



EXPERIENTIAL EDUCATION MANUAL



Ver.2.5: May 2021

Experiential Education Committee



College of Clinical Pharmacy
King Faisal University, Al-Ahsa
KSA





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<i>Ver. 1.0:</i>	<i>May 2009</i>
<i>Ver. 2.0:</i>	<i>May 2012</i>
<i>Ver. 2.1:</i>	<i>May 2013</i>
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<i>Ver. 2.5:</i>	<i>May 2021</i>

Experiential Education Committee

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

Phone: +966 13 5817175, Fax +966 13 5817174
clinicalpharmacy@kfu.edu.sa

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Ver.1.0: May 2009

Ver. 1.0 of Experiential Education Manual was prepared and approved by then “Training Committee” named as APPE manual in May 2009. The outline of the Manual was reviewed and approved by External reviewers from 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 was approved by the Clinical Affairs Committee Ver. 2.0 comprised of 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 Experiential Education Committee and was approved in May 2013 and implemented from June 2013. It consists of Rules, regulations, guidelines and assessment for IPPE-1, IPPE-2 and APPE

Ver. 2.2: Jan 2015

The Manual Ver. 2.1 was extensively reviewed by Experiential Education Committee and was approved in Jan 2015 and implemented from June 2015. IPPE-1 and IPPE-2 has been increased from 4 to 5 weeks. Students will be assessed by OSCE at COCP during 5th week along with evaluation of portfolio, project and report presentation APPE Student has to pass Mid and Final OSCE Exam, final written exam and needs to secure pass grades in his 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: May 2021: Two new rotations added, Committee changed and some amendments in rules regulations pertaining to professional leaves

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1. The College: Vision, Mission, Values and Code of Ethics

1.1. Vision:

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

1.2. COCP Mission:

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

1.3. Pharm D Program Mission

To Prepare Pharm D graduates who will provide patient centered care to meet the needs of the community and **local market**

1.4. 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 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

1.5. 4. COCP Goals

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

1.1. Code of Ethics for Pharmacists *

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 the roles and responsibilities of pharmacists. These principles, based on moral obligations and virtues, are established to guide pharmacists in relationships with patients, health professionals, and society.

1. *A pharmacist respects the covenantal relationship between the patient and 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 places concern for the well-being of the patient at the center of professional practice. In doing so, a pharmacist considers needs stated by the patient as well as those defined by health science. A pharmacist is dedicated to protecting the dignity of the patient. With a caring attitude and a compassionate spirit, a pharmacist focuses on serving the patient in a private and confidential manner.

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 terms that are understandable. In all cases, a pharmacist respects personal and cultural differences among patients.

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

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

5. *A pharmacist maintains professional competence.*

A pharmacist has a duty to maintain knowledge and abilities as new medications, devices, and technologies become available and as 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 care of the patient.

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

The primary obligation of a pharmacist is to individual patients. However, the obligations of a pharmacist may at times extend beyond the individual to the community and society. In these situations, the pharmacist recognizes the responsibilities that accompany these obligations and acts 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.

**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>

1.2. **Committee for Collaborative Training and Community Engagement 2020-2021**

Patron:

Dr. Bandar E Aldhubaib Ph. D

Dean, COCP

Chair:

Dr. Abdul Aziz Almulhim Pharm D, BCPS

Head, Pharmacy Practice Department

1. Dr Afzal Haq Asif.
2. Dr. Sara Alamer
3. Dr Sara Alddosary
4. Dr Elwalid Abbas
5. Dr. Dalia Almaghrabi
6. Dr. Ahmed Adel
7. Dr. Sahar Ibrahim
8. Dr Kareem Alfas
9. Dr. Ali ALdayen
10. Dr. Naseem Alswailem
11. Dr. Fatimah Aldoghan
12. Mr. Abbas Al-Jerish support officer/Data management

Contacts:

Support Officer: Mr. Abbas Aljerish

Tel: +966 13 5895414

Email: aaljerish@kfu.edu.sa

Director Experiential Education/Chair:

Office No: Room No. 2126 New COCP Building

Cell: +966 535 6588 85

Tel: +966 13 589 8497

Email: Asaalmulhim@kfu.edu.sa

2. Introduction: General Rules and Regulations

2.1. Introduction: Experiential Education components of COCP Pharm. D. Program

Experiential Education component of Pharm. D. program at COCP consists of 1932 contact hours, the details of which are as under:

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

IPPE-1 is offered during summer semester, after completion of 2nd professional year. Students are trained for total duration of 200 hours, i.e., 8 hours daily for 5 days a week for a period of 5 weeks, (male in community pharmacies and female in out-patient 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 learnt in Pharmaceutical Care-. IPPE-1 will expose the students to an actual and virtual environment to have an experience of medication therapy management, retrieving patient information, patient counseling and monitoring, thus preparing the student for IPPE-2 and APPE later in the program.

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

IPPE-2 is offered during summer semester, after completion of 3rd professional year. Students are trained for total duration of 200 hours, i.e., 8 hours daily 5 days a week for a period of 5 weeks, in Hospital Pharmacies of Tertiary Care Hospitals of region.

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 structure and functions of Hospital Pharmacy and role of a pharmacist as member of team of interprofessional health care providers. In addition to achievement of core competencies required for working in hospital setting, IPPE-2 also prepares students for Advanced Pharmacy Practice Experience

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

APPE is offered during 5th year of Pharm D program after successful completion of four years of the program. It consists of 10 clinical rotations, with an addition of 11th rotation

in clinical research each of 4 weeks duration. Student has to work for 8 hours/day, 40 hours/week and a total of 1760 hours in clinical setting during APPE.

Backed up by knowledge and skills achieved through IPPE-1, IPPE-2 and didactic courses such as four courses in therapeutics, 3 courses in Pharmaceutical Care and one course in Drug Information and literature evaluation, APPE is aimed at preparing the students to work as effective and efficient member of team of interprofessional health care providers as ethical pharmacy practitioners and medication therapy management specialists.

2.2. Prerequisites (for APPE, IPPE-1, IPPE-2)

1. Students are required to have proof of immunization prior to beginning the IPPE. Proof of immunization will be submitted to the Office of Experiential Education. 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: Student has to pass Pharmacology-2 course and has registered in Pharmaceutical Care -1
3. IPPE-2: The student has to successfully complete IPPE-1, Therapeutics-1 and registered in Institutional Pharmacy Practice Course.
4. APPE:
 - a. The student has to successfully complete an accredited BLS course, valid for at least 18 months, before commencement of APPE
 - b. The student has to pass all didactic and experiential courses (has completed 143 credit hours in Pharm. D. Program) in Pharm. D. program before joining APPE.

2.3. Students' Placement for training sites and Registration:

1. The students' placement on available slots will be furnished by the Experiential Educations Committee appointed by the Dean, College of Clinical Pharmacy
2. Students are placed in the APPE, IPPE-2 and IPPE-1 training sites according to availability of specific rotations, students place in the merit list and students' place of residence. The merit list prepared by the committee is based upon:
 - a. GPA of the student:
 - b. Result of previous experiential module (IPPE-1/IPPE-2, previous APPE rotation):
3. Students' preferences regarding training at sites outside Al-Ahsa city will be honored if possible.
4. Any matter of conflict or disagreement will be referred to the Dean, whose decision will be final

5. The student will register themselves for the Clerkship Semesters Courses: 2030431,2030511, 2030521 with the Deanship of Registration, well in time, after consultation with the Head of Academic Committee, College of Clinical Pharmacy
6. The results of the IPPE-1 and IPPE-2 will be submitted at the end of rotation, while those of APPE will be submitted at the end of each semester to the Deanship of registration only after the college will receive the evaluation by the preceptor and rotation activity log for each rotation

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

1. All preceptors will have orientation session with the students regarding rotation objectives, daily Activities, meeting timings, modes of assessment, and special requirements of particular training site/rotation if any. They will also provide orientations regarding availability and use of learning resources at the site The students will be introduced with other staff at the site
2. The students will complete administrative requirements, like registration with training Department and issuance of training batches (ID) for the site

2.5. Policies for Attendance, leave rules, Holidays and other Responsibilities:

1. Students are required to complete prescribed training hours for relevant training program as mentioned in section 1.1, with a spirit of regularity and punctuality:
2. Students are required to attend all activities in all the rotations as outlined in the relevant manual. They will keep the record of 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. Curriculum of the relevant experiential program, with learning objectives
 - b. Daily Activity Log signed by the preceptor
 - c. All presentations, projects, assignments, case presentation, journal article presentation during the training/rotation
 - d. Record of any other activities performed during the training/rotation
3. Leave applications must be approved by the preceptor prior to the requested dates and will be forwarded to the Chair, Experiential Education Committee for approval. In case of emergency leave, formal documents must be submitted to the preceptor on first day of reporting after emergency leave.
4. The student is responsible for making over the days/hour, work and assignment left, for each absence.
5. More than 2 unexcused absence will result in FAIL the APPE rotation/IPPE-1/IPPE-2

6. **Holidays:** Students will follow the holiday policy of the training site. However, the holiday period will not be counted towards the time/hours required for successful completion of a specific experiential module. Therefore the student has to make over the time/hours consumed in holidays.. Students of APPE will avail 2 weeks holidays for each Eid ul Fitre and Eid ul Adha, which are routinely adjusted in the APPE schedule every year.
7. **Professional Leaves:** The students are entitled to avail 10 professional leaves during all 11 months of Advanced Pharmacy Practice Experience. The category of professional leave will include, attending professional development workshops, conferences, presenting in site professional symposia or for interviews or for 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**

2.6. Communication and Attitude:

1. The student is responsible for developing good communication skills with all the health professionals as well as with the 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 in private
3. Constructive criticism by the preceptors or the colleagues is one of the means of learning and is not meant to embarrass; so must be tolerated and be taken up professionally as a mean of academic improvement and personality development.
4. The student must exhibit highest degree of professional conduct and attitude, as a representative of the College of Clinical Pharmacy, KFUPM and the sacred profession of Pharmacy. This should be particularly kept in mind at the time of any conflicts, if it arises.
5. Each student must contact his/her assigned preceptor at least one week prior to start of rotation.
6. Student should fill/complete the preceptor/site evaluation form sent online by the assessment committee by the end of each rotation.

