resident's half-day activities.
- Attend the pharmacy meeting/committee after getting permission from the preceptor.

## Advanced Community Pharmacy Practice-Specific Requirements

**Four** Real patient cases (SOAP) with disease management using OTC 20 points (4 x 5) medications

<u>One</u> report of conducting patient counseling about using medical devices (e.g., 6 points inhalers, insulin pens, etc.)

<u>One</u> report of conducting patient counseling about non-drug (cosmetics, 6 points nutritional, etc.)

**Four** documented therapeutic interventions.

8 points (4 x 2)

Late portfolio submission beyond one week will result in a deduction of 5 points and 10 points if submitted more than two weeks.

## Advanced Outpatient Pharmacy Practice-Specific Requirements

One quality or safety project report	10 points
<u>One</u> topic presentation related to community pharmacy practice (15-20	10 points
minutes)	
Four documented therapeutic interventions	8 points (4 x 2)
Three proofs of ISMP statement/guidelines discussion for safe medication	6 points (3 x 2)
prescribing, administration, or delivery in the inpatient setting (discussion with	
the preceptor could be individual or in group)	
Three proofs of ASHP statements/guidelines related to community pharmacy	6 points (3 x 2)
practice (discussion with the preceptor could be individual or in group)	

Late portfolio submission beyond one week will result in a deduction of 5 points and 10 points if submitted more than two weeks.

# **APPE Internal Medicine Rotation**

## Goal

To prepare the student with the knowledge base and problem-solving skills relating to the management of patients with a pharmaceutical care perspective

## **Rotation-Specific Learning Objectives**

Upon completion of this rotation, students should be able to:

- 1. Describe and correlate pathophysiology, clinical and lab findings with diagnosis,
- 2. Utilize basic physical assessment skills to evaluate patients.
- 3. Design an evidence-based therapeutic plan for the assigned disease state/patient.
- 4. Evaluate the significance of a patient's pharmacokinetic parameters when determining an appropriate drug therapy.
- 5. Provide appropriate monitoring parameters for the assigned disease and its treatment plan (including efficacy, toxicity, side effects, and potential drug interactions).
- 6. Effectively communicate the drug treatment plan with the appropriate precautions and expectations to the patient.
- 7. Effectively suggest and communicate therapeutic interventions to other healthcare team members.
- 8. Provide adequate documentation and literature support for therapeutic recommendations.
- 9. Evaluate the quality of the literature utilized in making recommendations.
- 10. Discuss with the preceptor the following common adult medicine conditions based on actual or simulated patient cases (two topics/week), including but not limited to:
  - o Hypertension
  - Hyperlipidemia
  - o Anticoagulation and Venous Thromboembolism
  - o Community-acquired and Healthcare-Associated Pneumonia
  - Uncomplicated and Complicated UTIs
  - o COPD and Asthma
  - Diabetes
  - o Stroke
  - o Renal Injury/Failure
  - o Pain management in hospitalized patient

## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
<b>One</b> complete pharmacotherapy plan for a given patient by SOAP	4 Points

A portfolio submission that is more than one week late will result in a deduction of 5 points, and if submitted for more than two weeks, 10 points.

# **APPE Cardiology Rotation**

## Goal

The goal is to prepare the student with knowledge and problem-solving skills in managing patients with common cardiovascular problems from a pharmaceutical care perspective.

## **Rotation-Specific Learning Objectives**

Upon completion of the rotation, the student shall be able to:

- A. Describe and demonstrate the role and function of a clinical pharmacist in the cardiology team.
- B. Assess patients with cardiovascular disease (correlating pathophysiology, status, clinical presentation, lab information, etiology, and risk factors).
- C. Evaluate medication regimens for patients with cardiovascular and related diseases.
- D. Design and recommend therapy plans for patients with acute or chronic cardiovascular diseases.
- E. Monitor patient-care plan for efficacy and toxicity and identify when interventions are needed.
- F. Educate patients and other healthcare professionals regarding cardiovascular therapy.
- G. Communicate effectively with patients and healthcare professionals.
- H. Collaborate with members of the cardiology team to provide optimal patient care.
- I. Discuss with the preceptor (individual or in a group) the pathophysiology, associated laboratory and clinical parameters, and management of the following common cardiac disease (one to two topics/week), including but not limited to:
  - Acute Coronary Syndrome: MI, unstable angina, stable angina
  - Dysrhythmias
  - Heart failure
  - Cardiogenic shock
  - Cardiac arrest/cardiopulmonary resuscitation
  - Hypertension urgency and emergency
- J. Discuss with the preceptor (individual or in group) the commonly used medications for the treatment of cardiovascular diseases (one to two topics/week), including but not limited to:
  - Antiarrhythmic drugs
  - Inotropic and sympathomimetic agents
  - Antihypertensive
  - Antianginal
  - Vasodilators
  - Anticoagulants and antiplatelets

## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
<b>One</b> complete pharmacotherapy plan for a given patient by SOAP	4 Points

A portfolio submission that is more than one week late will result in a deduction of 5 points, and if submitted for more than two weeks, 10 points.

# **APPE Pediatrics Rotation**

## Goal

To prepare the student with the knowledge base and problem-solving skills relating to the management of pediatric patients with a pharmaceutical care perspective

## **Rotation-Specific Learning Objectives**

Upon completion of this rotation, students should be able to

- A. Discuss and apply drug dosing and management of the pediatric patient.
- B. Provide general pediatric drug information, including appropriate dosing, antibiotic therapy, pain and sedation management, and pharmacokinetic analysis.
- C. Monitor patient therapy and progression in consultation with physicians and nurses,
- D. Suggest interventions while having rounds with the preceptors if asked for.
- E. Discuss with the preceptor (individual or in a group) the following pediatric topics (one or two topics/week), including but not limited to:
  - Pediatrics as a special population: Pharmacokinetic and Pharmacodynamics characteristics and related pharmacotherapy
  - Fluid and electrolyte therapy
  - Parenteral nutrition
  - Pediatrics Immunization
  - Infectious diseases (otitis media, meningitis, osteomyelitis, UTI, respiratory tract infections)
  - Anticoagulation in Pediatrics
  - Reactive airway disease (asthma, bronchiolitis, croup)
  - Type-I Diabetes
  - Seizure disorder
  - GERD

## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

# **APPE Critical Care Rotation**

### Goals

To prepare the student with the knowledge base and problem-solving skills relating to the management of critically ill patients with a pharmaceutical care perspective

## **Rotation-Specific Learning Objectives**

Upon completion of this rotation, students should be able to

- A. Take personal responsibility for attaining excellence in one's ability to provide pharmaceutical care for MICU patients.
  - Display initiative in preventing, identifying, and resolving pharmacy-related MICU patient care problems.
- B. Communicate clearly when speaking or writing.
  - Organize all written or oral communication logically.
  - Address all communication at the level appropriate for the audience.
    - Modify communication strategies to communicate effectively with caregivers or the patient's family.
  - Use correct grammar, punctuation, spelling, style, and formatting conventions in preparing all written communications.
  - Speak clearly and distinctly in English.
  - Use public speaking skills to speak effectively in large and small group situations.
  - Use listening skills effectively in performing job functions.
  - Use a knowledge of visual aids to enhance the effectiveness of communications.
  - Use persuasive communication techniques effectively.
  - Prepare all communication so that they reflect a positive image.
  - Use effective strategies for communicating with patients who are non-English speakers or who are impaired (e.g., blind, deaf, cognitively impaired, illiterate)
- C. Work Harmoniously with others on multidisciplinary teams caring for MICU patients.
  - Represent the Pharmacy perspective effectively when working on a multidisciplinary team.
- D. Understand educational methods appropriate for MICU patients, family members, or caregivers.
  - Explain effective educational methods for MICU patients, family members, or caregivers.
- E. Use appropriate behavioral and cognitive techniques in interactions with MICU patients, their family members, caregivers, and other healthcare professionals.
  - Formulate effective strategies for managing the emotional components of interaction with MICU patients, their family members, caregivers, and other health care professionals.
- F. Design, recommend, implement, monitor, and evaluate patient-specific pharmacotherapy for MICU patients.
  - Collect and organize all patient-specific information the pharmacist needs to prevent, detect, and resolve medication-related problems and make appropriate drug therapy recommendations for MICU patients.

- Identify the types of information the pharmacist requires to prevent, detect, and resolve medication-related problems and to make appropriate drug therapy recommendations for MICU patients.
- Explain signs and symptoms, epidemiology, risk factors, pathogenesis, natural history of disease, pathophysiology, clinical course, etiology, and treatment of diseases commonly encountered in MICU patients.
- Explain the mechanism of action, pharmacokinetics, pharmacodynamics, Pharmacoeconomics, usual regimen (dose, schedule, form, route, and method of administration), indications, contraindications, interactions, adverse reactions, and therapeutics of drugs commonly used to treat MICU patients.
- Integrate effective communication techniques in interviews with patients, caregivers, healthcare professionals, or others so that the patient-specific information needed by the pharmacist is collected.
- Determine the presence of any medication therapy problems in an MICU patient's current medication therapy.
- Using an organized collection of patient-specific information, summarize MICU patient's health care needs.
- Specific pharmacotherapeutic goals for MICU patients that integrate patient-specific data, disease- and medication-specific information, and ethical and quality-of-life considerations.
- Design the pharmacotherapeutic regimen that meets the goals established for MICU patients; integrate patient-specific information, ethical issues, and quality-of-life issues; and consider pharmacoeconomic principles.
- Design monitoring plans for pharmacotherapeutic regimens for MICU patients that effectively evaluate achievement of the patient-specific pharmacotherapeutic goals.
- Recommend for a MICU patient a pharmacotherapeutic regimen and corresponding monitoring plan to prescribers, family members, other caregivers, and, when appropriate, the patient in a way that is appropriate, systematic, and logical and secures consensus from the prescriber, family members, other caregivers and when applicable the patient.
- Accurately interpret the meaning of each monitoring parameter measurement
- Modify a MICU patient's pharmacotherapeutic plan as necessary based on the evaluation of monitoring data.
- G. Provide medication-use education to the family members and caregivers of MICU patients and, when appropriate, to the MICU patients.
  - Design appropriate medication-use education for the family members and other caregivers of the MICU patients and, when suitable for the MICU patients, that effectively meets their needs.
  - Use effective patient education techniques to counsel family members and other caregivers, and, when appropriate to MICU patients, including information on drug therapy, adverse effects, compliance, proper use, handling, and drug administration.
- H. Ensure continuity of pharmaceutical care for MICU patients in and out of the acute, long-term, and ambulatory care settings.
  - Communicate pertinent pharmacotherapeutic information for MICU patients to and from the acute, long-term, and ambulatory care settings using a systematic procedure.
- I. Participate in the management of MICU patients' medical emergencies.

- Exercise skills as a team member in the management of medical emergencies
  - Follow established protocol procedures for medical emergencies.
  - $\circ$  Explain appropriate drug therapy in medical emergencies.
- J. Provide concise, applicable, and timely responses to requests for drug information from healthcare providers and patients.
  - Accurately identify the requester's drug information need
- K. Provide in-service education to physicians, nurses, and other practitioners on issues related to MICU medications.
  - Design effective in-service education for physicians, nurses, and other practitioners on issues related to MICU patients.
  - Use effective educational techniques to deliver in-service education for physicians, nurses, and other practitioners on issues related to MICU medications.
- L. Discuss with the preceptor the following common adult ICU conditions based on actual or simulated patient cases (one or two topics/week)
  - Discussion of the following commonly used drugs: Opioids, benzodiazepine, neuromuscular blocking agents, inotropes, and vasodilators.
  - Septic shock
  - Acute respiratory distress syndrome
  - Acid-base balance and arterial blood gases/ventilatory support
  - Sedation and analgesia in the ICU
  - Delirium and agitation
  - Toxicological emergencies
  - Continuous renal replacement therapy
  - Fluid and electrolytes

## **Clinical Rotation-Specific Requirements:**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

# **APPE Hematology/Oncology Rotation**

## Goal

The rotation will allow the student to develop skills in treating hematology/oncology patients, including pharmaceutical and supportive care.

## **Rotation-Specific Learning Objectives**

Upon completion of the rotation, the student shall be able to:

A. Develop primary and alternative plans for therapeutic management of the following condition, with a sound knowledge of symptomatology, physical findings,

pathophysiology, diagnostic procedures, and laboratory tests.

- Hematologic malignancy
  - Leukemias (acute nonlymphocytic, acute lymphocytic, chronic myelogenous, chronic lymphocytic)
  - Hodgkin's disease
  - Non-Hodgkin's lymphoma
  - o Multiple myeloma
  - Solid tumors
    - Breast cancer
    - Lung cancer (small cell, non-small cell).
    - Gastric cancer.
    - Colon cancer
    - Genitourinary tract cancer (cervical, ovarian, endometrial, prostate, testicular, urinary bladder, kidney)

ALST

- B. Becoming familiar with the role of diagnostic, palliative, and curative radiation therapy and surgery in cancer management, including monitoring and managing the associated complications.
- C. Establish therapeutic and toxic endpoints of therapy.
- D. Develop a plan for supportive-terminal (hospice) care and pain control for these patients.

#### **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
<b>One</b> complete pharmacotherapy plan for a given patient by SOAP	4 Points

# **APPE Infectious Diseases Rotation**

## Goal

To prepare the student with a knowledge base and problem-solving skills relating to the treatment of infectious diseases with antimicrobial agents from a pharmaceutical care perspective

### **Rotation-Specific Learning Objectives**

Upon completion of this rotation, the student shall be able to:

- A. Plan for therapeutic management of common and severe infectious diseases with a demonstration of a solid knowledge base in the area of symptomatology, physical findings, pathophysiology, diagnostic procedures, and laboratory tests.
- B. Demonstrate a working knowledge of the spectrum of activity, pharmacokinetic principles, tissue penetration, and cost of the following antimicrobial agents:

Penicillins Monobactams Macrolides Fluoroquinolones Glycopeptides Aminoglycosides Monoclonal antibodies Cephalosporins Carbapenems Sulfonamides Metronidazole Tetracyclines Antivirals Antifungals

C. Discuss with the preceptor (individual or in group) pathophysiology and pharmacotherapy related to the following topics of infectious diseases (one or two topics/week), including but not limited to:

Antibiotic stewardship Clostridioides difficile-Infection Endocarditis HIV and opportunistic infections Meningitis Pneumonia Urinary tract infections Skin and soft tissue infection Bacteremia and line-infections Diabetic foot infections Fungal infections Intra-abdominal infections Osteomyelitis Prosthetic joint infections Clinical Microbiology

- D. Understand the underlying mechanisms of infections, including alterations in specific host defense mechanisms.
- E. Demonstrate appropriate indications and criteria for the use of restricted antimicrobial drugs.

## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

# **APPE Psychiatry Rotation**

## Goal

To prepare the student with the knowledge and skills required for recognition, diagnosis, and therapeutic planning for psychiatric disorders and monitoring the safe and effective use of psychotropic medications with a pharmaceutical care perspective.

### Rotation-specific Learning Outcomes

After successful completion of rotation, the student will be able to:

- A. Conduct a patient interview (under the preceptor's supervision), which may include a mental status exam, chief complaint, history of present illness, past medical/psychiatric history, alcohol and drug history, family history, and medication history.
- B. Assess patients (by interview, physical exam, and laboratory work-up) for the presence of psychiatric ailment, including substance abuse, addiction, noncompliance, or drug misuse.
- C. Recommend collecting laboratory data needed to develop a pharmacotherapeutic plan.
- D. Plan and Initiate, recommend and monitor the pharmacotherapy for major psychiatric disorders and recommend interventions in drug therapy based on the patient's presentation, symptoms and signs, lab data, and adverse effects.
- E. Recognize potential drug-drug interactions and recommend monitoring parameters, changes in pharmacotherapy, and alternative therapies to minimize adverse effects.
- F. Review, evaluate, and present the psychiatric, medical, and pharmaceutical literature to select medication based on the best current evidence.
- G. Provide medication education and counseling (under supervision) regarding drug therapy to psychiatric patients and their families.
- H. Respond professionally to drug Information questions after searching appropriate literature sources.
- I. Discuss with the preceptor (individual or in group) pathophysiology and pharmacotherapy related to the following topics of psychiatry diseases (one or two topics/week), including but not limited to:
  - Schizophrenia
  - Schizoaffective disorder
  - Bipolar disorder
  - Depression
  - Psychiatry in pregnancy and lactation
  - Anxiety disorders
  - Substance abuse.
  - Drug Information Resources in Psychiatry
  - Medication Management:
    - Management of Adverse Events
    - Monitoring and Dose Adjustments
    - Switching Antipsychotics
    - Long-Acting Antipsychotics
    - Stopping and Dose Titration
## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

Late portfolio submission beyond one week will result in a 5-point deduction and 10 points if submitted beyond two weeks.



## **APPE Nephrology Rotation**

#### Goal

In the nephrology rotation, the student will spend most of the time on the nephrology floor, providing care to patients with acute kidney injury, chronic kidney disease, and metabolic and electrolyte disorders. The student will have the opportunity to participate in evaluating and managing various kidney diseases in addition to patients' status post-renal transplant. Depth of exposure will be used to provide pharmaceutical care services to a patient with renal insufficiency (acute or chronic), including drug selection, pharmacokinetic consultation, and drug adjustment. This rotation will also address preventing renal disease or further renal damage.

#### Learning Outcomes

After this rotation and associated activities, the student should be able to:

#### Knowledge

- Describe the role of the clinical pharmacist and the type of pharmaceutical care services on the nephrology floor.
- Describe the pathophysiology, diagnosis, management, and pharmacotherapy of AKI, CKD, and other kidney diseases and their complications.
- Recognize indications and concepts of renal replacement therapy.
- Discuss assessment of kidney function for drug dosing.

#### Skills

- Evaluate drug therapy to make recommendations to optimize outcomes in drug selection, dose, and indications for use for assigned patients.
- Manage complications of various kidney diseases.
- Demonstrate competency in medication selection, dosing, and adjustment for patients with CKD on dialysis.
- Participate in educational activities for pharmacists, nurses, and other health care professionals.

#### Values

- Demonstrate appropriate team behaviors, relationships, and professionalism among healthcare providers.
- Respond on time to drug information inquiries utilizing evidence-based medicine.
- Demonstrate competency in medication selection, dosing, and adjustment for patients with CKD on dialysis.
- Communicate with both patients and other health care professionals effectively and appropriately.

### **Clinical Rotation Specific Requirements**

- A. Attend and participate in the daily patient care round.
- B. Follow closely with patients assigned by the preceptor and review each patient's drug therapy problems, not including pharmacology, pharmacokinetics, drug interactions, and monitoring parameters.
- C. Develop drug therapy plans for all assigned patients and present the patient to the preceptor using SOAP or progress notes.
- D. Discuss with the preceptor (individual or in group) pathophysiology and pharmacotherapy related to the following topics of nephrology (one to two topics/week), including but not limited to Drug-induced renal disease.
  - Acute Kidney injury (AKI)
  - Chronic kidney disease (CKD)
  - End-stage renal disease (ESRD)
  - Renal replacement therapy (dialysis)
  - Drug therapy individualization for patients with renal insufficiency
  - Pharmacotherapy of Glomerulonephritis (GN)
  - Pharmacotherapy of Nephrolithiasis
  - Complications of kidney disease Anemia, MBD
  - Complications of kidney disease electrolyte disturbance and volume overload
  - Complications of kidney disease Hypertension
  - Diabetic Nephropathy
  - Complications of kidney disease Acid-base disorders
- E. Attend the weekly clinical pharmacy ground round and residents' half-day activities.
- F. Attend the nephrology meeting/committee after getting permission from the preceptor.
- G. Submit the following requirements within a week after the end of the rotation after the preceptor's signature. They will be graded as part of the student's portfolio.

#### **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

Late portfolio submission beyond one week will result in a 5-point deduction and 10 points if submitted beyond two weeks.

## **APPE Drug Information Rotation**

#### Goal

The intern will be trained to properly receive information requests, conduct a systematic information search, and prepare an appropriate response form. To develop a working knowledge of information resources and to critically evaluate these resources. To expose the intern to the process of evaluation of drugs for formulary inclusion, news publications, and Pharmacy and Therapeutics Committee support.

#### **Rotation-Specific Learning Outcomes**

Upon successful completion of the rotation, you will be able to:

- A. Describe the organization and responsibilities of the Drug Information Centers.
- B. Demonstrate an efficient approach to process Drug Information requests by being able to:
  - Receiving questions and appropriate background information can help assess the information needs of other healthcare professionals or patients.
  - Research and retrieve evidence-based information via the use of available resources.
  - Interpret and evaluate information as demonstrated by question response preparation, journal club, or other methods.
  - Transmit information to requesters appropriately (oral, print, or written).
  - Document Drug Information requests and responses.
- C. Identify adverse drug events and medication errors in various practice settings and document them for reporting.
- D. Complete formulary monograph/s or other written project/s.
- E. Understand the creation, maintenance, and management of medication formulary.
- F. Discuss ethical issues involved in the operations of a Drug Information Service.
- G. Write well-structured and properly cited case reports.

#### Desired Activities (under the supervision of the College preceptor)

#### 1. Group Discussions

Topics to be covered:

- 1. Introduction to Drug Information services and the pharmacist's role in providing them.
- 2. Basics for providing Drug Information consultations service.
- 3. Refresher for main topics studied in Drug Information Services course (#2030413)
  - a. The use of different Drug Information resources and how to formulate a focused question.
  - b. Evaluation of clinical studies, websites, and guidelines
  - c. Journal club activities
- 4. Basics Biostatistics and Introductory to SPSS
- 5. Basics pharmacy communication skills
- 6. Introductory to medical writing and citation
- 7. Case analysis overview (SOAP concept)
- 8. Detecting and reporting medication errors and Adverse drug reactions
- 9. Writing a case report
- 10. Drug formulary management and P&T committee role
- 11. Ethical Aspects of Drug Information Practice

#### 2. Rotation Specific Activities

- 1. Providing Drug Information consultations.
- 2. Starting from week two, this will be their main daily activity and one of the highest priorities.
- 3. Making different assignments requested by the preceptor.
- 4. Drug Information response presentation (Once)
- 5. The intern will present one of the DI requests they answered in a group session.
- 6. Pharmacy Meeting Report, whenever available.
- 7. Adverse Drug Event/Medication Error Reports (As assigned by preceptor)
- 8. Formulary Drug Monograph or Class Review.
- 9. Journal Club (Twice)
- 10. Select topics related to pharmacy practice fields not discussed in other rotations. For example, those associated with the role of clinical pharmacists in patient safety, patient education, healthcare practitioner education, etc.
- 11. The first journal club will be exclusive to the rotation, and the second journal club will be presented in the interns' daily meetings.
- 12. Studies should be selected and approved by the start of week 2.
- 13. Case presentation (At least once)
- 14. Write a report on DIC activities practiced during the whole rotation.
- 15. Writing a daily report for attended interns' meetings with the cons and pros of each presentation.
- 16. Attend meetings and participate in activities of hospital committees related to pharmacy practice (If Available).

#### 3. Group Projects

- 1. Preparing a list of Drug Information resources needed to establish DIC at the rotation site.
- 2. Preparing Drug Information request documentation form to be used at the DIC of the rotation site.
- 3. Practice Guidelines Review Presentation
- 4. Preparing and presenting a project that provides a solution for a problem that exists in the intern's training settings.
- 5. Problems could be detected during previous rotations or by discussing the intern's colleagues in other rotations. The solution could be any DI service, such as preparing patient/nurse/physician education materials, guidelines, etc.
- 6. If the project is patient-oriented, prepare the project end product in both English and Arabic.

#### **APPE Pharmaceutical Companies Rotation**

27....

#### Description

This rotation will occur in the Pharmaceutical company's scientific and administrative sections. The student will be allowed to explore new areas for pharmacists in the drug market, emphasizing communication, analytical, and marketing skills. The student will work with the pharmacist in different sections: sales, regulatory affairs, quality, pharmacovigilance, and medical and supply chain. The preceptors will facilitate the student learning through engagement in all the above sections. In addition, the student may be required to join the preceptors in visiting institutions/agents outside the company premises; hence, the student should arrange all transportation during this rotation. Since this rotation is conducted in an outside facility, the student is expected to show high professionalism, commitment, self-guidance, and obedience to the facility's policy and procedure.

#### Learning Outcomes

After this rotation and associated activities, the student should be able to:

#### Knowledge

- Describe the different functional departments in a pharmaceutical company's structure: regulatory affairs, Commercializing (sales/marketing), and drug safety (pharmacovigilance).
- Describe the importance and the function of Contract Research Organizations (CROs) in the pharmaceutical industry.
- Identify the available opportunities for pharmacists' employment in different functional departments in the pharmaceutical company.
- Discuss the SFDA regulations for the drug approval process and promotional advertising.
- Discuss the role and responsibility of the pharmacist in each department. (PLO 1.4).
- Discuss the pharmacist's role in drug discovery, approval, and the clinical drug development paradigm.

#### Skills

• Present a clinical study summary to colleagues and site staff.

#### Values

- Participate in clinical, pharmacokinetics, and commercializing analysis outcomes.
- Demonstrate ethical and professional attitudes when dealing with colleagues and training site staff.
- Apply knowledge for analyzing pharmacovigilance drug data.
- Evaluate clinical drug protocol and drug report.
- Communicate professionally with colleagues and different department teams.

#### Pharmaceutical Company Rotation Specific Requirements

Attend all assigned company and interdisciplinary meetings/committees related to this rotation

<u>Submit a detailed weekly report</u> (>1500 words) after the preceptor's 4x10=40 points signature, describing your experience and involve the following:

- Area/section of experience
- Section responsibility
- Role of people working in each section
- Scientific/regulatory bases guide this section's activities.
- Your role and participation
- Give examples of your engagement

Late portfolio submission beyond one week will result in a 5-point deduction and 10 points if submitted beyond two weeks.

### **APPE Academia Rotation**

#### Goal

The primary goal of this elective experience in academia is to allow the student to observe and participate in activities consistent with a full-time faculty appointment. Through several educational activities, the student will observe the faculty's roles and responsibilities. In this experience, the students can participate in classroom teaching, course design and assessment, MCQ writing, academic quality assurance, and committees.