2.7. Confidentiality:

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

2.8. Dress Code and Trainee's Badges:

1. All male and female students will wear college uniform with a clean, pressed white lab coats at all times in patient care areas (unless restricted/modified due to practice site requirement).
2. All male and female students are directed to wear close toe shoes during training hours
3. The student will be required to 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 badges, student will wear KFU Students Identity Badge

2.9. Cancellation of a Rotation:

College of Clinical Pharmacy will cancel a particular IPPE-1,2 as whole and APPE rotation for a student if

1. College receives more than 3 complaints regarding students' attitude, regularity and punctuality
2. Two unexcused leaves during an APPE rotation or during whole IPPE-1 or IPPE-2

3. Student's unsatisfactory performance and Failing grades in final exam of rotation
4. The preceptor will forward information to the college on specified proforma, signed by him as well as by the student.
5. The student will repeat the cancelled APPE rotation or IPPE-1 or IPPE-2 after the completion of routine schedule of the experiential module or as decided by the Experiential Education Committee

2.10. Important College Contacts:

Support Officer: Mr. Abbas Aljerish

Tel: +966 13 5895414

Email: aaljerish@kfu.edu.sa

Director Experiential Education/Chair:

Office No: Room No. 2126 New COCP Building

Cell: +966 535 6588 85

Tel: +966 13 589 8497

Email: Asaalmulhim@kfu.edu.sa

Section 3:

Advanced Pharmacy Practice Experience



3.1. PROFESSIONAL COMPETENCIES

To be achieved at the end of
ADVANCE 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
 - Professional communication & professional reports
 - Patient interview, education and counseling
- Competency-5: Drug Information and literature evaluation
- Competency-6: Professionalism
- Time management
 - Life long learning
 - Leadership and team work
 - Volunteering
- Competency-7: Pharmacy operations and Management in various settings
- Community Pharmacy
 - Institutional Pharmacy
 - Drug Companies/Business settings
- Competency-8: Research and Scholarship
- Innovation & Creativity

3.2. STRUCTURE OF APPE

APPE-1 2030431 Summer Semester			APPE-2 2030511 First Semester					APPE-3 2030521 Second Semester				Pharm. D. Qualified	
Rotation-1	Rotation--2	APPE-1 result based upon result of 2 rotations	Rotation--3	Rotation-4	Rotation-5	Rotation-6	APPE-2 result based upon result of 4 rotations	Rotation-7	Rotation-8	Rotation-9	Rotation-10	Research: compilation of data	Final OSCE Exam Research Project Evaluation APPE-3 result submission
R		E	S	E		A	R	C		H			

3.3 COURSES & ROTATIONS

1. Courses:

Course Code	Course No.	Course Name	Duration/ Contact Hours	Credit Hours	Pre-requisite/ co-requisite
PP-24	2030431	APPE-1	8 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				

2. Commencement of the Course:

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

3. Clinical Rotations & Research Report:

i. Core Rotations

- | | |
|---|---------|
| 1. Hospital Pharmacy (in & out patient) | 4 weeks |
| 2. Community Pharmacy | 4 weeks |
| 3. Internal Medicine | 4 weeks |
| 4. Critical Care/ICU | 4 weeks |
| 5. Cardiology & CCU | 4 weeks |
| 6. Pediatrics | 4 weeks |
| 7. Drug Information | 4 weeks |
| 8. Research | 4 weeks |

ii. Elective Rotations (student has to select any 4, but depends upon availability of site and preceptor)

- | | |
|-----------------------------------|---------|
| 1. Ambulatory Care | 4 weeks |
| 2. Psychiatry | 4weeks |
| 3. Infectious Diseases | 4 weeks |
| 4. Hematology/Oncology | 4 weeks |
| 5. Nephrology | 4 weeks |
| 6. Drug Companies: Drug promotion | 4 weeks |
| 7. Toxicology and poison control | 4 weeks |
| 8. Emergency Medicine | 4 weeks |
| 9. Surgery | 4 weeks |

iii. Research report:

All students will be assigned with research supervisor from among the team of COCP supervisors during their 1st APPE rotation

Student will select a research topic after discussion with their supervisor, complete their projects and will write research report, which will be submitted during 4th weeks of research rotation. **Student has to defend his project in department meeting and has to secure pass grades in poster presentation related to his project**

Assessment of Research Rotation will have following components:

1. Assessment of written research report by panel of examiners
2. Presentation and Defense of research project in presentation session, assessed by panel of assessors, one of whom will be students' supervisor:
3. Participation and defense of the project in Poster Session evaluated by COCP faculty:

4. Final Assessment: Pass/No pass

Student will be declared Pass, if he:

1. successfully completes all the rotations included in APPE course (APPE-1, APPE-2, APPE-3),
2. Pass mid and final OSCE exam,
3. pass final written exam and
4. 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)

3.4. General Goals and Objectives of APPE

1. Goals:

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

To develop clinical skills necessary to assume accountability and responsibility for evidence based therapeutic planning, intervention, outcome evaluations and provision of drug information in the process of providing patient centered care as team member of health care providers.

To develop professionalism and interpersonal skills as a member of team of interprofessional health care providers, necessary for the provision of optimal patient care and pharmacy services.

2. 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, 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 final diagnosis of the patient.
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 1, 2, and 3 in formulating a **individualized therapeutic plan** for the patient, which will include:
 - a. Therapeutic objectives, with end point 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) as well as with the other health care providers, if asked for
6. Discuss potential drug-disease, drug-drug, drug-laboratory test, and drug-dietary problems prior to 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

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 upon relevant laboratory data, physical findings, subjective findings, and consultation with medical team.
2. Identify existing or potential adverse reactions and/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 to assess their clinical significance and to discuss potential solutions.
4. Apply pharmacokinetic dosing principles to dosing of selected 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, student will familiarize him/herself with regard to:
 - i. Chart arrangement.
 - ii. Specific types of information contained therein. For example, admission note history and
Findings from Physical examination, physician order, laboratory results, 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 in a concise and complete manner.

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 lab findings regarding to the patient disease state(s), in diagnosis and follow up evaluation
3. Utilize the lab finding in formulating the individualized drug therapy plan, follow up evaluation and identifying the drug therapy problems.

E. RETRIEVE MEDICATION HISTORY: FROM PATIENT AND HIS RECORD

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

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

F. PROVIDE DRUG INFORMATION IN PROFESSIONAL MANNER

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

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

G. PERFORM DISCHARGE MEDICATION COUNSELING

Prior to counseling a patient, the student should have a comprehensive understanding of the medication to be discussed, including the drug's indications, mechanism of actions, pharmacology, appropriate use and administration, storage, common adverse effects and precautions. The student should review this information with the preceptor prior to interacting with the patient.

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

1. Provide organized and individualized instruction to patient about their diseases and drugs prescribed to improve the patient's 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.

3.5. 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 an active member of such teams.

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

1. Maintain **rotation activity log**, duly signed by the preceptor at the end of a specific activity
2. Attend daily rounds and morning meetings with assigned medical team.
3. Monitor patients assigned by preceptor. The student is required to maintain a patient specific document, such as **data collection sheet** to record patient database information, drug therapy problems, monitoring, parameters, recommendations, and follow-up. *(Please refer to the Sections on Guidelines)*
4. Record patient data, analyze and present the case in SOAP format
5. Meet with preceptor daily for discussion session that may include:
 - a. Giving informal oral presentation of assigned patients to preceptor and fellow students.

- b. Provide daily update to preceptor and fellow students on patients you are following.
 - c. Discusses reading material assigned by preceptor
- 6. Conduct at least 2 patient interview to obtain drug histories
- 7. Conduct a patient counseling sessions
- 8. Journal club Presenting: at least one article summary per rotation, assigned by preceptor
- 9. Provide drug information question assigned by preceptor if asked for; but don't volunteer yourself for this; or don't comment on the issue, you are not asked for.
- 10. Attend clinic-pathologic conferences in the department/grand rounds or other selected medical conference when arranged.
- 11. Attend APPE weekly meeting as per schedule given by the preceptor
- 12. Attend all the activities, other than the above mentioned, like CME sessions, but with the permission of the preceptor
- 13. Maintain **rotation portfolio** containing:
 - a. Student's Goals: what he wants to learn during rotation
 - b. Rotation Syllabus: Goals Objectives Activity Log signed by preceptor
 - c. All assignments projects, presentations. SOAP notes
 - d. Record of Intervention made during the rotation
 - e. Reflective narrative by the students regarding his learning experience during the rotation

3.6. Assessment of APPE

3.6.1. Assessment of APPE rotation

1. Student will be evaluated in the following domains, as per "Rotation Assessment Form

Clinical Skills	50
Use of Information Resources	20
Communication Skills	20
Professional Development	10
Total	100