#### Learning Outcomes

After this rotation and associated activities, the student should be able to:

#### Knowledge

- Describe the role and responsibilities of a faculty member.
- Describe education, research, administration, and quality improvement principles of pharmacy education.

#### Skills

- Scientific and professional literature, in addition to evidence-based medicine, should be used to prepare teaching materials, assessments, and research.
- Use proper research methodology, reference, and data management software in research.
- Present the teaching materials effectively to students using appropriate terminology, skills, software, and technological aids.

#### Values

- Demonstrate leadership and acceptance of responsibility in all assigned academic activities.
- Take responsibility for independent learning and reflections on experiences to maintain competence and adapt to changes in the profession.
- Communicate clearly and efficiently with students, staff, faculty members, and administrative and supportive personnel in the college.
- Demonstrate empathy, professional and respectful attitude, ethical behavior, and legal judgment in the college.
- Demonstrate a collaborative attitude with teaching staff and administrative and supportive personnel in the college.

#### **Academia Rotation Specific Requirements**

<b><u>Two</u></b> in-class lecture preparation and presentation (submit a copy)	10 points (5x2)
Two reports of committee attended	10 points (5x2)
One essay (1000 - 1500 words) regarding quality in academia	10 points
One report (1000 - 1500 words) explaining your activities and involvements	10 points

Late portfolio submission beyond one week will result in a 5-point deduction and 10 points if submitted beyond two weeks.

#### **APPE Pharmacy Digital Health/Informatics Rotation**

#### **Rotation Description**

The Pharmacy Digital Health and Informatics rotation will assist pharmacy students in gaining the necessary knowledge and skills for understanding, utilizing, and optimizing digital health technologies. This includes proficiency in recognizing digital health applications, formulating therapeutic plans for effective digital interventions, and ensuring safe and efficient utilization of digital health tools within clinical pharmacy care settings. The student will learn to utilize the Konstanz Information Miner (KNIME), a free and open-source data analytics, reporting, and integration platform. This tool will enable students to develop and create pharmacy-related applications designed to address challenges faced by healthcare providers. The emphasis will be on harnessing KNIME's capabilities for efficient data analysis, visualization, and reporting, empowering students to contribute innovative solutions within the healthcare informatics landscape. Furthermore, students will gain hands-on experience in leveraging KNIME's functionalities to enhance decision-making processes and optimize the utilization of digital health technologies in pharmaceutical care settings. Additionally, students will gain insight into monitoring patient outcomes and promoting the responsible and ethical use of digital health solutions in various healthcare settings.

Moreover, this rotation is structured to acquaint students with fundamental principles employed in hospitals and health systems for enhancing pharmacy informatics, automation, and health information technology. This rotation will familiarize students with informatics terminology, essential principles, tools, and available resources. Students will enhance their practical knowledge and experiences in informatics concepts by engaging in various activities. The rotation is designed to empower students to apply their acquired knowledge in any pharmacy practice setting, facilitating the enhancement of technology utilized to deliver patient care.

**Target Students:** Any student interested in digital health and continuing in digital health, pharmacy informatics, or health informatics. The ideal student will be looking to join an informatics field, a startup, or create a startup.

#### **Rotation-Specific Learning Outcomes**

Upon successful completion of the rotation, you will be able to:

- 1. Utilize the KNIME platform programming to develop and construct pharmacy-related applications that address challenges clinical providers face in their daily work within a digital health context.
- 2. Demonstrate proficiency in understanding, utilizing, and optimizing digital health technologies, including the ability to recognize digital health applications.
- 3. Gain insight into monitoring patient outcomes using digital health solutions and promote the responsible and ethical use of these technologies in various healthcare settings.
- 4. Demonstrate comprehension of fundamental pharmacy digital health and informatics principles, standards, and best practices.
- 5. Provide an overview of presently accessible automated technologies for order processing, secure and efficient medication distribution, dispensing, administration, documentation of medication administration, electronic surveillance systems for effects monitoring, pharmacy inventory management systems, and emerging technology and automation systems aiding the medication-use system.

- 6. Understand the essential steps for implementing new pharmacy technology and a medication-use system.
- 7. Outline the process of extracting, aggregating, analyzing, and interpreting data from clinical information systems to enhance patient outcomes.
- 8. Elaborate on the principles of decision support applicable to healthcare providers making direct patient-care decisions and their impact on medication safety.
- 9. Discuss the interconnection between informatics, technology, and patient safety throughout the medication use process.
- 10. Illustrate the flow of orders within the health system, identifying potential points of failure and showcasing how technology can augment patient safety. Observe the workflow of central and decentralized pharmacy operations concerning technology and informatics, demonstrating proficiency in utilizing automation for dispensing medication safely.
- 11. Explain security measures and patient protection, including access control, data security, data encryption, privacy regulations, and ethical and legal considerations associated with using information technology in pharmacy practice.
- 12. Applying informatics principles, standards, and optimal practices, assess and identify opportunities to enhance operational efficiencies, better serve patients, and meet the needs of health professionals.

#### **Rotation Desired Activities**

1. Desired ActiviKNIME-based data analytics workflows.

#### Preparations:

- a. Create and familiarize students with the Google Doc-based lab notebook.
- b. Download KNIME
- c. Watch the following KNIME videos.
- d. Attempt the following KNIME-based challenges.
- e. Complete the KNIME certification L1-L4
  - i. https://www.knime.com/certification-program
  - ii. <u>https://www.knime.com/knime-courses</u>
- 2. Watch at least one of the following videos and discuss impressions with the preceptor:
  - a. What is digital health?
  - b. Digital Health Solutions and Their Place in Pharmacy Practice
  - c. ASHP: What is Pharmacy Informatics
  - b. Overview of Safety Recommendations for Medication Management Technology i. Write a reflection after watching each video.
- 3. Complete orientation to the organization's pharmacy operations and clinical activities. The students will have multiple visits to the hospital (e.g., 2-3 times/week) to be familiar with the pharmacy operations and observe clinical pharmacists in the following activities:
- 4. **Digital Health Technologies:** Pharmacy informatics utilizes various digital health technologies, such as electronic health records (EHRs), computerized provider order entry (CPOE) systems, and pharmacy management systems, to streamline communication and information exchange among healthcare professionals.
- 5. Medication Management Systems use technology to manage medication-related processes, including prescribing, dispensing, administration, and monitoring. Automated dispensing systems, barcode medication administration, and medication reconciliation tools are examples of technologies used in medication management.

- 6. **Clinical Decision Support Systems:** Pharmacy informatics incorporates systems that provide real-time clinical decision support to healthcare providers. These systems help identify potential drug interactions, suggest appropriate dosages, and offer evidence-based recommendations for medication therapy.
- 7. **Data Analytics:** Analyzing large datasets is a crucial aspect of pharmacy informatics. Data analytics tools help extract meaningful insights from patient records, medication histories, and other healthcare data sources. This information can improve medication safety, adherence, and overall patient care.
- 8. **Telepharmacy:** With the advancement of telehealth, pharmacy informatics may also involve the remote provision of pharmacy services, including medication counseling and monitoring, through virtual platforms.
- 9. Interoperability is the exchange of information between different healthcare systems. Pharmacy informatics professionals work to establish interoperability standards that facilitate communication between pharmacy systems and other components of the healthcare ecosystem.
- 10. The student will provide a written summary of daily activities that should include (at a minimum) answers to the following questions:
  - a. Describe differences noticed between the organization's practice and practices you have been exposed to previously.
  - b. Describe similarities between the organization's practice and practices you have been exposed to previously.
  - c. Describe unsafe/risky technology practices you witnessed during periods of observation.
  - d. Describe safe technology practices you witnessed during periods of observation.
  - e. Suggest process improvements to improve health system informatics and automated technology.
- 11. Explore Computerized Prescriber Order Entry (CPOE) systems for electronic medication ordering integrated with electronic health records (EHRs), pharmacy information systems, and clinical decision support tools that bring best practice information and guidelines to clinicians at the time it is needed and rules-based systems for monitoring, evaluating, responding, and reconciling medication-related events and information.
- 12. Complete a pharmacy digital health or informatics-related journal article review and journal club presentation during rotation.
- 13. Review pharmacy digital health and informatics resources:
  - a. Digital Health Pharmacy Practice; ASHP
  - b. Data Science Solutions for Digital Healthcare
  - c. Agency for Healthcare Research and Quality (AHRQ)
  - d. American Medical Informatics Association (AMIA)
  - e. American Society of Health-System Pharmacists (ASHP)
  - f. Healthcare Information and Management Systems Society (HIMSS)
- 14. Expose the student to the following activities from pharmacists, nurses, and IT staff perspective: medication administration, smart pump programming, documentation on (electronic) medication administration records (MAR), use of and issues associated with automated dispensing cabinets (ADCs,) and bar code at the point of care (BPOC). The student should note safe practices, unsafe practices, teamwork and communication issues, workflow issues (e.g., distractions and interruptions, missing medications), and opportunities for a pharmacy to help improve safety. The student should provide a written summary of the experience and present it to the pharmacy staff.

- 15. Read the necessary/assigned materials and be prepared to discuss them with the preceptor during topic discussions. Prepare and lead at least one topic discussion on a relevant pharmacy digital health and informatics topic.
- 16. Participate in training sessions with other department staff.
- 17. Complete other activities as assigned by the preceptor.

Preceptors must schedule dedicated time for discussing various topics with the student, ensuring that background readings are provided whenever available (some suggested readings are listed with topics in this section). The student must actively lead a discussion on at least one topic towards the conclusion of the rotation.

#### Projects

The student is required to develop a digital health application using KNIME and undertake one longitudinal informatics project as part of the APPE rotation. The project selection should be made collaboratively between the preceptor and the student within the first week of the rotation. Subsequently, the student must present their project to the College of Clinical Pharmacy faculty for evaluation and discussion. This presentation is a valuable opportunity for students to showcase their work, share insights gained, and engage with the academic community in their applied informatics endeavors.

#### **Evaluation Process for APPE Rotation**

#### 1. Goal and Objective Achievement:

The preceptor will assess the student's performance based on the predefined goals and objectives set for the rotation. This evaluation will consider the student's understanding, application, and integration of pharmacy digital health and informatics concepts into pharmacists' roles in hospital and community pharmacy.

#### 2. Personal Goals Assessment:

Students are encouraged to share specific personal goals for the rotation. The preceptor will evaluate the student's efforts and achievements in aligning with and working towards these individual objectives.

#### 3. Daily Discussions and Engagement:

The student's participation in daily discussions with the preceptor regarding pharmacy digital health and information, automated technology, and relevant topics will be assessed. This evaluation includes the depth of understanding, critical thinking, and the ability to apply learned concepts.

#### 4. Mid-Point Evaluation:

A mid-point evaluation, conducted orally, will serve as a checkpoint to assess the student's progress, identify strengths, and address any areas requiring improvement. Feedback during this evaluation aims to guide the student toward achieving optimal performance by the end of the rotation.

#### 5. Final Written Evaluation:

After the rotation, the preceptor and the student will collaboratively complete a final written evaluation. This evaluation will follow the criteria established by the school of pharmacy and provide a comprehensive overview of the student's overall performance, achievements, and areas for continued growth.

### Saudi Food and Drug Authority (SFDA)

#### Goal

In the pharmacovigilance rotation, the student will spend most of the time on the executive directorate of pharmacovigilance, where the student will learn about the journey of adverse drug reactions and signal management. In addition, the student will learn about drug and cosmetics quality reports, medication errors, pharmacovigilance inspections, drug safety, and risk management. The students will be distributed in tracks, and their training will be customized accordingly. The student will be able to participate in the detection, prioritization, validation, evaluation, and management of drug safety signals and adverse drug reactions. In addition, the students will receive training on conducting literature reviews and critical appraisal of interventional and observational studies. Moreover, they will learn about individual case safety reports (ICSRs), medication errors, cosmetovigilance, drug quality reports, drug recalls, ADR causality assessment, routine and additional risk minimization measures (RMMs), and periodic benefit-risk evaluation reports (PBRER).

#### Learning Outcomes

After this rotation and associated activities, the student should be able to:

• Define the role of pharmacists and clinical pharmacists in pharmacovigilance and cosmetovigilance.

DIETT

- Define ICSRs, ADR, Adverse Event (AE), causal association, and other relevant terms.
- Identify vital regulatory documents in the postmarketing setting (PBRER, pharmacovigilance system master file, Risk management Plan, and other relevant documents).
- Recognize steps of signal management.
- Ability to analyze ICSRs and quality reports.
- Ability to conduct a literature review and appraise interventional and observational studies.
- The ability to perform causality assessment for prespecified drug safety signals.
- Retrieve critical safety and quality actions taken by reference regulatory authorities, including SFDA.
- Differentiate between routine and additional RMMs.
- Identify types of medication errors from a regulatory perspective.
- Evaluate proposed proprietary names to avoid or minimize the likelihood of look-alike and sound-alike medication errors.
- Review the proposed product design, label, and outer package to minimize the likelihood of look-alike and sound-alike medication errors.
- Identify types of quality defects.
- Ability to evaluate and monitor the ADRs associated with cosmetics use.
- Evaluate cosmetic labeling claims and ingredient safety.
- Ability to list inspection documents and identify relevant gaps in the inspected system.
- Review part of the inspection file's specific requirements.
- Attend and participate in daily discussions.
- Complete daily and weekly assignments as required.
- In some instances, a topic review or critical appraisal may be required.