2. Student will be evaluated twice during the rotation; Mid Rotation Evaluation, which will be formative to assess the progression of students' performance towards successful completion of the rotation. Preceptor will discuss with the students regarding his deficiencies which he needs to overcome for successful completion of the rotation
3. Final Evaluation of the rotation will be summative, resulting in progress to the next rotation or to repeat the rotation (Fail/Pass)
4. All the external training sites will be provided with the same Rotation Evaluation form to have uniform assessment for all the rotations, for all the students

3.6.2. Final Assessment of APPE as a whole:

Following are mandatory requirements for successful completion of APPE for all Pharm D students:

1. Passing grades in **Mid and Final OSCE in aggregate**
2. Passing grades **in written exam to be held at the end of 10 clinical rotations**
3. Passing the research rotation
 - i. Complete and submit the project report during last week of research rotation
 - ii. Prepare powerpoint presentation and present in faculty forum getting minimum 60% grades
 - iii. Prepare poster and exhibit on scheduled time and date and should secure minimum 60% grades in evaluation

The weightage of various segments will be as under:

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. Mid OSCE	5%
5. Final OSCE	7.5%
6. Comprehensive Written Exam	7.5%
7. Research	5%
Total	100%

3.7. Textbooks / References

1. **Pharmacotherapy, a Pathophysiologic Approach**, 10TH Ed, DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, eds. McGraw-Hill, New York, NY.
2. Pharmacy Student Survival Guide Ruth Nemire (Author), Karen Kier, The McGrawHill Companies: 2009
3. Pharmacy Practice Clinical Manual Boh L, ed, 2ed. Lippincott, 2002.
4. A Practical Guide to Contemporary Pharmacy Practice: Judith E. Thompson Lippincott Williams & WilkinsP 2009
5. Materials as assigned by preceptor or participating health care professionals

3.8. DESCRIPTION OF APPE ROTATIONS

List of Rotations

1. Institutional Pharmacy Rotation	20
2. Ambulatory Care	21
3. Internal Medicine	24
4. Cardiology & CCU	25
5. Pediatrics	26
6. Medical ICU	27
7. Hematology/Oncology	31
8. Nephrology	32
9. Emergency Medicine	32
10. Infectious Diseases	33
11. Surgery	34
12. Obstetrics & Gynecology	35
13. Psychiatry	36
14. Community Pharmacy	37
15. Drug Information Services	39

1. INSTITUTIONAL PHARMACY ROTATION

Goal:

To expose students to the practice of institutional pharmacy, to provide the opportunity to explore the health care team approach to patient care, the role of pharmacists in professional decision making, and how the pharmacist and staff supports the well-being of the patient.

Rotation Specific Learning Objectives:

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

- A. Define and understand the philosophy of the pharmacy department and its role in patient care.
- B. Define and describe the role and function of members within the pharmacy department
- C. Demonstrate and understand pharmacy operations like:
 1. Medication orders
 2. Order processing
 3. Automated medication systems
 4. Inspection and filling of medication storage units
 5. Inventory Management
 6. Procedure For Disposal Of Expired Medication
- D. Understand and demonstrate medication administration in the institutional setting including:
 1. Medication administration records
 2. Narcotic count sheets
 3. Injectable administration
 4. Intravenous (IV)
 5. Intramuscular (IM)
 6. Subcutaneous (SQ)
 7. Oral administration
- E. Demonstrate and understand:
 1. Sterile products compounding
 2. Understand and apply aseptic techniques
 3. Demonstrate the ability to complete calculations
 4. How to find information related to:
 - i. IV compatibility
 - ii. IV stability
 - iii. IV expiration
- F. Students should observe and understand: Clinical Services
 - a. Medication Therapy Management
 - b. Dosing
 - c. Therapeutic recommendations and interventions
 - d. Medication Reconciliation
 - e. Patient education and discharge counseling
 - f. Medication Error reporting
- G. Understand The Functional Role Of The Pharmacy And Therapeutics (P&T) Committee and other professional committees

2. AMBULATORY CARE ROTATION

The general goals and objectives for the Ambulatory Care Rotation are discussed below. All goals and objectives may not be addressed at every training slot, depending on patient load, types of patient encountered, and length of rotation. Learning strategies to meet the goals and objectives are simply suggestions and may be modified by the preceptor 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 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 role of the pharmacist in collaborative drug therapy management (CDTM).

Rotation Specific Learning Objectives for each goal:

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:

- a. Identify the drug class.
- b. List indications for use.
- c. Describe the mechanism of action.
- d. Describe potential adverse drug events.
- e. Identify the potential time course for adverse drug events.
- f. List monitoring parameters for therapeutic efficacy.
- g. List monitoring parameters for potential adverse drug events.
- h. Identify potential drug-drug interactions.
- i. Identify drug-disease interactions.
- j. Evaluate cost-effectiveness compared to other therapeutic options.
- k. List contraindications for use.
- l. 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:

- a. Describe the epidemiology of the disease.
- b. Discuss the pathophysiology of the disease.

- c. List the negative outcomes of the disease.
- d. Discuss the impact of the disease on the patient and the healthcare system.
- e. Describe strategies to prevent the disease.
- f. Discuss non-pharmacological strategies to treat the disease.
- g. Outline a treatment algorithm for managing the disease.
- h. 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:

- a. Identify a patient-specific question.
- b. List appropriate resources for answering a question.
- c. Develop a search strategy for answering a question.
- d. Apply the evidence-based medicine (EBM) approach to a specific patient.
- e. Critically evaluate literature to determine strengths and weaknesses of a study.
- f. 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 and/or the medical record: (Page:)
 - i. Demographic data of patient
 - ii. Chief complaint
 - iii. History of present illness
 - iv. Past medical history
 - v. Family history
 - vi. Social history
 - vii. Current medications
 - viii. Past medications
 - ix. Vital signs
 - x. Review of systems
 - xi. Pertinent positives of the physical examination
 - xii. Pertinent negatives of the physical examination
 - xiii. Laboratory results
- b. Perform blood pressure measure 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 patients specific needs and questions.
- c. Provide 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 important points.
- k. Present recommendations to providers in a manner that are:
 - Clear
 - Organized
 - Evidence-based
 - Patient-specific
- l. Discuss patient-specific options with team members.
- m. Describe evidence for recommendations and decisions.
- n. 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:
 - i. Non-adherence
 - ii. Incorrect dose
 - iii. Incorrect schedule
 - iv. Adverse drug event
 - v. Drug-drug interaction
 - vi. Drug-disease interaction
 - vii. Therapeutic failure
 - viii. Therapeutic duplication
 - ix. Ineffective medication
 - x. Not cost-effective
- c. List additional information necessary to further assess drug-related problems.
- 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.

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

- a. Identify monitoring parameters for therapeutic efficacy in a specific patient.
- b. Identify monitoring parameters for adverse drug events in a specific patient.
- c. Develop a therapeutic plan for monitoring drug therapy.
- d. Describe the frequency for outcomes monitoring.
- e. Manage drug therapy.

H. Understand the role of the pharmacist 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.

3. INTERNAL MEDICINE

Goal:

To prepare the student with knowledge base and problem solving skills relating to the management of patients with 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 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 assigned disease and its treatment plan (including efficacy, toxicity, side effects, and potential drug interactions).
6. Effectively communicate the drug treatment plan to the patient with the appropriate precautions and expectations.
7. Effectively suggest and communicate therapeutic interventions to other members of the health care team.
8. Provide adequate documentation and literature support for therapeutic recommendations.
9. Evaluate the quality of the literature utilized in making recommendations.

Activities:

1. Attending morning meetings/grand rounds and daily rounds
2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)

3. Case presentation at least 2 in rotation (with faculty members of the unit)
4. Interviewing patients, counseling patients, 2/week
5. Arranging and writing for discharge medications, 2/week
6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
7. Observing diagnostic invasive procedures
8. Any other activities assigned by the preceptor

4.CARDIOLOGY & CORONARY CARE UNIT (CCU)

Goal:

To prepare the student with a knowledge base and problem solving skills relating to the management of patients with common cardiovascular problems with 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 plan for patients with acute and chronic cardiovascular diseases.
- E. Monitor patient-care plan for efficacy and toxicity and identify when interventions are needed.
- F. Educate patients and other health-care professionals regarding cardiovascular therapy.
- G. Communicate effectively with patients and health-care professionals.
- H. Collaborate with members of the cardiology team to provide optimal patient care.

- | | |
|----------------------------|-------------------------------------|
| 1. Hypertension | 6. Cardiac arrhythmias |
| 2. Ischemic Heart Disease | 7. Stroke |
| 3. Acute Coronary Syndrome | 8. Venous Thromboembolism |
| 4. Heart Failure | 9. Cardiogenic Shock |
| 5. Dyslipidemia | 10. Pulmonary Arterial Hypertension |

Activities:

The student has the responsibility of active learning and self study by actively participating in following activities

1. Attending CCU and Cardiology Rounds
2. Participating in grand round, as scheduled by the site administration
3. Reviewing patient charts, and prepare case histories
4. Interviewing patients, counseling patients regarding disease state and medication with active taking part in intervention
5. Participate in writing for discharge medications, and counseling the patient
6. Case presentation and Journal Club as organized/assigned by the preceptor
7. Any additional activities assigned by the preceptor

5. PEDIATRICS

Goal:

To prepare the student with knowledge base and problem solving skills relating to the management of pediatric patients with 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 pediatric dosing, antibiotic therapy, pain and sedation management, and pharmacokinetic analysis.
- C. Monitor patient therapy and progression, in consult with physicians and nurses,
- D. Suggest interventions, while having round with the preceptors, if asked for

Activities:

1. Attending morning meetings and daily rounds
2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)
3. Case presentation at least 2 in rotation (with faculty members of the unit)
4. Interviewing patients, counseling patients, 2/week
5. Arranging and writing for discharge medications, 2/week
6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
7. Observing diagnostic invasive procedures
8. Any other activities assigned by the preceptor