### **SFDA Rotation Specific Requirements**

Screen safety update from stringent regulatory authorities10 poirConduct literature review on a potential signal with a specific drug20 poirApply Bradford Hill criteria for a potential signal with specific drug and20 poirprolife summary of causal association20 poir

10 points (1) 20 points (10 x 2) 20 points (10 x 2)



### **APPE Ambulatory Care Rotation**

The general goals and objectives for the Ambulatory Care Rotation are discussed below. Depending on patient load, types of patients encountered, and rotation length, all goals and objectives may not be addressed at every training slot. Learning strategies to meet the goals and objectives are simply suggestions, and the preceptor may modify them to meet the individual student's needs.

#### **General Goals**

- 1. Appreciate common medications used in primary care.
- 2. Understand the common diseases encountered in primary care.
- 3. Understand the use of drug information resources.
- 4. Understand the need for a complete patient database.
- 5. Appreciate appropriate physical assessment techniques.
- 6. Understand the history-taking process.
- 7. Appreciate the importance of patient education.
- 8. Become an effective communicator on the health care team.
- 9. Appreciate the importance of drug-related problems.
- 10. Solve drug-related problems.
- 11. Appreciate the importance of outcomes monitoring.
- 12. Understand the pharmacist's role in collaborative drug therapy management (CDTM).

#### **Rotation-Specific Learning Objectives**

#### A. Appreciate the common medications used in primary care.

By the end of the rotation, students will be able to do the following for medications commonly used in primary care:

1. Identify the drug class.

- 2. List indications for use.
- 3. Describe the mechanism of action.
- 4. Describe potential adverse drug events.
- 5. Identify the potential time course for adverse drug events.
- 6. List monitoring parameters for therapeutic efficacy.
- 7. List monitoring parameters for potential adverse drug events.
- 8. Identify potential drug-drug interactions.
- 9. Identify drug-disease interactions.
- 10. Evaluate cost-effectiveness compared to other therapeutic options.
- 11. List contraindications for use.
- 12. Identify pregnancy category.

#### B. Understand the common diseases encountered in primary care.

By the end of the rotation, students will be able to do the following for diseases commonly used in primary care:

- 1. Describe the epidemiology of the disease.
- 2. Discuss the pathophysiology of the disease.
- 3. List the negative outcomes of the disease.
- 4. Discuss the impact of the disease on the patient and the healthcare system.
- 5. Describe strategies to prevent the disease.
- 6. Discuss non-pharmacological strategies to treat the disease.

- 7. Outline a treatment algorithm for managing the disease.
- 8. Apply clinical practice guidelines to the care of patients.

#### C. Understand the use of drug information resources.

By the end of the rotation, a student will be able to:

- 1. Identify a patient-specific question.
- 2. List appropriate resources for answering a question.
- 3. Develop a search strategy for answering a question.
- 4. Apply the evidence-based medicine (EBM) approach to a specific patient.
- 5. Critically evaluate literature to determine the strengths and weaknesses of a study.
- 6. Provide answers in a timely fashion.

#### D. Understand the need for a complete patient database.

By the end of the rotation, the student will be able to:

- a. Organize the appropriate information for a pharmacist workup of drug therapy (PWDT) from the patient or the medical record:
  - 1. Demographic data of patient
  - 2. Chief complaint
  - 3. History of present illness
  - 4. Past medical history
  - 5. Family history
  - 6. Social history
  - 7. Current medications
  - 8. Past medications
  - 9. Vital signs
  - 10. Review of systems
  - 11. Pertinent positives of the physical examination
  - 12. Pertinent negatives of the physical examination
  - 13. Laboratory results
- b. Perform blood pressure measures accurately.
- c. Perform heart rate measurement accurately.
- d. Perform respiration rate measurement accurately.
- e. Other, e.g., peak flow and glucose monitoring.

#### E. Appreciate the importance of effective communication with patients and the health care team.

By the end of the rotation, the student will be able to:

- a. Provide patient education at the appropriate level for the individual patient.
- b. Identify and address the patient's specific needs and questions.
- c. Provide the correct information to patients.
- d. Ask patients to verbalize understanding.
- e. Demonstrate appropriate nonverbal mannerisms with patients.
- f. Discuss the role of the pharmacist in patient education.
- g. Demonstrate the appropriate use of devices (peak flow meters, glucometers, etc.)
- h. Describe the appropriate use of medications.
- i. Discuss the rationale for treating a disease.
- j. Provide written instructions to reinforce essential points.
- k. Present recommendations to providers in a manner that are:

- Clear
- Organized
- Evidence-based
- Patient-specific
- f. Discuss patient-specific options with the team members.
- g. Describe the evidence for recommendations and decisions.
- h. Document interventions and follow-ups appropriately in the chart using SOAP or FARM.

#### F. Appreciate the importance of drug-related problems.

By the end of the rotation, the student will be able to:

- A. Discuss the impact of drug-related problems on the patient and the healthcare system.
- B. Identify drug-related problems, including:
  - 1. Non-adherence
  - 2. Incorrect dose
  - 3. Incorrect schedule
  - 4. Adverse drug event
  - 5. Drug-drug interaction
  - 6. Drug-disease interaction
  - 7. Therapeutic failure
  - 8. Therapeutic duplication
  - 9. Ineffective medication
  - 10. Not cost-effective
- C. List additional information necessary to assess drug-related problems further.
- D. Prioritize drug-related problems.
- E. Describe the etiology of a specific drug-related problem.
- F. Develop a plan for solving drug-related problems for a specific patient.
- G. List alternative therapies for treatment.
- H. List patient factors that aid in therapy selection.
- I. Describe the evidence that supports the therapeutic plan.

#### G. Appreciate the importance of outcomes monitoring.

- 1. Identify monitoring parameters for therapeutic efficacy in a specific patient.
- 2. Identify monitoring parameters for adverse drug events in a specific patient.
- 3. Develop a therapeutic plan for monitoring drug therapy.
- 4. Describe the frequency of outcomes monitoring.
- 5. Manage drug therapy.

#### H. Understand the pharmacist's role in Collaborative Drug Therapy Management (CDTM).

By the end of the rotation, the student will be able to:

- A. Define CDTM.
- B. Discuss the role of the Clinical Pharmacist Practitioner.
- C. Describe the benefits of pharmaceutical care.
- D. List types of patients that benefit from CDTM.

## **Clinical Rotation Specific Requirements**

One journal club presentation/discussion	8 points
One topic/case presentation (15-20 minutes)	8 points
Six documented therapeutic interventions	12 points (6 x 2)
Four written drug information responses	8 points (4 x 2)
One complete pharmacotherapy plan for a given patient by SOAP	4 Points

Late portfolio submission beyond one week will result in a 5-point deduction and 10 points if submitted beyond two weeks.

## **Guidelines and Assessment Forms**

1. Rotation Activity Log Form 43 2. Patient Profile Form 44 3. SOAP evaluation form 47 4. Data Collection Sheets 48 5. Patient Counseling Form 50 6. Guidelines for Journal Club 51 7. Journal Club Evaluation Form 53 8. End of Rotation Assessment Form 54 9. Mid-Point Evaluation Form 61 10. OSCE evaluation Form 62 11. Project Poster Evaluation Form 63 12. Project Presentation Evaluation Form 64 13. Evaluation of Preceptor and Site Form 66

## **APPE Rotation Activity Log**

Must be submitted to the College within one week of the end of each Rotation

### Student Name: \_\_\_\_\_\_ University ID: \_\_\_\_\_

Rotation: \_\_\_\_\_\_ Rotation site: \_\_\_\_\_\_

Students should complete the following proforma for each rotation, get it signed, and submit it to the College one week before the end of the rotation. Proforma may be downloaded from the college website/WebCT.

SN	Task	Week 1	Week 2	Week 3	Week 4
1	Attending the round and Morning meetings			_61277	
2	Reviewing patient charts			5	
3	Interviewing/counseling patients		5-1	1.	
4	Arrange writing for discharge medications. (or participate)	120	215	<u> </u>	
5	Case presentation				
6	Journal Club				
7	Observing procedures				
8	Any additional activity assigned by the preceptor				

<b>Preceptor Name and Signature</b>	:	Date:	
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## **Patient Profile Form**

Student's Name:	University ID:
Patient's Profile:	
Name: Gender:	Admission Date:
Weight: Height: Allergies	<u> </u>
HPI (History of Present illness)	
Chief complaints with duration (for which the patient atter (Please give a little detail of each)	nded/was admitted to the hospital):
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
	- e <b>/</b>
	<u>/ / / / / / / / / / / / / / / / / / / </u>
<b>Past Medical History</b> (Brief; any significant disease in the pa	ist):
a la la	
	<u> </u>
<b>Social History:</b> Write about the patient's job, habits, living al smoking, and if yes, how many. Also, write about any hobbie	lone or with family, any family problems, es, like playing something.
<b>Family History:</b> Same or similar disease, or any other chron brother, sister (blood relations) (notably, Diabetes, Ischem Tuberculosis, etc.)	nic disease in the family: father, mother, nic heart Disease, Hypertension, Stroke,

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doses, and durations	ling home medications and self-medications): Trade names with generic names s, whether taken regularly or not.
ROS/PE (Review of	Systems/Physical Examination): (You may consult the resident for findings)
	e: conscious, alert, orientea, looks healthy or sick, pale, cyanosea, etc.
Temperature:	Pulse rate:
r.	
Anemia:	Jaundice: Cyanosis: Edema: Ascites:
Any significant clinic	cal finding in any system: (please consult the resident on duty)
Any significant clinic • HEENT (head	cal finding in any system: (please consult the resident on duty)
<ul> <li>Any significant clinic</li> <li>HEENT (head</li> <li>Skin:</li> </ul>	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
Any significant clinic HEENT (head Skin: Lungs:	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
Any significant clini HEENT (head Skin: Lungs: Heart:	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
Any significant clini HEENT (head Skin: Lungs: Heart: Abdomen:	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
Any significant clini HEENT (head Skin: Lungs: Heart: Abdomen: Extremities:	cal finding in any system: (please consult the resident on duty)
Any significant clinit HEENT (head Skin: Lungs: Heart: Abdomen: Extremities:	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
Any significant clini HEENT (head Skin: Lungs: Heart: Abdomen: Extremities: . Neurological	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat):
<ul> <li>Any significant clinit</li> <li>HEENT (head</li> <li>Skin:</li> <li>Lungs:</li> <li>Lungs:</li> <li>Heart:</li> <li>Abdomen:</li> <li>Extremities:</li> <li>Neurological</li> <li>Lab Tests (With normality)</li> </ul>	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat): I, ear, eyes, nose, throat, eyes, nose, throat, eyes, nose, throat, eyes, eyes, nose, the table for follow-up lab results) I, ear, eyes, nose, throat, eyes, eyes, nose, the table for follow-up lab results)
<ul> <li>Any significant clinit</li> <li>HEENT (head</li> <li>Skin:</li> <li>Lungs:</li> <li>Lungs:</li> <li>Heart:</li> <li>Abdomen:</li> <li>Extremities:</li> <li>Neurological</li> <li>Lab Tests (With normality)</li> </ul>	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat): I, ear, eyes, nose, throat, eyes, the table for follow-up lab results) I, ear, eyes, eyes, nose, throat, eyes, eyes
<ul> <li>Any significant clinit</li> <li>HEENT (head</li> <li>Skin:</li> <li>Lungs:</li> <li>Lungs:</li> <li>Heart:</li> <li>Abdomen:</li> <li>Extremities:</li> <li>Neurological</li> <li>Lab Tests (With normality)</li> </ul>	cal finding in any system: (please consult the resident on duty) I, ear, eyes, nose, throat): I, ear, eyes, nose, throat, I, ear, eyes, nose, the table for follow-up lab results) I, ear, eyes, the table for follow-up lab results) I, ear, eyes, eyes, the table for follow-up lab results) I, ear, eyes, eyes, the table for follow-up lab results) I, ear, eyes,

- 1. Subjective
- 2. Objective
- 3. Assessment
- 4. Plan

## **Case/SOAP Presentation Evaluation**

Training Site: ......

Student Name: ...... Date: ...... University ID: ...... Date: ......

Presentation Title:

Statement	5	4	3	2	1
The presentation was clear and organized.		2			
All pertinent history (CC, HPI, PMH, FH) was accurately presented.	2				
All pertinent physical findings were presented accurately		A15	17		
All pertinent labs were presented accurately	20 <sup>12</sup> 10				
All pertinent problems were correctly identified	/.	1	j.		
The assessment was appropriate for the level of training		R	6		
Plan (diagnostic, therapeutic, education) was appropriate for the level of training		/			
SOAP was well-written and presented	2				
Response to the questions					
Overall evaluation of the presentation					

Total out of 50=.....X.....X

%: X..... x 2: .....%

#### Comments:

Evaluator Name:	Signature:	Date:
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## Patients' Counseling Form

## **Counseling Session Information**

rength, and dosage fo	orm:		
Sex:	Height:	Weight:	
10	Jung		
1.97	M		
	rength, and dosage fo	rength, and dosage form:          Sex:       Height:	rength, and dosage form:           Sex:         Height:         Weight:

**Counseling Documentation** – *Please answer all questions thoroughly and in writing.* Do not put check marks in the boxes.