6. MEDICAL INTENSIVE CARE UNIT (CRITICAL CARE)

GOALS with OBJECTIVES

- A. Take personal responsibility for attaining excellence in one's own ability to provide pharmaceutical care for MICU patients
 - 1. Display initiative in preventing, identifying, and resolving pharmacy-related MICU patients care problems
- B. Communicate clearly when speaking or writing
 - 1. Organize all written or oral communication in a logical manner
 - 2. Address all communication at the level appropriate for audience
 - a. *Modify communications strategies to communicate effectively with caregivers, or patient's family.*
 - 3. Use correct grammar, punctuation, spelling, style, and formatting conventions in preparing all written communications.
 - 4. Speak clearly and distinctly in English.
 - 5. Use public speaking skills to speak effectively in large and small group situations
 - 6. Use listening skills effectively in performing job functions
 - 7. Use a knowledge of visual aids to enhance the effectiveness of communications
 - 8. Use persuasive communication techniques effectively
 - 9. Prepare all communication so that they reflect a positive image
 - 10. 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 a multidisciplinary teams caring for MICU patients
 - 1. Represent the Pharmacy perspective effectively when working on a multidisciplinary team
- D. Understand educational methods appropriate for use with MICU patients, family members, and/or caregivers
 - 1. Explain effective educational methods for use with MICU patients, family members, and/or caregivers
- E. Use appropriate behavioral and cognitive techniques in interactions with MICU patients, their family members, caregivers, and other health care professionals

1. 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
1. Collect and organize all patients-specific information needed by the pharmacist to prevent, detect, and resolve medication-related problems and to make appropriate drug therapy recommendations for MICU patients
 - a. 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
 - b. 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
 - c. 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
 - d. Integrate effective communication techniques in interviews with patients, caregivers, health care professionals, or others so that the patient-specific information needed by the pharmacist is collected
 2. Determine the presence of any medication therapy problems in an MICU patient's current medication therapy
 3. Using an organized collection of patient-specific information, summarize MICU patient's health care needs
 4. Specific pharmacotherapeutic goals for MICU patients that integrate patient-specific data, disease-and medication-specific information, and ethical and quality-of-life considerations
 5. Design the pharmacotherapeutic regimen that meets the pharmacotherapeutic goals established for MICU patients: integrates patient-specific information, and ethical issues, and quality-of-life issues; and considers pharmacoeconomic principles
 6. Design monitoring plans for pharmacotherapeutic regimens for MICU patients that effectively evaluate achievement of the patient-specific pharmacotherapeutic goals
 7. Recommend for an 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 appropriate the patient.
 8. Accurately interpret the meaning of each monitoring parameter measurement

9. Modify an MICU patient's pharmacotherapeutic plan as necessary based on 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
 1. Design appropriate medication-use education for the family members, and other caregivers of the MICU patients and, when appropriate for the MICU patients, that effectively meets their needs
 2. Use effective patient education techniques to provide counseling to family members, and other caregivers, and, when appropriate to MICU patients, including information on drug therapy, adverse effects, compliance, appropriate use, handling, and drug administration
- H. Ensure continuity of pharmaceutical care for MICU patients to and from the acute, long-term, and ambulatory care settings
 1. Use a systematic procedure to communicate pertinent pharmacotherapeutic information for MICU patients to and from the acute, long-term, and ambulatory care settings
- I. Participate in the management of MICU patients medical emergencies
 1. Exercise skill as a team member in the management of medical emergencies
 - a. *Follow established protocol procedures for medical emergencies*
 - b. *Explain appropriate drug therapy in medical emergency situation*
- J. Provide concise, applicable, and timely response to requests for drug information from health care providers and patients
 1. 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
 1. Design effective in-service education for physicians, nurses, and other practitioners on issues related to MICU patients
 2. Use effective educational techniques to deliver in-service education for physicians, nurses, and other practitioners on issues related to MICU medications

Activities

The intern will be required to perform a variety of daily activities, which may include the following:

1. Attend daily morning report if applicable
2. Attend daily MICU rounds (at least 1 hr prior to work your patient usually rounds start around 8:30 am)
3. Be a drug information resource for all the health care professionals in the MICU

4. Present patients to the faculty member along with the assigned topics and other primary literature articles, which are relevant to patient care
5. Monitor drug therapy on all patients on service and make appropriate recommendations
6. Document all clinical recommendations in the medical record after being approved by the faculty member
7. Participate in all DUE and ADR reporting
8. Help with all clinical research projects in which clinical faculty member is an investigator
9. Have direct patient (family members or caregivers) interaction through drug history taking as well and counseling
10. Attend Grand Rounds on a weekly basis
11. Provide one major educational program or in-service
12. One drug monograph and final test at the end of the rotation
13. Review current literature pertaining to adult illnesses requiring intensive care.

Journals to be reviewed may include, but are not limited to:

- a. Critical Care Medicine
- b. New England Journal of Medicine
- c. JAMA
- d. Lancet
- e. Chest
- f. Circulation
- g. Annals of Internal Medicine
- h. Annals of Pharmacotherapy
- i. Archives of Internal Medicine
- j. Clinical Infectious Diseases

14. Cover content areas including, but not limited to

Toxicology	DKA
Pneumonia	Sepsis/Shock
HIV/opportunistic infections	CHF/CVA/CAD
Status asthmaticus/epilepticus	Arrhythmias
Respiratory failure	Hypertension
GI hemorrhage	Hepatitis/liver failure
DIC/HIT	Renal failure

7. HEMATOLOGY/ONCOLOGY

Goal:

The rotation will provide the student with the opportunity to develop skills in therapeutic management of hematology/oncology patients, including pharmaceutical as well as supportive care.

Rotation Specific Learning Objectives:

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

- A. Develop primary and alternative plan for therapeutic management of the following condition, with a sound knowledge of symptomatology, physical findings, pathophysiology, diagnostic procedures, laboratory tests .
 - a. Hematologic malignancy
 - i. Leukemias (acute nonlymphocytic, acute lymphocytic, chronic myelogenous, chronic lymphocytic)
 - ii. Hodgkin's disease
 - iii. Non Hodgkin's lymphoma
 - iv. Multiple myeloma
 - b. Solid tumors
 - i. Breast cancer
 - ii. Lung cancer (small cell, non small cell).
 - iii. Gastric cancer.
 - iv. Colon cancer
 - v. Genitourinary tract cancer (cervical, ovarian, endometrial, prostate, testicular, urinary bladder, kidney)
- B. Familiar with the role of diagnostic, palliative, and curative radiation therapy and surgery in cancer management including the monitoring and management of the associated complications.
- C. Establish therapeutic and toxic endpoints of therapy.
- D. Develop plan for supportive-terminal (hospice) care and pain control for these patients

Activities

1. Participate in providing pharmaceutical care for patients
 - a. Plan for antibiotic therapy, and pharmacokinetic monitoring (especially aminoglycosides, vancomycin, methotrexate, and tacrolimus), TPN and electrolyte replacement, chemotherapy order writing and review, pharmaceutical care documentation, patient interviews, discharge planning and patient education,
2. Symptom management including, but not limited to: chemotherapy induced nausea and vomiting, pain management, and nutrition.

8. NEPHROLOGY

Goal:

This rotation is designed to provide the student with an opportunity to develop his/her skills in management of Acute and Chronic Renal Failure, being an active member of team of health professionals, taking part in therapeutic decision making, its application and monitoring .

Rotation Specific Learning Objectives:

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

- A. Develop management plan under supervision of nephrologist for acute and chronic failure based upon etiology clinical presentation, pharmacodynamic and pharmacokinetic parameters, and medical history of the patient
- B. Demonstrate the application of the principles of renal replacement therapy.
- C. Communicate the treatment plan with patient.
- D. Monitor drug dosing, adverse events, drug interactions, and efficacy of all medications affecting the renal system and recommend changes in drug therapy when appropriate

Activities

1. Attending morning meetings and daily rounds
2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)
3. Case presentation at least 2 in rotation (with faculty members of the unit)
4. Interviewing patients, counseling patients, 2/week
5. Arranging and writing for discharge medications, 2/week
6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
7. Observing diagnostic invasive procedures
8. Any other activities assigned by the preceptor
- 9.

9. EMERGENCY MEDICINE

Goal:

To prepare the student with a knowledge base and problem solving skills relating to the provision of emergency medical care by exposing him to an experience with the EMS System, with a team of health care professionals.

Rotation Specific Learning Objectives:

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

- A. Ensure the delivery of the right medication to right patient and utilize other aspects of pharmaceutical care and ensure the most appropriate therapy is chosen and administered.
- B. Utilize patient data to identify potential and present medication related problems.
- C. Assess medication errors, drug interactions and adverse drug reactions as causes of ED admissions.
- D. Conduct history of patients and family members when appropriate.
- E. Participate in the physical exam and assess the patient's diagnosis for the most appropriate treatment protocol
- F. Make therapeutic recommendations in an ED setting based upon evidence based medicine.
- G. Identify and apply the pharmacological and non pharmacological aspects of cardiopulmonary resuscitation (CPR) and will participate in all such events. The student will be able to locate the various drugs and other ancillary items (i.e., ABG kits, IV bags, laryngoscope) in the Crash Cart and be able to discuss drug therapy used in CPR/ACLS.

10. INFECTIOUS DISEASES

Goal:

To prepare the student with a knowledge base and problem solving skills relating to the treatment of infectious diseases with antimicrobial agents with 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 serious infectious diseases with demonstration of strong 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:
 - a. Penicillins
 - b. Cephalosporins
 - c. Monobactams
 - d. Carbapenems
 - e. Macrolides
 - f. Sulfonamides
 - g. Fluoroquinolones
 - h. Metronidazole
 - i. Glycopeptides
 - j. Tetracyclines
 - k. Aminoglycosides
 - l. Antivirals
 - m. Monoclonal antibodies
 - n. Antifungals
- C. Define appropriate utilization and understanding of laboratory tests specific to infectious diseases including:

- a. Antimicrobial susceptibility testing
 - b. MIC and MBC determinations
 - c. Serum bactericidal titers
 - d. Immunologic techniques including:
 - e. Serological testing for legionella, mycoplasma, and hepatitis
 - f. General smear and staining techniques
 - g. Limitations and techniques of culture and susceptibility testing
 - h. Concepts regarding synergy testing and post-antibiotic effects
 - i. Interpretation of white blood cell count and differential, and adequacy of specimens obtained for stain and culture
 - j. Interpretation of non-specific laboratory evaluations including erythrocyte sedimentation rate, serum complement levels, and acute phase reactants
- D. Understand the underlying mechanisms of infections in general, including alterations in specific host defense mechanisms
- E. Demonstrate appropriate indications and criteria for use for restricted antimicrobial drugs

Activities

- 1. Attending morning meetings and daily rounds
- 2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)
- 3. Case presentation at least 2 in rotation (with faculty members of the unit)
- 4. Interviewing patients, counseling patients, 2/week
- 5. Arranging and writing for discharge medications, 2/week
- 6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
- 7. Observing diagnostic invasive procedures
- 8. Any other activities assigned by the preceptor

11. GENERAL SURGERY

General Goals and Activities

- A. Review of anesthetic gases, neuromuscular blockers, reversal agents, surgical infection prevention, local anesthetics, analgesics, and cardioplegia.
- B. Working knowledge of processes encountered in a surgery pharmacy satellite such as narcotic documentation and disposal.
- C. Observe various surgical procedures and will follow selected patients from the preoperative holding area, through the intra-operative process, and the post-anesthesia care unit
- D. Discuss all medications used.
- E. Familiar with the management of patients receiving parenteral nutrition.

F. Journal club and formal presentation.

12. OBSTETRICS/GYNECOLOGY

Goal:

To prepare the student with the necessary knowledge base and problem solving skills in an obstetrics/gynecology environment with a pharmaceutical care perspective

Rotation Specific Learning Objectives:

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

- A. Describe the symptomatology, physical findings, pathophysiology, diagnostic procedures, laboratory tests, and treatment for all encountered medical illnesses during pregnancy.
- B. Describe the physiologic changes that occur during pregnancy.
- C. Discuss the pharmacologic agents that may be harmful to the fetus or mother if used during.
- D. Discuss the pharmacologic agents that may be harmful to the child if used during breast feeding.
- E. Discuss the problem solving process to determine the risk vs. benefit of using drug therapy during pregnancy and lactation.
- F. Describe the standard medical care of a pregnant patient.
- G. Describe commonly encountered gynecologic diseases and their treatment, monitoring, and follow up.
- H. Provide counseling to patients requiring drug therapy.

Activities

1. Attending morning meetings and daily rounds
2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)
3. Case presentation at least 2 in rotation (with faculty members of the unit)
4. Patients, counseling patients, 2/week
5. Arranging and writing for discharge medications, 2/week
6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
7. Observing diagnostic invasive procedures
8. Any other activities assigned by the preceptor

13. PSYCHIATRY

Goal:

To prepare the student with 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 supervision of preceptor) 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/or laboratory work-up) for the presence of psychiatric ailment including substance abuse, addiction, noncompliance, and/or drug misuse.
- C. Recommend or initiate the collection of laboratory data relevant to developing a pharmacotherapeutic plan.
- D. Plan and Initiate, recommend and/or monitor the pharmacotherapy for the major psychiatric disorders and recommend interventions in drug therapy based upon the patient's presentation, symptoms and signs, lab data and adverse effects. for the following psychiatric disorders:
 - a. Mood disorders (major depressive disorder, bipolar disorders)
 - b. Anxiety disorders (agoraphobia, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, posttraumatic stress disorder, social phobia, specific phobia)
 - c. Sleep disorders (insomnia, sleep apnea, narcolepsy)
 - d. Psychotic disorders (schizophrenia, schizoaffective disorder)
 - e. Drug induced Parkinsonism)
- E. Recognize potential drug-drug interactions with medications and recommend monitoring parameters, changes in pharmacotherapy, and alternative therapies to minimize adverse effects.
- F. Review, evaluate and present the psychiatric, medical, and/or pharmaceutical literature for selection of medication based on best current evidence available.
- G. Provide medication education and counseling (under supervision) regarding drug therapy to psychiatric or patients and their families.
- H. Respond professionally to drug Information questions after searching appropriate literature sources

Desired Activities (under supervision of College Preceptor)

1. Attending morning meetings and daily rounds
2. Reviewing patient charts, and prepare case histories 2/week (history, lab, clinical exam, therapeutic plan, prescription, as per attached Case Recording Proforma)
3. Detailed Case presentation at least 2 in rotation
4. Patients, counseling patients, 1/week
5. Arranging and writing for discharge medications, 2/week

6. Journal club: select and present a recent review article on topic assigned by the preceptor at least 2 in rotation
7. Attending continuing professional development activities being held at the training site
8. Any other activities assigned by the preceptor

14.COMMUNITY PHARMACY

Goal:

To prepare students to be effective competent community pharmacists equipped with the proper tools. The student should be able to interact with patients, the pharmacy staff and other healthcare providers while participating in a variety of learning activities, which will further develop and enhance professional judgment, knowledge, and the skills needed to practice in this setting. Under the preceptorship of the pharmacist, the student will be provided with many opportunities to apply his/her academic basic science and clinical skills to patient care in the community setting.

I- Rotation Objectives

After successful completion of rotation, student will be able to

- A- Demonstrate practical clinical skills that will enable the student to enhance the quality of life of patients and advance pharmaceutical care in the community setting.
- B- Establish, maintain, utilize patient histories (when available) in order to monitor and evaluate drug therapy and be able to recommend over the counter products.
- C- Effectively communicate, both verbally and in writing, with patients as well as health professionals.
- D- Use the most appropriate resources to respond to a drug information questions in an accurate and timely manner.
- E- Conduct him/herself in a professional and ethical manner when interacting with patients and health professionals.

II- Required Activities

During the community pharmacy practice rotation the student will be involved in the following activities and any additional requirements as noted by the site and college preceptors.

1. Perform and record patient medication histories.
2. Perform triage functions in discussing health-related problems with patients and referring them to appropriate health care providers or recommending appropriate self-care.
3. Perform therapeutic drug monitoring through patient interview and medication profile review and/or through drug serum concentrations and other laboratory tests as needed.
4. Counsel and teach patients regarding the appropriate use of prescription medications, OTC medications and medical supplies.

5. Prepare a personal non-prescription formulary to assist in over-the-counter (OTC) medication recommendations. This formulary will address the following therapeutic topics: selection of analgesics, cough/cold/allergy, antacid and laxative products. It should address the needs of patients with hypertension and/or diabetes and also address elderly, pediatric and pregnant patients. Other classes of medications may also be included (i.e. topicals, sedatives, ophthalmics, otics etc.). It is recommended that this be presented in an easy-to-read table format and completed around the mid-point of the rotation for use when counseling patients.
6. Interact with health care providers verbally and in writing when necessary.
7. Prepare a written and oral patient case report critically analyzing drug therapy. The student should select a case that is sufficiently complex or unique. The preceptor will approve the patient selection. The process of data collection for this report should include a thorough patient interview (see Appendix A for format).
8. Answer with proper documentation at least three drug information questions from patients or other health professionals. Critically review and evaluate the medical and pharmaceutical literature in researching drug information questions.
9. The student will prepare and submit at least two new drug monographs. The first will be presented to the preceptor during the first half of the rotation; the second "new drug" monograph will be presented during the last half of the rotation (exact due date to be determined by preceptor). One of these reviews may cover an herbal, OTC or vitamin/supplement medication.
10. Daily recording at least one group of medications with emphasis on the clinical pearls of each group, mechanism of action, side-effects, available formulation and which is the most moving item of the group. Drug review exercise on the format attached, for the following groups: 2 per weeks
 - i. Anti-diabetic agents including insulin
 - ii. Anti-depressants
 - iii. Antiepileptics/antiseizure drugs
 - iv. NSAID's
 - v. Anti-hypertensive drugs
 - vi. Hyperlipidemia agents
 - vii. Antibiotics
 - viii. Antifungal/antiviral/antiprotozoal
11. The student should prepare at the beginning of the 3rd week a community pharmacy project after getting approval from the Faculty preceptor that could address improvement in the community pharmacy practice or increase Community awareness regarding any disease common in the Kingdom
12. The student will prepare and present at least one journal club assignment/educational presentations during the rotation. The assignment must be relevant to community pharmacy practice or primary care as assigned by preceptor.

The goals of this presentation are:

 - a. To provide practical information for clinicians, staff or patients.

- b. To give the students the opportunity to organize and relate drug/disease information to a specific audience.

Topics for this assignment could be (but not limited to):

- a. New drug evaluation
 - b. Discussion of current guidelines for assigned diagnosis
 - c. Patient educational materials.
 - d. Newsletters
13. The clinical and communication skills of the student will be assessed by a Mock OSCE-type evaluation, where one to one assessment (preceptor-student) takes place and the student will be asked to provide a medication counseling, solve a therapeutic/drug problem, recommend a self-care product, etc.....as he would do in practice
 14. Extra activities/assignments as assigned by your site/college preceptor.