Questions	Answers
Did you identify the patient and yourself?	BIETT
Did you explain the purpose of counseling?	
Did you name and show the medication to the patient, verifying that the prescription was filled correctly?	1.2
Question: What did the prescriber tell you the medication is for?	in the second seco
Question: How did the prescriber tell you to use the medication?	Jue Carl
What route, how much, how often, and when? Taken with or without food?	
Duration of therapy?	
What do you do if a dose is missed?	
Other instructions?	
Question: What did the prescriber tell you to	
expect?	
Therapeutic effects?	
Potential side/adverse effects?	
Precautions?	
Final Verification: Just to be sure I did not leave	
anything out, please tell me how you are going to	
take your medication.	
Question: What are some questions you might	
have related to your drug therapy?	

Student Name: ...... Date: .....

## **Guidelines for Journal Club**

#### **Important Instructions**

- 1. Select an article with clinical Applicability.
- 2. Organize the presentation.
- 3. Sequential presentation put yourself in the shoes of the investigator.
- 4. Be familiar with related trials and methods of measurement.
- 5. Work with the preceptor to determine if you should prepare a handout.

#### **Evaluation Criteria**

- 1. The Journal
  - a. Discuss the journal.
  - b. Affiliation with a professional society or organization
  - c. Impact factor Journal Citation Reports
- 2. The Article
  - Discuss general aspects of the article.

#### A. General Comments

- Author expertise and qualifications
- Financial support independent vs. industry
- Other conflicts of interest
- B. Title
  - Descriptive
  - Reflects objectives.

#### C. Abstract

• Objectives, methods, results, conclusions -not just favorable findings

#### D. Introduction

- Discuss the background, study rationale, purpose, and objectives.
  - Study rationale
    - Logical
    - Sufficient detail on study background
  - Study purpose and objectives
    - Clear
    - Unbiased
    - Logical

#### E. Methods

- Discuss the study methods step-by-step (as written in the article)
  - Methods
    - Logical
    - Sufficient details
    - Contemporary or outdated methods
    - References to standard methods or descriptions of modified methods
  - Patient selection methods
    - Inclusion and exclusion criteria logical, all-inclusive
  - Study design
    - Supports objectives.

- Study location single center vs. multicenter
- Appropriate controls were used.
  - Placebo
  - Gold-standard treatment
- Blinding (e.g., placebo)
  - Single-blind vs. double-blind
- Randomization procedure used.
- Proper doses and duration of therapy
- Sufficient follow-up
- Adherence assessment (e.g., pill counts, diaries, blood levels)
- Methods to assess adverse reactions.
- Was the study ethical?
- What were the study endpoints or outcomes?

#### F. Statistical Tests

- Discuss the statistical methods used.
  - What was the sample size?
  - How determined what change or difference (%) were they looking for?
    - What statistical tests were used?

#### G. Results

- Discuss the study results.
  - Review the patient demographics.
  - Did they enroll the desired types of patients according to inclusion/exclusion criteria?
  - Are the patients representative of the population you may be treating (e.g., can you extrapolate these results to your patients?)?
  - Patient withdrawal description
    - Adverse effect on sample size
    - Intention to treat.
  - Describe all results listed.
    - Are all the study measurements reported?
    - Logical, unbiased interpretations
    - Check graphic representations closely.

#### H. Discussion

- Objectives met; If not, why?
- Results put into perspective the available information.
- Adequate data interpretation
- Conclusions supported by data.
- Do authors try to extrapolate results to other populations?
- Study limitations should be discussed.
  - Clinical Applicability of the Results

## **Journal Club Evaluation**

Training Site:	Rotation:	Date:
Student Name:	Uni	versity ID:
Study Title:		

Statement	5	4	3	2	1
The student described the study objective and hypothesis.	-	2			
The student explained the study design.		1	575		
The student explains statistical tests and the result.					
Identify potential bias		1			
Determine study strengths and weaknesses.	1	137			
State the study's conclusion.	1)-	1			
Identify recent trials related to the study	20	1			
Evaluate external and internal validity for clinical					
Applicability of study results					
Ability to handle questions with appropriate depth of knowledge					
Presentation skills and time management					

#### Comments:


Name: ..... Date: ..... Date: .....

## **APPE Rotation Evaluation – Clinical Rotations**

Student's Name:
University ID:
Rotation Site:
Rotation Period with Dates:
Name of Preceptor:

#### **General Instructions for Preceptors**

Preceptors need to conduct a mid-point evaluation midway through the rotation. The final evaluation rotation is typically during the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During midpoint evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

#### Mailing Address:

College of Clinical Pharmacy King Faisal University B.O. Box 400 Al-Ahsa, KSA 31982 Attention: Department of Pharmacy Practice

## Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, and/or attitudes. It requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently and displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the receptor.	The student meets expectations consistently: and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and displays knowledge, skills, and or attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. Does not require any guidance from the preceptor.

Criteria for Evaluation	Mid Score	Final Score
Knowledge and Skills		
Appropriately identifies real disease states and potential drug therapy problems.		
Describes pathophysiology, clinical presentation, appropriate therapies, monitoring, and complications for each patient's problem and other various disease states.		
Demonstrates a working knowledge of drug classes, mechanism of action, common adverse effects, drug-drug interactions, drug-disease interactions, pharmacokinetics, and identifies optimal variables for monitoring patient's drug therapy.		
Collects and analyzes patient data such as medical history, and outpatient, and inpatient medications, in accordance with current standards of practice to identify potential drug therapy problems and adverse drug reactions.		
Prepare an accurate, concise, and organized written patients care plan in SOAP format, and able to design appropriate patient pharmacotherapeutic plans		
Professional Development		
Communicate professionally with patients, colleagues, and other healthcare providers effectively and appropriately.		
Demonstrate ethical and professional attitudes toward patients and healthcare providers.		
Take responsibility for the assigned tasks and complete assignments in a timely manner. AND comes consistently on time for rounds, group discussions, and meetings and keeps excused absences to a minimum without unexcused absences.		
Use of Information Resources		
Demonstrate the ability to research , review, and critically evaluate literature related to drug information questions.		
Retrieve and uses drug information resources effectively and apply drug literature appropriately in-patient care decisions.		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

## **Areas of Strength**

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## **Areas of Weakness**

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## Other Comments

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## Mid-point Evaluation

Mid-point Evaluation Date:	1.2
Score:	· ····································
Preceptor Signature:	melle
Student Signature:	

### **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

D: 60-69% A+: 95-100%, A: 90-94%, B+: 85-89% B: 80-84% C+: 75-79%, C: 70-74%,

## **APPE Rotation Evaluation – Community Pharmacy Rotations**

Student's Name:
University ID:
Rotation Site:
Rotation Period with Dates:
Name of Preceptor:

#### **General Instructions for Preceptors**

Preceptors need to conduct a mid-point evaluation midway through the rotation. The final assessment is typically performed during the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During mid-point evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

Mailing Address: College of Clinical Pharmacy King Faisal University B.O. Box 400 AlAhsa, KSA 31982 Attention: Department of Pharmacy Practice

## Criteria for Grading/Scoring: 1-5

The student is seriously deficient:The student does not meet expectations consistently and displays knowledge, skills and/or attitudes require extensive guidance more than a preceptor can provide.The student meets expectations consistently and displays knowledge, knowledge and/or attitudes that require further improvement. Requires significant guidance from the preceptor.The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from the preceptor.The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from the preceptor.The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from the preceptor.The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from the preceptor.The student meets expectations consistently and and/or attitudes expectations. Require minimal guidance from the preceptor.The student meets expectations consistently and attitudes that expectations. Require minimal guidance from the preceptor.The student meets expectations expectations expectations expectations. Hoes and expectations.The student meets expec	1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
	The student is seriously deficient: Student display significant deficiencies in basic knowledge skills and/or attitudes require extensive guidance more than a preceptor can reasonably provide.	The student does not meet expectations consistently and displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the preceptor.	The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and splays knowledge, skills, and/or attitudes that occasionally exceed expectations. Require minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. It does not require any guidance from the preceptor.

Criteria for Evaluation		Final
		Score
Knowledge and Skills		
Describe various pharmaceutical services that are available in the community pharmacy.		
Explain the process of maintaining inventory and ordering drugs and supplies.		
Demonstrate basic knowledge and practice of drug prescribing, filling, handling, and dispensing in community pharmacy.		
Observe Saudi pharmacy law while providing services, including dispensing prescription- only and over the counter.		
Utilize electronic references on medication to support patient counseling		
Apply the right medication prescribing guidelines, as recommended by ISMP and others related to specific diseases.		
Professional Development		
Communicate professionally with patients, colleagues, and other healthcare providers effectively and appropriately. AND handle non-drug-related requests by community customers.		
Demonstrate ethical and professional attitudes toward patients and health care providers.		
Take responsibility for the assigned tasks and complete assignments in a timely manner. AND comes consistently on time for work, group discussions, and meetings and keeps excused absences to a minimum without unexcused absences.		
Use of Information Resources		
Retrieve and uses drug information resources effectively and apply drug literature appropriately in-patient care decisions.		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

## **Areas of Strength**

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## **Areas of Weakness**

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	The second	

## Other Comments

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iviid-point Evaluation	

## Mid-point Evaluation

Mid-point Evaluation Date:	1.2
Score:	
Preceptor Signature:	Jue Com
Student Signature:	

### **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100%, A: 90-94%, B+: 85-89% B: 80-84% C+: 75-79%, C: 70-74%, D: 60-69%

## **APPE Rotation Evaluation – Drug Information Rotations**

Student's Name:	
University ID:	ALLA -
Rotation Site:	a constant
Rotation Period with Dates:	
Name of Preceptor:	

#### **General Instructions for Preceptors**

Preceptors need to conduct a mid-point evaluation midway through the rotation. The final assessment is typically performed during the last week of the rotation.

a. Rate the student's performance at mid-point according to the scale shown below. During midpoint evaluation, provide feedback to the student about your expectations.

\_A121)

- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

Mailing Address: College of Clinical Pharmacy King Faisal University B.O. Box 400 AlAhsa, KSA 31982 Attention: Department of Pharmacy Practice

## Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, or requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently and displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the preceptor.	The student meets expectations consistently and displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and displays knowledge, skills, and or attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. Does not require any guidance from the preceptor.

Criteria for Evaluation	Mid Score	Final Score
Knowledge and Skills		
Outlines the DIC duties and responsibilities in the health care setting.		
Recognize the concept of formulary management in the hospital.		
Demonstrate proficiency in searching for appropriate information in the application of information and vital drug information to the institution (e.g., drug safety alert).		
Process any given drug information.		
Analyze the importance of the Adverse Drug Reaction Program.		
Assist in developing/ reviewing drug monographs, medication use evaluation, and institutional guidelines/protocols.		
Professional Development		
Communicate effectively and appropriately with both patients and other healthcare providers. AND communicate answers to requesters in a reasonable amount of time.		
Take responsibility for the assigned tasks and complete assignments in a timely manner. And comes consistently on time for work, group discussions, and meetings and keeps excused absences to a minimum without unexcused absences		
Use of Information Resources		
Differentiate between tertiary, secondary, and primary resources, including their individual uses, advantages, and disadvantages.		
Utilize the appropriate resources to retrieve evidence-based information.		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

## **Areas of Strength**

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## Areas of Weakness

7.6.

## Other Comments

Y Y	
Mid-point Evaluation	

# Mid-point Evaluation

Mid-point Evaluation Date:	1.2
Score:	in the second seco
Preceptor Signature:	melle
Student Signature:	

### **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100%, A: 90-94%, B+: 85-89% B: 80-84% C+: 75-79%, C: 70-74%, D: 60-69%
# **APPE Rotation Evaluation – Drug Manufacturing Rotations**

Student's Name:					
University ID:					
Rotation Site:			 29		
Rotation Period wit	h Dates:	<u> </u>			
Name of Preceptor		<u> </u>	H Wale		
	Y	1. S. & M.	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	A12	17

#### **General Instructions for Preceptors**

At midway through the rotation, preceptors need to conduct a mid-point evaluation. The final evaluation of the rotation is typically at the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During midpoint evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

#### **Mailing Address:**

College of Clinical Pharmacy King Faisal University B.O. Box 400 Al-Ahsa, KSA 31982 Attention: Department of Pharmacy Practice

# Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, or attitudes. It requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently and displays knowledge, skills, or attitudes that require significant improvement. Requires significant guidance from the preceptor.	The student meets expectations consistently and displays knowledge or attitudes that require further improvement. Requires moderate guidance from the preceptor.	The student meets consistently and displays knowledge, skills, or attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently and displays knowledge, skills, or attitudes that always exceed expectations. Does not require any guidance from the preceptor.
	14 A.			

Critoria for Evaluation	Mid	Final
Criteria for Evaluation	Score	Score
Knowledge and Skills		
Describe different functional departments in the structure of pharmaceutical drug		
manufacturing, including regulatory affairs, commercializing, and drug safety		
(pharmacovigilance). Define terminologies relevant to pharmaceutical drug manufacturing		
and processes, such as GMP, GLP, and SOP.		
Apply knowledge for analyzing pharmacovigilance drug data and participate in clinical		
pharmacokinetics and commercializing analyzing outcomes.		
Explain the different processes of production and packaging area for different drug		
products.		
Discuss the pharmacist's role in different pharmaceutical manufacturing departments,		
including drug discovery and approval and clinical drug development paradigm.		
Analyze the functions of quality assurance in different sections of the manufacturing plant.		
Differentiate between different standards and procedures that are utilized by different		
departments under the control of the quality unit.		
Discuss SFDA regulations for the drug approval process and promotional advertising.		
Professional Development		
Communicate professionally with colleagues and different teams.		
Demonstrate ethical and professional attitudes when dealing with colleagues.		
Take responsibility for the assigned tasks and complete assignments in a timely manner. AND		
comes consistently on time for work, group discussions, and meetings and keeps excused		
absences to a minimum without unexcused absences		
Use of Information Resources		
Evaluate clinical drug protocol and drug report and demonstrate the ability to present a		
clinical study summary to colleagues and site staff		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

# Areas of Strength

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# Areas of Weakness

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# Mid-point Evaluation

Mid-point Evaluation Date:	1.5
Score:	
Preceptor Signature:	1.300
Student Signature:	Charles .

## **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100%, A: 90-94%, B+: 85-89% B: 80-84% C+: 75-79%, C: 70-74%, D: 60-69%

# **APPE Rotation Evaluation – Institutional Pharmacy Rotations**

udent's Name:
niversity ID:
otation Site:
otation Period with Dates:
ame of Precepto <mark>r</mark> :

#### **General Instructions for Preceptors**

At midway through the rotation, preceptors need to conduct a mid-point evaluation. The final evaluation of the rotation is typically at the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During mid-point evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

#### **Mailing Address:**

College of Clinical Pharmacy King Faisal University B.O. Box 400 Al-Ahsa, KSA 31982 Attention: Department of Pharmacy Practice

# Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, and/or attitudes. It requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the receptor.	The student meets expectations consistently and displays knowledge/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and splays knowledge, skills, and attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. Does not require any guidance from the preceptor.

Criteria for Evaluation		
Criteria for Evaluation	Score	Score
Knowledge and Skills		
Describe the various pharmacy policies, procedures, and protocols for safe and effective		
medication use, including medication preparation and administration standardization and		
specific disease state protocols and guidelines		
Recognize the management systems for storing, preparing, and dispensing medications in the		
institution.		
Demonstrate the ability to retrieve, evaluate, and apply clinical and scientific publications		
in the decision-making process within the inpatient settings.		
Observe Saudi pharmacy law while providing services, including prescribing and dispensing		
medications.		
Utilize electronic references on medication to support patient counseling		
Apply the proper medication prescribing guidelines recommended by ISMP and others		
related to specific diseases.		
Professional Development		
Communicate professionally with patients, colleagues, and other healthcare providers		
effectively and appropriately. AND handle non-clinical requests as needed by the		
pharmacy/institution.		
Demonstrate ethical and professional attitudes toward patients and healthcare providers.		
Take responsibility for the assigned tasks and complete assignments in a timely manner. And		
comes consistently on time for work, group discussions a, and meeting and keeps excused		
absences to a minimum without unexcused absences		
Use of Information Resources		
Retrieve and uses drug information resources effectively and apply drug literature		
appropriately in patient care decisions		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

# **Areas of Strength**

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# Mid-point Evaluation

Mid-point Evaluation Date:	1.5
Score:	
Preceptor Signature:	
Student Signature:	

## **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100% A: 90-94% B+: 85-89% B: 80-84% C+: 75-79% C: 70-74% D: 60-69%

# **APPE Rotation Evaluation – Research/Academic Rotations**

Student's Name:	
University ID:	
Rotation Site:	<u> </u>
Rotation Period with Dates:	
Name of Preceptor:	

#### **General Instructions for Preceptors**

Preceptors need to conduct a mid-point evaluation midway through the rotation. The final assessment is typically performed during the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During mid-point evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

#### Mailing Address: College of Clinical Pharmacy King Faisal University B.O. Box 400 AlAhsa, KSA 31982 Attention: Department of Pharmacy Practice

# Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, and/or attitudes. It requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the preceptor.	The student meets expectations and consistently displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and displays knowledge, skills, and or attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. Does not require any guidance from the preceptor.

Criteria for Evaluation		
	Score	Score
Knowledge and Skills		
Describe the role and responsibility of a faculty member and different teaching and learning styles.		
Define and differentiate the domains of learning. AND constructively critique course materials, different evaluation techniques, course objectives, and syllabus.		
Compare and contrast a variety of instructional methodologies used by different faculty members in current courses.		
Construct a pharmacy course that includes learning outcomes, objectives, and assessment modalities.		
Professional Development		
Communicate professionally with patients, colleagues, and other healthcare providers		
effectively and appropriately.		
Effectively handle other academic-related requests as needed by the College or other		
faculty.		
Take responsibility for the assigned tasks and complete assignments in a timely manner.		
Demonstrate ethical and professional attitudes toward patients and health care providers.		
Comes consistently on time for work, group discussions, and meetings and keeps excused		
absences to a minimum without unexcused absences.		
Use of Information Resources		
Retrieve and uses information resources effectively and apply literature appropriately.		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

# **Areas of Strength**

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# Areas of Weakness


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# Mid-point Evaluation

Mid-point Evaluation Date:	1.5
Score:	
Preceptor Signature:	1.300
Student Signature:	Charles .

## **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100% A: 90-94% B+: 85-89% B: 80-84% C+: 75-79% C: 70-74% D: 60-69%

# **APPE Rotation Evaluation – Pharmacy Digital Health and Informatics**

Student's Name:		
University ID:		
Rotation Site:	George L	
Rotation Period with Dates:		
Name of Preceptor:		

#### **General Instructions for Preceptors**

Preceptors need to conduct a mid-point evaluation midway through the rotation. The final assessment is typically performed during the last week of the rotation.

- a. Rate the student's performance at mid-point according to the scale shown below. During mid-point evaluation, provide feedback to the student about your expectations.
- b. For further progress during the second half of the rotation. Both parties should sign and date at the end of the evaluation form. If a problem exists at mid-point, the coordinator of advanced pharmacy practice rotations must be notified using the mid-point evaluation form.
- c. At the final evaluation, rate the student's performance again according to the same scale. Use the same evaluation form so the mid-point and final assessment are together for easy comparisons.
- d. Review the final evaluation with the student. At the end of the evaluation form, both parties sign and date.
- e. A final grade of less than 60% overall will result in failing the rotation.
- f. An average grade of less than 2 in more than one section may result in failing the entire rotation.
- g. Refer failing students to the Internship Counseling Board for further assessment.
- h. Please complete it and mail/e-mail it within three days from the end of the rotation.

#### Mailing Address: College of Clinical Pharmacy King Faisal University B.O. Box 400 AlAhsa, KSA 31982 Attention: Department of Pharmacy Practice

# Criteria for Grading/Scoring: 1-5

1 = Deficient	2 = Unsatisfactory	3 = Satisfactory	4 = Very Good	5 = Excellent
The student is seriously deficient: Student display significant deficiencies in basic knowledge, skills, and/or attitudes. It requires more extensive guidance than a preceptor can reasonably provide.	The student does not meet expectations consistently displays knowledge, skills, and/or attitudes that require significant improvement. Requires significant guidance from the preceptor.	The student meets expectations and consistently displays knowledge and/or attitudes that require further improvement. Requires moderate guidance from preceptor.	The student meets expectations consistently and displays knowledge, skills, and or attitudes that occasionally exceed expectations. Requires minimal guidance from the preceptor.	The student exceeds expectations consistently: displays knowledge, skills, and/or attitudes that always exceed expectations. Does not require any guidance from the preceptor.
		GTILA -		

Criteria for Evaluation		Final
	Score	Score
Knowledge and Skills		
Discuss and introduce new ideas/project or improves existing processes in digital health to		
assist pharmacists.		
Effectively apply clinical knowledge learned in class to develop innovative technology		
solutions relevant to pharmacy practice. Apply clinical insights to identify areas where digital		
solutions can improve patient care or pharmacy workflows.		
Addresses a real-world problem faced by pharmacists in clinical, community, or research		
settings.		
Integrate evidence-based guidelines and practices in the development of the project.		
Ability to use digital health tools, programming (e.g., Artificial Intelligence, R, Python), data		
management, and other relevant technologies.		
Ability to assess his/her own work, identify areas for improvement, and demonstrate		
growth over the rotation period.		
Adapt to new challenges and adjust project scope or methods as necessary.		
Professional Development		
Communicate professionally with colleagues and different teams.		
Meet deadlines and manage time effectively during the project phases. Demonstrate a		
positive attitude towards feedback and implements changes to improve the project.		
Take responsibility for the assigned tasks and completes assignments in a timely manner.		
AND, comes consistently on time for work, group discussions and meetings and keeps		
excused absences to a minimum without unexcused absences		
Use of Information Resources		
Evaluate clinical drug protocol and drug report and demonstrate the ability to present a		
clinical study summary to colleagues and site staff		

**Mid-point Total** (Out of 50) = ..... (x2 = ..... Out of 100)

**Final Total** (Out of 50) = ..... (x2 = ..... Out of 100)

## **Areas of Strength**

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# Areas of Weakness

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# **Other Comments**

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# **Mid-point Evaluation**

Mid-point Evaluation Date:	_@1277
Score:	
Preceptor Signature:	and the
Student Signature:	· ''].
Einal Evaluation	

## **Final Evaluation**

Final Evaluation Date:	
Score:	
Preceptor Signature:	
Student Signature:	

A+: 95-100% A: 90-94% B+: 85-89% B: 80-84% C+: 75-79% C: 70-74% D: 60-69%

# **Evaluation of OSCE by the Students**

Statement	5	4	3	2	1
I was given sufficient orientation for the procedure					
of the exam					
The instructions at each station were clear and easy					
to follow					
The time allocation for each station was appropriate					
The tasks on each station reflected what I was	_				
taught/trained	A				
The sequence of stations was logical and	20	2	Sec. 1		
appropriate	20	- i			
The OSCE provided me with opportunities to learn.					
The OSCE helped me to identify my weaknesses	29	$\sim$	5		
The exam grades provided me with an accurate measure of my skills					
The environment of the exam was friendly and stress-free			212	24	
The overall grading of OSCE experience			1		
Comments	8	1	7.	Į.	

## Comments

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# **APPE Poster Evaluation Form**

Title of Poster:	
Presenter Name:	Academic Number:
Evaluator Name:	Evaluation Date:

5: Strongly Agree 4: Agree 3: True Sometim	nes 2:	Disagree	1: Str	ongly Dis	agree
Statement	5	4	3	2	1
The title is clear, scientific, and easily understandable	20-	7			
Usability of the project/data in healthcare and general community benefit	1	2			
The research problem is clearly stated/discussed with appropriate context in the introduction			5		
Clear and concise materials and methods (grouping, sampling, intervention, etc.)					
Results are easily interpreted and described with clarity			0151	17	
Appropriate, applicable/usable conclusion drawn from the results					
Appropriate updated references quoted in a scientific manner	0	11.	P	1	
Organization of the sci <mark>entific material in the poster, tailoring take-home message</mark>		1	1.		
General style, color, font, and outlook of poster	( (م	5			
Language, grammar, highlighting essential points					
Command on the topic with the intensity of engagement while explaining the poster					
Ability to answer the questions with scientific reasoning and justification					
Total (60)					

#### Comments:

Signature:	 Date:	

# **APPE Project Presentation Evaluation Form**

Title of Presentation: .....

.....

Presenter Name: ..... Academic Number: .....

#### Key for project and presentation grading:

- 1 = Unsatisfactory work and presentation
- 2 = Just satisfied required elements; not thoroughly explored/accomplished.
- 3 = Satisfactorily accomplishes requirements of project title/presentation.
- 4 = Accomplishes all of the requirements in a skillful manner.
- 5 = Accomplishes all of the requirements precisely, clearly, and exceptionally.