15. DRUG INFORMATION

Goal:

To train the intern on how to properly receive requests for information, conduct a systematic information search, and prepare an appropriate response form.

To develop 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:

1. Describe the organization and responsibilities of the Drug Information centers.
2. Demonstrate an efficient approach to process Drug Information request by being able to:
 - a) Assess the information needs of other healthcare professionals and/or patients by taking questions presented to them, along with appropriate background information.
 - b) Research and retrieve evidence-based information via use of available resources.
 - c) Interpret and evaluate information as demonstrated by question response preparation, journal club or other ways.
 - d) Transmit information to requesters in an appropriate form (oral, print and/or written).
 - e) Document Drug Information requests and responses.
3. Identify adverse drug events and medication errors in various practice settings and document them for reporting purpose.
4. Complete formulary monograph/s or other written project/s.
5. Understand the creation, maintenance and management of medication formulary.
6. Discuss ethical issues involved in the operations of a Drug Information service.
7. Write well-structured and properly cited case reports.

Desired Activities (under supervision of College Preceptor)

I. Group Discussions

Topics to be covered:

1. Introduction to Drug Information services and role of pharmacist in providing such services.
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

II. Rotation Specific Activities

1. Providing Drug Information consultations.
2. Starting from week 2 this will be their main daily activity and the one of the highest priority.
3. Making different assignments requested by preceptor.
4. Drug Information response presentation (Once)
5. Intern will present one of DI requests he/she 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 and not discussed in other rotations.
11. E.g. those related to role of clinical pharmacist in patient safety, patient education, healthcare practitioners education, etc.

12. First journal club will be exclusive to the rotation; second journal club will be presented in the daily meetings of interns.
13. Studies should be selected and approved by the start of week 2.
14. Case presentation (At least once)
15. Writing a report of DIC activities practiced during the whole rotation.
16. Writing a daily report for attended interns meetings with cons and pros of each presentation.
17. Attending meetings and participation in activities of hospital committees related to pharmacy practice. (If Available)
- 18.

III. 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 DIC of the rotation site.
3. Practice Guidelines Review Presentation
4. Preparing and presenting a project which provides a solution for a problem exists at intern's training settings.
5. Problem could be detected during previous rotations or by discussing intern's colleagues in other rotations. Solution could be any DI service like preparing patient/Nurse/Physician education materials, guidelines, etc.
6. If project is patient oriented, prepare the project end product in both English and Arabic languages

3.9. GUIDELINES, ASSESSMENT FORMS

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1. APPE ROTATION ACTIVITY LOG

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

Name of the student _____ University # _____ Rotation _____

Rotation site _____

Student should complete the following proforma for each rotation, got it signed and submit to the college after not late than 1 week of the end of rotation. Proforma may be downloaded from college website/WebCT

Sr. #		Week1	Week 2	Week 3	Week4
1.	Attending the round & Morning meetings				
2.	Reviewing patient charts				
3.	Interviewing/counseling patients				
4.	Arrange writing for discharge medications (or Participate)				
1.	Case presentation				
2.	Journal club				
5.	Observing procedures,				
6.	Any additional activity assigned by the preceptor				

Name & Signature of the Preceptor _____ Date _____

2. Patients' Profile form

Student's Name_____

University#_____

1. PATIENT'S PROFILE:

a. Name.....Age.....Gender.....Admission
date.....

b. Weight:.....Height:.....Allergies:.....

2. HPI (History of Present illness)

CC (Chief Complaints) with duration (for which the patient attended/admitted the hospital
Please give a little detail of each)

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جامعة القصيم

الرياض

3. PMH: Past Medical History(brief, any major disease in the past

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4. SH: (Social History): about his job, habits, living alone or family, any family problem, smoking; if yes, how many, any hobbies, like playing something etc

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5. FH: (Family History) (same or similar disease, or any other chronic disease in family, father, mother, brother, sister (blood relations) (particularly, Diabetes, Ischemic heart Disease, Hypertension, Stroke, Tuberculosis etc

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.....Medication (including home medications, self medications) Trade name with generic names, dose and duration, whether taking regularly or not

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6. ROS/PE: (Review of Systems/Physical Examination) (You may consult the resident for findings)

General appearance: conscious, alert, oriented, looks healthy or sick, pale, cyanosed etc

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Temperature.....Pulse rate Blood pressureRespiratory rate.....

Anemia..... Jaundice..... Cyanosis..... Edema.....
Ascites.....

Any significant clinical finding in any system,.(please consult the resident on duty)

- HEENT (head, ear, eyes,nose,throat)

- Skin.....
- Lungs.....
- Heart.....
- Abdomen.....
- Extremities.....
- Neurological;

7. Lab Tests: (with normal values) (You may use the table for follow up lab results)

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8. WORK Up: organize the data in SOAP format with detailed plan

- a. Subjective
- b. Objective
- c. Assessment
- d. Plan

3. Case/SOAP Presentation Evaluation

Site:.....Rotation:.....
.....

Name.....University #:
.....Date:.....

Title:.....
...

Sr.#.	STATEMENTS	5	4	3	2	1
1.	Presentation was clear and organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	All pertinent history was presented accurately CC, HPI, PMH, FH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	All pertinent physical findings were presented accurately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	All pertinent labs were presented accurately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	All pertinent problems were correctly identified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	Assessment was appropriate for level of training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Plan (diagnostic, therapeutic, education) was appropriate for level of training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	SOAP was well written and presented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	Response to the questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Overall evaluation of presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Total out of 50=.....X.....: %: X..... x 2: %

Comments:.....
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Name:.....Sign:.....Date:.....

5. Patients' Counseling Form

Counseling Session Information:

Medication name, strength and dosage form:			
Patient DOB:	Sex:	Height:	Weight:
Allergies:			
Disease History:			

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

Questions	Answers
Did you identify the patient and yourself?	
Did you explain the purpose of counseling?	
Did you name and show the medication to the patient, verifying that the prescription was filled correctly?	
Question: What did the prescriber tell you the medication is for?	
Question: How did the prescriber tell you to use the medication? What route, how much, how often and when? Taken with or without food? Duration of therapy? What to 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's Name: _____

Date: _____

6. Guidelines for Journal Club

Important:

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, methods of measurement
5. Work with 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 detail
 - Contemporary or outdated methods
 - References to standard methods, or Description of modified methods, if applicable
 - **Patient selection methods**
 - Inclusion and exclusion criteria - logical, all-inclusive
 - **Study design**
 - Supports objectives
 - Study location - single center vs. multicenter
 - Appropriate controls used

- Placebo
 - Gold-standard treatment
- Blinding (e.g., placebo)
 - Single blind vs. double blind
- Randomization procedure used
- Appropriate 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 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 in perspective to 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

7. Journal Club Evaluation

Site:.....Rotation.....

Name.....University #:

.....Date.....

Title.....

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Sr.#.	STATEMENTS	5	4	3	2	1
1.	Student described the study objective and hypothesis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Student explained the study design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	Student explains statistical tests and result	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	Identify potential bias	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	Determine study strength and weakness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	State the study conclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Identify recent trials related to the study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	Evaluate external and internal validity for clinical applicability of study results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	Ability to handle questions with appropriate depth of knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Presentation skills and time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Total out of 50=.....X.....: %: X..... x 2:%

Comments:.....

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

8. END OF ROTATION ASSESSMENT FORM

Ministry of Higher Education

King Faisal University

College of Clinical Pharmacy

Department of Pharmacy Practice



1. APPE Rotation Evaluation

Student's Name:

University I.D :

Rotation site:

Rotation Period with dates :

Name of Preceptor:.....

Final Grades:.....

I. INSTRUCTIONS FOR PRECEPTORS FOR ASSESSMENT OF STUDENTS

- a. **Review the evaluation form and decide which components will be covered on your rotation. If** an area will not be covered mark N/A and make the student aware.
- b. Preceptor is requested to evaluate the student in the following domains with prescribed weightage for each domain:

Sr. #	Domains	Weightage
1.	Clinical Skills	50
2.	Use of Information Resources	20
3.	Communication Skills	20
4.	Professional Development	10
Total		100

- c. **Midway of the rotation (approximately 2 weeks), do a mid-point evaluation**
 - i. 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
 - ii. 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 practice must be notified using the mid-point evaluation form.**
 - iii. **At final evaluation, rate the student's performance again** according to the same scale. Use the same evaluation form so both the mid-point and final evaluations are together for easy comparisons.
- d. **Review the final evaluation with the student.** Both parties sign and date at the end of the evaluation form
- e. **An average grade of less than 2 in any section will result in a failing grade for the entire rotation.**

Please complete and mail within 5 days from the end of rotation to:

College of Clinical Pharmacy
King Faisal University
B.O. Box 400
AlAhsa, KSA 31982
Attention: Dr. Yasir A. Ibrahim

II. DOMAINS OF STUDENTS' ASSESSMENTS

1. CLINICAL SKILLS

1.1 Details:

Skill	4	3	2	1
a. Appropriately identifies real and potential drug therapy problems.				
b. Design appropriate patient pharmacotherapeutic plans.				
c. Appropriately assesses patient status and monitors response to therapy.				
d. Applies pharmacokinetic principles to make dosing recommendations.				
e. Describes pathophysiology, clinical presentation and appropriate therapies for each patient problem.				
f. Collects and analyzes patient data in accordance with current standards of practice.				
g. Demonstrates a working knowledge of drug classes, mechanism of action, common adverse effects, drug-drug interactions, drug-disease interactions and monitoring parameters.				
h. Appropriately documents clinical findings and interventions in patient medical record				
i. Evaluates drug orders for accuracy and safety.				
j. Integrates basic science knowledge with specific patient problems.				
k. Demonstrates ability to triage patients to other health care professionals.				
l. Demonstrates working knowledge of non-drug therapies and alternative therapies.				

1.2. Criteria for Grading:

1	2	3	4	N/A
Student lacks basic knowledge and clinical skills needed for practice, omits key clinical data, unable to derive treatment plans	Student has basic knowledge and clinical skills, accumulates most key clinical data, able to derive treatment plans with some help from preceptor	Student has advanced knowledge and clinical skills, accumulates key clinical data, able to derive treatment plans with minimal help from preceptor	Student has advanced knowledge and clinical skills, accumulates all key clinical data, able to derive treatment plans without help from preceptor	Student is not evaluable in this area

1.3. Student's Grades:

Mid-point	1	2	3	4	N/A
Final	1	2	3	4	N/A

1.4. Comments

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2. USE OF INFORMATION RESOURCES

2.1. Details.

- Effectively retrieves and uses drug information resources
- Applies drug literature appropriately in patient care decisions
- Supplements textbook knowledge with primary literature for use in patient care decisions

2.1. Criteria for Grading:

1	2	3	4	N/A
Student unable to retrieve and apply information to patient problems, unable to apply textbook knowledge	Student usually able to retrieve and apply information to patient problems, uses textbook knowledge only	Student consistently able to retrieve and apply information to patient problems, supplements textbook knowledge with some primary literature	Student always able to retrieve and apply information to patient problems, supplements textbook knowledge with primary literature	Student is not evaluable in this area

2.2. Student's Grades:

Mid-point	1	2	3	4	N/A
Final	1	2	3	4	N/A

2.3. Comments

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3. COMMUNICATION SKILLS

3.1. Details.

- Appropriately communicates orally with other health care providers in IP environment
- Appropriately communicates in writing with other health care providers in IP environment
- Demonstrates appropriate level of communication during projects and case presentations in interprofessional environment
- Effectively counsels patients regarding purpose, uses and effects of their medications

3.2. Criteria for Grading:

1	2	3	4	N/A
Student unable to establish effective communication, ineffective patient counseling, presentation skills inadequate	Student establishes communication and provides useful information to professionals and patients with some help from preceptor	Student establishes communication and provides useful information to professionals and patients with minimal help from preceptor	Student has excellent relationship with professionals and is able to adjust communication to level of audience, takes responsibility for effective patient education	Student is not evaluable in this area

3.3. Student's Grades:

Mid-point	1	2	3	4	N/A
Final	1	2	3	4	N/A

3.4. Comments

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4. PROFESSIONAL DEVELOPMENT

4.1. Details.

- Actively participates in all clerkship activities Conducts him/herself in a professional manner
- Effective and active member of Interprofessional team of health care provider
- Conducts him/herself in a professional manner
- Completes assignments in a timely manner
- Is consistently on time for rounds, group discussions and meetings
- Keeps excused absences to a minimum without unexcused absences
- Personal appearance is professionally appropriate

4.2. Criteria for Grading:

1	2	3	4	N/A
Student is not reliable in completing tasks, absent or late frequently, lacks professionalism in appearance and/or conduct	Student completes most tasks correctly, rarely absent or late, demonstrates professional appearance and conduct	Student completes all tasks correctly and accepts full responsibility, never absent or late, demonstrates professional appearance and conduct	Student takes responsibility for extra tasks, never absent or late, demonstrates professional appearance and conduct	Student is not evaluable in this area

4.3. Student's Grades:

Mid-point	1	2	3	4	N/A
Final	1	2	3	4	N/A

4.4. Comments

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5. Cumulative Assessment

DOMAINS	GRADES OBTAINED	MULTIPLIER	FINAL SCORE
Clinical Skills		12.5	
Information Resources		5	
Communication Skills		5	
Personal and Professional		2.5	
Total (out of 100)			

IPE: 15+

Conversion of %age into Grades:

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

<p style="text-align: center;">Final Grade: _____</p>
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Mid-point evaluation Date: _____ Preceptor: _____ Student: _____

Final evaluation Date: _____ Preceptor: _____ Student: _____

9.MID-POINT EVALUATION FORM

Student's Name _____ University # _____

Preceptor Name: _____ Site Name: _____

Learning Goals and Objectives Progress (please check one)

_____ The student is making marginal progress on portions of the rotation and is at some risk on not receiving a passing grade for this rotation. To pass the rotation the student must:

_____The student is at significant risk for receiving a failing grade for this rotation.. In order to pass this rotation, the student must:

_____ ٢٠٠٢ ١٤٢٣

Other comments:

Please forward the filled form to:

Dr. Yasir Ibrahim

Director Experiential Education Committee,

COCP, KFU: Fax: 013 5817174. yibrahim@kfu.edu.sa

10. Form for Evaluation of OSCE by the Students

Sr.#.	STATEMENTS	5	4	3	2	1
1.	I was given sufficient orientation for the procedure of exam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	The instructions at each station were clear and easy to follow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	The time allocation for each station was appropriate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	The tasks on each station reflected what I was taught/trained	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	The sequence of stations was logical and appropriate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	The OSCE provided me opportunities to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	The OSCE helped me to identify my weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	The exam grades provided me true measure of my skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	The environment of exam was friendly and stress free	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Overall grading of OSCE experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other comments:

11. APPE Poster Evaluation Form

Title of poster: _____

Presenter Name: _____ Academic Number _____

Evaluator _____ Date _____

		5: Strongly Agree	4: Agree	3: True Sometime	2: Disagree	1: Strongly Disagree
Sr.#.	STATEMENTS	5	4	3	2	1
1.	Title is clear, scientific and easily understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Usability of the project/data in healthcare and general community benefit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	Research problem clearly stated/discussed with appropriate context in introduction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	Clear and concise materials and methods (grouping, sampling, intervention etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	Results easily interpreted and described with clarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	Appropriate, applicable/usable conclusion drawn from the results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Appropriate updated references quoted in scientific manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	Organization of the scientific material in the poster, tailoring to take home message	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	General style, color, font and outlook of poster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Language, grammar, highlighting important points	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	Command on the topic with intensity of engagement while explaining the poster	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	Ability to answer the questions with scientific reasoning and justification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total (60)						

Comments (Optional) _____

Signature _____ Date _____

12. APPE Project Presentation Evaluation Form

Title of Presentation _____

Presenter Name: _____ Academic Number _____

Evaluator _____ Date _____

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 in a precise, clear and exceptional way

Sr.#.	STATEMENTS	5	4	3	2	1
Project						
1.	Topic of the presentation/project is clear, scientific and easily understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Research problem clearly stated/discussed with appropriate context in introduction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	Clear and concise materials and methods (grouping, sampling, intervention etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	Results easily interpreted and described with clarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	Appropriate, applicable/usable conclusion drawn from the results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	Appropriate updated references quoted in scientific manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Usability of the project/data in healthcare and general community benefit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	Overall grading of scientific project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentation						
9.	Organization of the scientific material, transition, tailoring to take home message	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	General style, color scheme, of presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	Language, and style of speaking, eye contact, stressing on important points	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	Command on the topic with fluency and confidence shown.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	Ability to answer the questions with scientific reasoning and justification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	Time management: as a whole and for each section of presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	Overall grading of presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total (75)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments on the Project:

Signature_____Date_____



13. EVALUATION OF PRECEPTOR AND APPE SITE BY STUDENTS

Site: _____

Key: 5: Strongly agree 4: agree

3: True sometime 2: Disagree

1: Strongly disagree

Sr. #	Site	5	4	3	2	1
1.	I was assigned with a team of specialists for daily round					
2.	I had free access to patient medication record					
3.	I had free access to patients for interview and counseling					
4.	I was encouraged to participate in discussion regarding patient's medication					
5.	I was assigned topics for preparation and discussion regarding medication					
6.	I had free access to learning resources like library					
7.	Specialists/consultants/preceptors were sufficiently accessible					
8.	Specialists/consultants/preceptors spent sufficient time with me to guide me					
9.	Specialists/consultants stimulated problem solving through interaction					
Preceptor						
10.	The preceptors treated me with respect					
11.	Taught me things I did not already know					
12.	Provided me with feedback on my performance					
13.	Training SITE was conducive to learning					
14.	The site provided sufficient opportunity for me to meet all the General Objectives					
15.	Other personnel were receptive to me					
	Total 75	Obtained: X				

%age: X x 1.33= _____

Comments :

Section. 4.

Introductory Pharmacy Practice Experience-2





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4.1. INTRODUCTION, GENERAL RULES and GUIDELINES

IPPE-2 is offered after completion of 3rd professional year. Students are trained during summer vacations, for total of 200 hours, i.e., 8 hours daily 5 days a week for a period of 5 weeks, in Hospital Pharmacies of Tertiary Care Hospitals of region.