Statements	5	4	3	2	1
Project	-				
The topic of the presentation/project is clear, scientific, and easily understandable	57				
The research problem is clearly stated and discussed with appropriate context in the introduction	N.				
Clear and concise materials and methods (grouping, sampling, intervention, etc.)		157	m		
Results are easily interpreted and described with clarity	and being				
Appropriate, applicable/usable conclusion drawn from the results					
Appropriate updated references quoted in a scientific manner					
Usability of the project/data in healthcare and general community benefit		1			
The overall grading of scientific project	137	0	6.		
Presentation		1			
Organization of the scientific material, transition, tailoring to take home message					
General style, color scheme, presentation					
Language and style of speaking, eye contact, stressing important points					
Command on the topic with fluency and confidence shown.					
Ability to answer the questions with scientific reasoning and justification					
Time management: as a whole and for each section of the presentation					
The overall grading of the presentation					
Total (75)					

#### Comments:

Signature:

# **Evaluation of Preceptor and APPE Site by Students**

Training Site:		Pre	eceptor Nam	e:					
5: Strongly agree	4: Agree 3: True sometimes 2: Disagree 1: Strongly								
	St	tatement			5	4	3	2	1
Training Site		1.							
I was assigned to a tea	m of specialist	s for a daily round							
I had free access to pa	tien <mark>t m</mark> edicatio	on record	2						
I had free access to pa	tients for inter	views and counseling	2 -						
I was encouraged to pa	articipate in a d	liscussion regarding the	patient's me	dication					
I was assigned topics f	or preparation	and discussion regardir	ng medicatio	n					
I had free access t <mark>o</mark> lea	arning resource	es like the library	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	6-					
Specialists/consultants	s/preceptors w	vere sufficiently accessil	ole	1					
Specialists/consultants	s/preceptors sp	pent sufficient tim <mark>e</mark> with	n me to gui <mark>d</mark> e	e me					
Specialists/consultants	s stimul <mark>ated pr</mark>	oblem-solving through i	nteraction	161	14				
Preceptor	0 ° T	54							
The preceptors treated	d me wit <mark>h</mark> resp	ect	1						
Taught me things I did	not already kn	low	1	1					
Provided me with feed	lback on my pe	erformance	11	0	1				
Training SITE was conc	lucive to learni	ng	1	3 1.					
The site provided suffi	cient opportun	ity for me to meet all th	e <b>General O</b> l	ojectives					
Other personnel were	receptive to m	ne	11/2						
	T	otal (75)							

#### **Comments:**

# Introductory Pharmacy Practice Experience-2



# **Table of Contents**

Introduction, rules, regulations, and guidelines	88
Additional guidelines	88
Day before IPPE-2	88
Day-1 of IPPE-2	88
During training	88
Requirements of successful completion of IPPE-2	89
Course description, goals, objectives, and ILO's and assessment	89
Course description	89
Goals	89
Objectives and activities of each component of IPPE-2	90
Assessment by COCP preceptor	95
Final assessment	95
Assessment by site preceptor (final assessment) forms	96
IPPE-2 seminar evaluation form	<mark>9</mark> 7

#### Introduction, General Rules, and Guidelines

IPPE-2 is offered after the completion of the third professional year. Students are trained during summer vacations for 200 hours, i.e., 8 hours daily, five days a week for five weeks, in the region's Hospital Pharmacies of Tertiary Care Hospitals. IPPE-2 is preceded by IPPE-1, two courses on Pharmaceutical Care aimed at preparing students for direct patient-centered care, and a didactic course on Institutional Pharmacy Practice, which provides students with essential information on the structure and functions of Hospital Pharmacy and the role of a pharmacist as a member of a team of interprofessional health care providers. In addition to achieving some core competencies required for working in the hospital setting, IPPE-2 prepares students for Advanced Pharmacy Practice Experience.

#### Additional Guidance for the Students

#### The Day Before IPPE-2

- a. The student should print all documents below and give one copy to their hospital preceptor.
  - i. IPPE-2 course, objectives, and activities (Two copies: one for the student and one for their trainer at the hospital).
  - ii. Evaluation sheet for their preceptor.
  - iii. Certificate of attendance.
- b. The student should prepare their stuff discussed in the orientation session.

#### First Day of IPPE-2

- 1. The student should report to their training site at 7:30
- 2. The student should present them with the program details.
- 3. The student should present them with an evaluation sheet.
- 4. The student should request them for orientation respectfully.

## **During the Training**

- 1. The student should be regular and punctual in time. The student must repeat their entire IPPE-2 if there are two or more unexcused absences from the training site.
- 2. The student should always come in professional dress and look (Refer to the Dress Code and Trainee's Badge section of this manual)
- **3. IPPE-2 Portfolio:** The student should always keep with them the IPPE-2 Portfolio containing:
  - IPPE-2 program.
  - Daily activity log form
  - Their plan and goals for what they want to learn.
  - All assignments, projects, and presentations of all four weeks
  - Copy of weekly project and their reflections
  - Detailed account of what they learned each week.
  - Clinical cases they have recorded with SOAP.
- 4. The student should always keep with them:
  - A pharmacology textbook they understand easily.
  - A pharmacotherapy handbook.

#### **Requirement for Successful Completion of IPPE-2**

- 1. Attending orientation and its evaluation by the student
- 2. Pass grades by COCP preceptor
- 3. Weekly projects for each group (A total of four projects).
- 4. Reflective reports from each student (Deadline: Each Thursday at 11:59 PM).
- 5. 160 hours at the training site
- 6. Portfolio with all assignments and projects
- 7. More than two complaints from the site or by the COCP preceptor
- 8. Presentation at COCP during 5<sup>th</sup> week
  - a. One case
  - b. One project/Report
  - c. Reflections
  - d. Suggestions: meaningful
- 9. OSCE on skills they learned during IPPE-2 (tentative) during the week.
- 10. Evaluation of all IPPE-2 by the student through the online evaluation by the 5<sup>th</sup> week.

#### IPPE-2 Course Description: Goals, Objectives, ILOs, and Assessment

#### **Course Description**

Course Name		IPPE-2		Introductory Pharmacy Practice Experience-2								
Course	Course Code	Course No.	Credit Hours	Contact Hours	Lectures	Labs	Total					
Information	PP-11	2030331	0+2	40/week	1370	-	200 (5 weeks)					
Level	Summer Semester, 3 <sup>rd</sup> year		Prerequisite	None								
Components:		~ ~	-001	151 0010								

A. Out-patient pharmacy (including ambulatory care), prescription handling, patient counseling.

- B. In-patient Pharmacy: Unit dose, in-patient order entry, extemporaneous preparations
- C. IV admixtures and parenteral nutrition
- D. Controlled drugs/narcotics procurement storage, issue, and entry
- E. Clinical Presentations and Journal Club.

#### Goals

- 1. The goal is to provide the students with an environment where they can experience the application of pharmacy knowledge in a virtual pharmacy setting through participation in the daily activities of an institutional pharmacy practice setting.
- 2. To prepare the student for APPE (Advance Pharmacy Practice Experiences).

# **Objectives and Activities of IPPE-2 Components**

#### **Outpatient Pharmacy**

The students will rotate in the Outpatient Pharmacy. They will focus on counseling patients, reviewing medical and medication histories, consulting with healthcare professionals, and preparing educational materials for pharmacy or clinic staff. The student will also shadow pharmacists who provide medication therapy management (MTM) and pharmacists who offer outpatient (OPD) care to patients on follow-up. The preceptor may add other learning experiences, such as didactic learning sessions with the preceptor, journal club, and assignments, to enhance the vision of student learning at the outpatient pharmacy.

#### Goals

Provide students with experiential modules so that they can experience and learn the roles and functions of a pharmacist working in an outpatient pharmacy setting.

#### **Rotation objectives**

At the end of the rotation, the student will be able to

- 1. Describe the indication of different drugs and their alternates at the out-patient pharmacy.
- 2. Fill prescriptions under the preceptor's supervision with appropriate doses and dosage units required to complete the therapy.
- 3. Participate in compounding prescriptions if available.
- 4. Participate actively in professional communication with other healthcare providers.
- 5. Participate actively in patients' counseling.

#### Inpatient Pharmacy

The inpatient pharmacy training rotation offers comprehensive training in pharmaceutical care within a hospital setting. Students will work closely with experienced clinical pharmacists and healthcare professionals to gain medication order verification, dose calculations, therapeutic drug monitoring, and medication reconciliation skills, if applicable. They also learn about pharmacy operations, medication dispensing, and sterile compounding. The rotation provides a solid foundation in inpatient pharmacy practice, preparing individuals for the roles and responsibilities of a clinical pharmacist in a hospital environment.

#### Goals

Provide students with experiential modules so that they can experience and learn the roles and functions of a pharmacist working in an inpatient pharmacy setting.

#### **Rotation objectives**

#### A. Inpatient Order Entry

At the end of the rotation, the student will be able to:

- 1. Read drug names, strengths, and related information.
- 2. Assess the appropriateness of drug indications.
- 3. Interpret and seek clarification of ambiguous and incomplete physician orders.
- 4. Determine the appropriate dosing of a drug using the recommended dosage schedule (mg/kg/day)
- 5. Select the correct amount prescribed.

#### B. Unit Dose Distribution System

At the end of the rotation, the student will be able to:

- 1. Describe the concept, procedure, and rationale of the unit dose system of dispensing and floor stock medications.
- 2. Describe and differentiate between the cart fill list and the patient medication profile.
- 3. Describe the periodic unit dose update list.
- 4. Describe the process of pre-packaging oral solids or liquids.
- 5. Describe the process of floor stock inspection.

#### C. Intravenous Admixture Services

At the end of the rotation, the student will be able to:

- 1. Understand the primary function of a laminar airflow hood.
- 2. Describe and demonstrate aseptic techniques.
- 3. Calculate and prepare IV admixture.
- 4. Calculate and reconstitute antibiotics.
- 5. Understand the basic functioning of a biological safety hood.
- 6. Use different references to check for compatibility, incompatibility, and dilution charts.
- Calculate and prepare adult, pediatric, and neonatal Total Parenteral Nutrition (TPN) orders.

#### **D.** Compounding and Extemporaneous Preparations

- 1. Repackage oral solid dosage forms.
- 2. Repackage liquid dosage forms correctly using pharmaceutical calculations.
- 3. Prepare the label for repackaged products.
- 4. Record repackaged products in the control logbook or on control forms used for medications repackaged in the pharmacy.

A1217

5. Compound an extemporaneous product using skills in pharmaceutical calculations.

#### E. Controlled/Narcotics Medications

At the end of the rotation, the student will be able to:

- 1. Describe the classification system of controlled/narcotic medication.
- 2. Describe the ordering and receiving process.
- 3. Describe the floor stock and non-floor stock issuing.
- 4. Describe the controlled/narcotic medication record maintenance.

#### F. Clinical Presentations and Journal Clubs

The trainee also has to do the following activities during his training period.

- 1. Prepare and deliver an appropriate scientific presentation to healthcare providers.
- 2. Collect all literature related to the presented topic.
- 3. Read all collected literature.
- 4. Select one updated review article on the presented topic and distribute it to the other trainees.
- 5. Prepare and submit at least three presentation drafts to the preceptor before the presentation date.

#### G. Reports and projects

a. Weekly Reflective Report for each student

- 1. Reflections on experiences are required at midnight on Thursday of each week's rotation. If not received, the student will be considered absent from IPPE-2.
- 2. The reflection will be on any aspect of medication management that they have experienced during the week.
- 3. The reflection will be written after thinking about what students have learned.
- 4. It is strongly encouraged to write the reflection immediately upon completion of the week.
- 5. It is strongly recommended that reflection notes be written daily to keep track of highlights and thoughts that occur.
- 6. Weekly reflections need to be one to two pages in length.
- 7. The final paragraph of each reflection should summarize everything the student learned that week about institutional pharmacy practice, mainly which of the Educational Outcomes were achieved.
- 8. The reflections will be forwarded to the IPPE-2 coordinator after the evaluation.
- 9. They will be kept confidential and not shared with preceptors.

# b. <u>Weekly Projects</u> for Groups of Students working together in the same rotation of the same hospital:

- i. First Week Project:
  - For inpatient pharmacy students (One of the following):
    - 1. Provide a detailed description of the Unit Dose System at the
    - training site and how it can be improved with detailed suggestions.
    - 2. A detailed description of in-patient Pharmacy Services at the training site and how they can be improved.
  - For outpatient pharmacy students:
    - 1. Prescription processing at the site: How it can be improved for safe medication use.

## A. List of Proposed Projects for IPPE-2 Student Groups

#### I. For In-patient Pharmacy Students:

- 1. Provide a detailed description of the Unit Dose System at your training site. How it can be improved: your detailed suggestions
- 2. A detailed description of in-patient Pharmacy Services at your training site. How they can be improved
- 3. Pharmacy and Therapeutic Committee: what is it? How its role can be improved: Experience and information from my site

#### II. For Out-patient Pharmacy Students:

- 1. Prescription processing at your site: How it can be improved for safe medication use
- 2. Patient counseling at my site: How it can be improved: Develop a standard form as a guideline

#### III. For IV admixture rotation:

1. IV admixture system (with a list of drugs being dispensed) of the site: This is a detailed report of the process with suggestions for improvement.

#### IV. General:

1. Patient safety-focused Medication Therapy Management.

2. Controlled Drug Management: What is it, and what is it practiced at the site? How it can be improved

## **B.** Guidelines for Weekly Projects and Reports

#### I. Report:

- 1. The report should be sent in Word format. It should start with the student's name, ID, training site, preceptor name, and training dates.
- 2. The report should be descriptive and not use bullet points.
- 3. The report should be actual, factual, and personal, not general. For example, if the student has worked in dispensing, they should describe that experience: which drugs you dispensed and how you did that. If you have done counseling, write with examples of which drugs and diseases and which points you told the patient.
- 4. The report should be comprehensive and reflect on what the students learned, what they did not, and why.
- 5. The student must know what they write in their report or add to their portfolio. This will be asked during the site and final evaluation.
- 6. Each student will present their report, one SOAP during the presentation.
- 7. If the student took some material from some resources, they should give a reference. *Plagiarism is unethical and illegal.*
- The student needs to be positive and constructive in their report, as well as in all professional behavior and writing. "Half the glass is filled" instead of "Half the glass is empty."
- 9. Each student's weekly report should be mailed to your COCP preceptor by midnight on Thursday.

#### II. Project:

- 1. It should start with the project title, the group name, the site, and the preceptor's name who guided the student.
- 2. It should begin with a scientific background description, definitions, etc., with references.
- 3. The student should describe the **practice done at their site** and their observations. If things are unclear, they should ask their site and preceptors, e.g., for the P&T committee, about members, meeting schedules, functions, etc.
- 4. The students should **comment** on the practices at their site considering standard practices, as they have read from other resources.
- 5. The student should conclude with an **improvement plan**. They should also discuss this plan with their preceptor and seek their opinion.
- 6. The student should distribute the projects among their peers for presentation.
- 7. The students must correct their previous projects and reports before adding them to their portfolios.
- 8. Weekly Group Project from each group should be emailed <u>no later than Thursday</u> <u>of each week, not later than midnight</u>, to:

Monther A. Alsultan, PharmD, MSCR, PhD IPPE Affairs Coordinator malsultan@kfu.edu.sa

Weekly And Comprehensive Report	10
Format	3
Start with the identification of the reporter, site, and preceptor	1
The report is descriptive, not in the form of List	1
The language and way of Description, continuity, transition	1
Description of the Report	5
Describe all their routines	1
Describe what they did with the name of drugs/site	1
The report is personalized to themselves and how they did	2
Positive and constructive way of description	1
Conclusion	2
Describe their experience, feelings, and reflections with a summary of what they learned	1
Helpful/workable suggestions for improvement	1
IPPE-2 Project	10
Format	2
Identification of self, site, and preceptor	0.5
Description Language and style of Description, continuity, transition	1.5
Introduction	3
Definition of topic/title	1
Scientific background, history, contemporary practice	2
Description of actual project: Site practice	3
Describes detailed account of current practice	2
Correlates with the introduction or signifies the practice	1
Conclusion	2
Write reflective comments on the current practice	1
Creative and innovative workable suggestions	1

# Criteria for Evaluation of IPPE-2 Reports and Projects

### **IPPE-2** Assessment by COCP Preceptor

A faculty member from COCP will visit the training site at any time, and they will:

- 1. Check the student's portfolio.
- 2. Ask the students questions about what they are supposed to learn.
- 3. Discuss the student's progress with their preceptor.

Question and Answers			Portfolio		Professionalism	Hospital Preceptor			
Session (10 points)			(5 points)		(10 points)	Opinion (5 points)			
Ansv	wers all questions about:								
1.	IPPE-2 and its	1.	Proper format,	1.	Well dressed,	1.	Punctuality and		
	components		organized in the file.		including shoes		regularity		
2.	Assignments completed.	2.	IPPE-2 program with	2.	Greet the preceptor.	2.	Interest in assigned		
3.	Role of pharmacist in 🛒		details and forms.	3.	Describe his		tasks.		
	team	3.	Students learning		experience and	<mark>3</mark> .	Active learning		
4.	Prescription handling,	10	objectives for IPPE-2		answer the questions	4.	Attitude with staff		
	unit dose, patient	4.	All assignments,		precisely and	5.	Adherence to		
	counseling	~	project	-	comprehensively.		t <mark>i</mark> melines		
5.	Medication uses and	5.	Daily activities report	4.	Positive constructive				
	trade names.				attitude.				
6.	Pharmaceutical	2.11		5.	Following instructions	54	Pr.		
	Calculations	1			1	for 1			
7.	Comments/suggestions								
	for improvemen <mark>t</mark>								
8.	What has been learned						1		
	since the last visit	5			a church				

## **Evaluation Criteria During Site Visits (Total Score = 30)**

#### **Final Assessment**

1.	The assessment will have the following components:	
	Preceptors' assessment	60%
	Internal Preceptor	30 %
	External Preceptor	30%
	Presentation of reports/SOAP	10%
	Weekly Reports/Project/Portfolio	10%
	OSCE	20%
	Total	100%

### **IPPE-2** Assessment Form for Site Preceptor

Students name:	I.D:	

Institution: \_\_\_\_\_\_Training Period: \_\_\_\_\_

Score Guide: 1-3 = Poor; 4-6 = Moderate/Acceptable; 7-9 = Good/Outstanding; 10 = Excellent

#### **Rotation Information (60 Points)**

No	Rotations	10	9	8	7	6	5	4	3	2	1
1	In-patient		A								
2	Out-patient services	61		LA	-						
3	IV/TPN (Aseptic tech, Chemo, etc.)		5	20							
4	Drug information services			2							
E	Clinical pharmacy (TDM, Patient					Y	-				
5	counseling Case presentation, etc.)					1	1				
6	Quality control						0	-			
7	Other (specify)						1				
Overall grade = % x 0.6 = points.											

Note: The preceptor may delete the facilities not available at the training slot and adjust the grades accordingly

## **Other Activities (20 Points)**

27 . .

Activity			Score According to Student Performance										
Activity		10	9	8	7	6	5	4	3	e 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1		
Assignments/ Presentation	17			1			15	0					
Project	-3-10		7				1.5	6 /					
Report	1	1				3							
	- 6	AA	1 -	1	Overa	all grad	e = %	x 0.2 =	poin	ts.			

Overall grade = % x 0.2 = points

#### Personal and Behavioral Information (20 Points)

Activity	Score According to Student Performance										
<b>-</b> ,	10	9	8	7	6	5	4	3	2	1	
Attendance											
Attitude											
Communication skills											
Punctuality											
Enthusiasm											
Knowledge background											
Professional appearance											
Overall grade = % x 0.2 = points.											
Total points								-			

#### Conversion of points into Grades:

A+: 95-100%, A: 90-94%, B+: 85-89% B: 80-84% C+: 75-79%, C: 70-74%, D:
--

Final Grade:\_\_\_\_\_\_ Name and Signature of preceptor\_\_\_\_\_\_

#### **IPPE-2 Seminar Evaluation Form**

Training Site: .....

Case Title:

	Statement	1	2	3	4	5
	Report					•
1	A comprehensive description of their actual learning experience during the whole period (not general)					
2	Appropriate reflective comments and an in-depth understanding of the experience	2				
3	Innovative and workable suggestions for improvement of IPPE- 2/practice	1	1			
	Project		~ 2	<u> </u>		
4	Well-defined and introduced the project title with background	$\sim$	A	-		
5	Detailed Description of practice at the site					
6	Appropriate conclusion with comments and suggestions		10_	275		
	Case	•				
7	All subjective data was well-described		~			
8	All objective data was well summarized	1	5			
9	The assessment was appropriate for the level of training	1	3 1.	/-		
10	Plan (therapeutic, patient education) was appropriate for the level of training.	1-				
	General	0				
11	Proper introduction of her/himself, site, and preceptor					
12	Overall depth of knowledge, critical thinking, reflection					
13	Response to the questions					
14	The presentation was clear and organized, with appropriate transition					
15	Overall evaluation of the presentation					
	Total					

#### Comments

# Introductory Pharmacy Practice Experience-1

### Introduction

IPPE-1 is offered after the completion of the second professional year. Students are trained during summer vacations for 200 hours, i.e., 8 hours daily, five days a week for five weeks (male in community pharmacies and female in out-patient pharmacies). IPPE-1 is preceded by a didactic practical course on Pharmaceutical Care-1, which provides the student with experience in retrieving information directly from the patient regarding his health problem (history taking) and drug therapies (treatment history) as well as from medical charts, databases, and from the caregivers using appropriate, effective communication in both oral and written forms. IPPE-1 will prepare the student for medication therapy management, retrieving patient information, patient counseling, and monitoring, which are essential and integral components of APPE rotations and are also needed to fulfill the objectives of IPPE-2.

## **Course Description**

#### Course number, credit hours, and location of the program

Course Information	Course Code	Course No.	Credit Hours	Contact Hours	Lectures	Labs	Total	
	PP-3	2 <mark>0</mark> 30231	2+0	40/ week	-	-	200	
Level	Summer	r Semester, 2nd year		Prerequisite	- 1	None		

**Duration:** Five weeks: 200 hours, eight hours daily, five days a week.

#### **Objectives**

- A. Read drug names, strengths, and related information from the leaflet.
- B. Be familiar with the trade names of all drug classes.
- C. Prepare a list of the most commonly used drugs in each class, both trade and generic.
- D. Read the prescriptions brought to the pharmacy.
- E. Observe and participate in patients' counseling regarding information about drugs and their use. (*Relevant contents have been added to the Pharmaceutical Care-1 course*)
- F. Counsel the patient regarding medication: oral, sublingual, local, nasal, eye and ear drops, inhalers, and dermal preparations.
- G. Counsel the patient regarding medication adherence.
- H. Check the patient's blood pressure, weight, and height.
- I. Explain the importance of patient confidentiality.

## Students' Responsibilities/Activities/Tasks

- Students will spend 8 hours daily on the training site (8 am 4 pm) and complete 160 hours. During training, they will be in professional attire (uniform, lab coat, etc.).
- 2. The student will observe the pharmacist for patient counseling and will share if allowed by the pharmacist.
- 3. The student will maintain a portfolio for all his activities and assignments daily.
- 4. One activity form will be completed daily and signed by the preceptor/pharmacist.
- 5. Daily assignments regarding five drugs and five disease states will be prepared daily and will be checked by the preceptor during the visit and at the end of training.
- 6. Student will present during 1<sup>st</sup> semester of 3<sup>rd</sup> year as per schedule attached.
- 7. The student will produce a training completion certificate signed by the pharmacist.

#### Data Collection

- 1. **The student will collect** the following data about drugs in their assigned class and will include the results in their presentation:
  - a. How many items were sold/moved (all the drugs from the group) in ten days?
  - b. Which one is the most commonly sold/moved drug from the group?
  - c. Which brand of that drug is most widely sold/moved?
  - d. Students will design their chart or proforma to record the results daily. This is to train the students to collect data.

#### **COCP Preceptor's Visit**

- a. COCP preceptors will visit the sites as scheduled or without a schedule.
- b. Record students' performance regarding:
  - i. Attendance and professionalism.
  - ii. Portfolio assessment: Daily report, assignments, data collection, patient's counseling record.
  - iii. Achievement of IPPE-1 objectives.

#### **Students Presentations**

- I. Students will prepare a 10-minute presentation followed by a 5-minute question-answer session.
- II. The presentation will be held according to the schedule prepared by the IPPE Affairs Coordinator.
- **III.** The presentation will include:
  - 1. Name of all the brands available
  - 2. Mechanism of action, clinical indications, adverse effects, contraindications, and significant drug interactions of the assigned class of drugs.
  - 3. The data that was collected during the training.
  - 4. Students' experience in training, what they learned in the training, and suggestions for improvement.

#### Assessment

Assessment of IPPE-1 will be according to the following:

Preceptors' assessment	60%
Internal Preceptor	30 %
External Preceptor	30%
Presentation of reports/SOAP	10%
Weekly Reports/Project/Portfolio	10%
OSCE	20%
Total	100%

#### Note:

- Written assignments for each drug should cover the mechanism of action, clinical uses, indications, contraindications, adverse effects, and drug interactions of each drug.
- Written assignments for each disease state include significant signs and symptoms and treatment options.

## **IPPE-1** Assessment Form (For Site Preceptor)

Students name:			I.D:						
Pharmacy:		٦	Training	g Perio	d:				
Domain	10	9	8	7	6	5	4	3	2

Domain		9	Ŭ	-	v	5	-	0	-
Attendance									
Attitude									
Communication skills			_						
Punctuality		1	-						
Enthusiasm	6	71	1 1	-	1				
Knowledge background	1		20						
Professional appearance			0	1	/				
1 por				-	2				
Name and Signature:						-			

# Name and Signature:

1. This report is confidential and should be returned officially to the College of Clinical Pharmacy. The student is not allowed to get a copy.

27	Grading System Policy	_B1277
Grade Letter	Grade	Percentage
A+	High excellent	95-100
A	Excellent	90-< 95
B+	High very good	85-<90
В	Very good	80-<85
C+	High good	75-<80
C	Good	70-<75
D+	High Pass	65-<70
D	Pass	60-<65
F	Fail	<60

## IPPE-1 Community Pharmacies

#### **Daily Progress Report**

Date: .....

Student Name: ...... University ID: .....

1. List of five drugs for review of literature/package insert and completed written assignment:

a	
b	
<b>c</b>	
d	
e	_D1277

2. Name of five diseases for the sale of prescription of which you learned the communication with the patient by observing your preceptor:

a.	
b.	
c.	
d.	
e.	

Signature of the student: ..... Signature of the preceptor: .....

**Note:** The written assignment for each drug should cover the mechanism of action, clinical uses, indications, contraindications, adverse effects, and drug interactions of each drug.



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12

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