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 structure and functions of Hospital Pharmacy and role of a pharmacist as member of team of interprofessional health care providers. In addition to achievement of some core competencies for required for working in hospital setting, IPPE-2 prepares students for Advanced Pharmacy Practice Experience

4.2. *Please refer to section 2 of this manual for details of rules and regulation*

4.3. Additional Guidance for the Students:

4.3.1. A day before IPPE-2

- a. Print all documents provided and give one copy to your Hospital Preceptor
 - i. IPPE-2 course, objectives, activities 2 copies one for you and one for your trainer in the hospital
 - ii. Evaluation sheet for your preceptor
 - iii. Certificate of attendance
- b. Prepare your stuff discussed in the orientation session

4.3.2. Day-1

1. Report to your training site at 7:30
2. Present him the program details
3. Present him evaluation sheet
4. Request him/her for orientation, respectfully

4.3.3. During the training

1. Be regular and punctual in time, you have to repeat your entire IPPE-2, if there are 2 or more un-excused absences from training site
2. Always come in professional dress and look (refer to section 2 of this manual)
3. **IPPE-2 Portfolio:** Keep always with you, IPPE-2 Portfolio containing:
 - i. IPPE-2 Program
 - ii. Daily Activity log form
 - iii. Your plan and goals what you want to learn
 - iv. All assignments projects, presentations of all 4 weeks
 - v. Copy of weekly project and your reflections
 - vi. Detailed account what you learnt in each week
 - vii. Clinical cases you have recorded with SOAP
4. **Always keep with you:**
 - viii. Pharmacology Text Book, you understand easily
 - ix. Pharmacotherapy handbook

4.3.4. 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: total 4 projects,
4. Reflective reports each student: deadline: each Thursday 12:00MN
5. 160 hours at training site
6. Portfolio on July 5, 2015 with all assignments and projects
7. More than 2 complaints from site or by COCP preceptor
8. Presentation at COCP during 5th week
 - a. One case
 - b. One project/Report
 - c. Reflections
 - d. Suggestions: meaningful
9. OSCE on skills you learnt during IPPE-2 (tentative) during 5th week
10. Evaluation of all IPPE-2 by student online deadline: 5th week

4.4 IPPE-2 COURSE DESCRIPTION: GOALS, OBJECTIVES, ILOs and ASSESSMENT

4.4.1. COURSE DESCRIPTION

Course Name	IPPE-2			Introductory Pharmacy Practice Experience-2			
Course Information	Course Code	Course No	Credit Hours	Contact Hours 40/week	Lec.	Lab.	Tot.
	PP-11	2030331	0+2		-	-	200 (5 weeks)
Level	Summer Semester, 3 rd year			Prerequisite	None		
Components: A. Out-patient pharmacy (including ambulatory care), prescription handling, patients counselling B. In patient Pharmacy: Unit dose, inpatient order entry, extemporaneous preparations C. IV admixtures and parenteral nutrition D. Controlled drugs/narcotics procurement storage, issue and entry E. Clinical Presentations And Journal Clubs							

4.4.2. GOALS:

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

4.4.3. OBJECTIVES

A. OUT PATIENT PHARMACY

The students will rotate in the **Out Patient Pharmacy**. The student will focus on counselling patients, with additional emphasis on reviewing patient medical and medication histories, consulting with health care professionals, and preparing educational materials for pharmacy or clinic staff.

The student will also have the opportunity to shadow pharmacists who provide medication therapy management (MTM) as well as pharmacists providing outpatient (OPD) care to the patient on follow-up. Other learning experiences, such as didactic learning sessions with the preceptor, journal club and assignment may be added by the preceptor to enhance the vision of student learning at Out patient Pharmacy.

Goals

Provide student with experiential module so that he could experience and learn the roles and functions of a pharmacist working in an outpatient pharmacy setting.

Rotation Objectives

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

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

B. INPATIENT ORDER ENTRY

Rotation objectives:

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

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

C. UNIT DOSE DISTRIBUTION SYSTEM

Rotation objectives:

At the end of 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 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.

D. INTRAVENOUS ADMIXTURE SERVICES

Rotation objectives:

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

1. Understand the basic function of 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.
7. Calculate and prepare adult, pediatric and neonatal Total Parenteral Nutrition (TPN) orders.

E. 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 log book and/or on control forms used for medications repackaged in the pharmacy.
5. Compound an **extemporaneous product**, using skills in pharmaceutical calculations

F. CONTROLLED/NARCOTICS MEDICATIONS

Rotation objectives

At the end of 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

G. CLINICAL PRESENTATIONS AND JOURNAL CLUBS

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

1. Prepare and deliver an appropriate scientific presentation to health care providers.
2. Collect all literatures related to the presented topic
3. Read all collected literatures.
4. Select one updated review article on the presented topic and distribute it to the other trainees
5. Prepare and submit a minimum of 3 drafts of the presentation to the preceptor before the presentation date.

H. REPORTS AND PROJECTS

a. Weekly Reflective Report for each student

1. Reflections on experiences will be required on Thursday of each week rotation. Till midnight: if not will be taken as 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 you 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 are written on a daily basis 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 contain a brief summary of all the things you learned in that week about institutional pharmacy practice and especially which of the Educational Outcomes were achieved.
8. The reflections will be forwarded to the IPPE-2 coordinator after evaluation
9. They will be kept confidential and not shared with preceptors

b. Weekly Projects for Group of Students working together in same rotation of same hospital:

i. First Week Project:

- For in- patient Pharmacy Students: One of the following

1. Detailed description of Unit Dose System at your training site. How it can be improved: your detailed suggestions
2. Detailed description of in-patient Pharmacy Services at your training site. How they can be improved
- For Out-patient Pharmacy Students:
 1. Prescription processing at your 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:** One of the following
 1. Detailed description of Unit Dose System at your training site. How it can be improved: your detailed suggestions
 2. Detailed description of in-patient Pharmacy Services at your training site. How they can be improved
 3. Pharmacy and Therapeutic committee: what it is? 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 counselling at my site: How it can be improved: Develop a standard form as guideline
- III. **For IV admixture rotation:**
 1. IV admixture system (with list of drugs being dispensed) of my site: Detailed report of the process with suggestions for improvement
- IV. **General:**
 1. Patient safety-focused Medication Therapy Management
 2. Controlled Drug Management: What it is, what is practiced at my site? How it can be improved

B. GUIDELINES FOR WEEKLY PROJECTS AND REPORTS

I. Report:

1. Please send report in word format. Start with your name, ID, Site, preceptor, dates.
2. Please make it descriptive, not in points.
3. **Please make it actual, factual and personal, not a general report.** e.g., if you have worked in dispensing, describe your experience: which drugs you dispensed and how you did that. If you done counselling, write with examples which drugs and disease and which points you told to the patient
4. Make a comprehensive final report. See the IPPE-2 ILO's in the manual (page 9) and **reflect on** what you learnt and what you did not and why?
5. You must be **well aware** of what you write in report or add in your portfolio.....it will be asked during site and final evaluation
6. Each student will present her report, one SOAP during presentation
7. If you take some material from some resource, please give reference. *Plagiarism is unethical and illegal.*
8. Try to be positive and constructive in your report; and all professional behavior and writings. "Half the glass is filled" instead of, "Half the glass is empty."
9. Weekly report from each student should be mailed not later than Thursday of each week not later than 12:00 MN to your COCP preceptor

II. Project:

1. Start with project title, your group names, site, and preceptor name who guided you.
2. Whatever the project is: first give its **scientific background description, definitions**, etc. with reference.
3. Describe the **practice done at your site**, your observations. If things are not clear, ask your site preceptors, e.g., for PnT committee, ask your site preceptors about members, meeting schedules, functions etc.
4. **Comment** on the practices at your site in the light of standard practice as you have read from other resources
5. Provide an **improvement plan** as a conclusion. also discuss this plan with your preceptor and seek his opinion
6. Distribute projects among your group students for presentation
7. ***Please correct your previous projects and reports before adding to your portfolio***
8. **Weekly Group Project from each group should be mailed not later than Thursday of each week not later than 12:00 MN to**

Dr.Afzal afzalhaqasif@gmail.com

Dr. Yasir: yibrahim@gmail.com

CRITERIA FOR EVALUATION OF IPPE-2 REPORTS AND PROJECTS

I. Weekly And Comprehensive Report: 10

- 1. Format: 3**
 - i. Start with identification of reporter, site and preceptor 1
 - ii. The Report is descriptive not in form of list 1
 - iii. The language and way of description, continuity, transition 1
- 2. Description of the Report:5**
 - i. Describes all his/her routines 1
 - ii. Describes what he/she did with name of drugs/site 1
 - iii. Report is personalized to herself/himself , how she did 2
 - iv. Positive and constructive way of description 1
- 3. Conclusion: 2**
 - i. Describes his/her experience, feelings and reflections with summary of what he/she learnt 1
 - ii. Useful/workable suggestions for improvement 1

II. IPPE-2 Project: 10

- 1. Format: 2**
 - i. Identification of self, site and preceptor 0.5
 - ii. Description Language and style of description, continuity, transition 1.5
- 2. Introduction: 3**
 - i. Definition of topic/title 1
 - ii. Scientific back ground, history, contemporary practice 2
- 3. Description of actual project: site practice**
 - i. Describes detailed account of current practice 2
 - ii. Correlates with the introduction or signifies the practice 1
- 4. Conclusion: 2**
 - i. Write reflective comments on the current practice 1
 - ii. Creative and innovative workable suggestions 1

4.4.4. IPPE-2 Assessment by COCP preceptor: 30

1. Faculty member from COCP will visit you any time and he will:
2. Check your portfolio
3. Ask you questions about what you are supposed to learn
4. Discuss your progress with your preceptor

1. Question answer session will include (10)

1. Assignments completed
2. Role of Pharmacist in team
3. Prescription handling, unit dose, patient counseling
4. Drugs: Uses and trade names
5. Pharmaceutical Calculations
6. Comments/Suggestions for improvement
7. Assignment from COCP

2. Portfolio: (5)

1. IPPE-2 manual with learning plan
2. All assignments, presentations Projects
3. Daily Activity logs: one for each days completed (20 for all IPPE-2)
4. All tests, assessments

3. Professionalism: (10)

1. Well dressed, including shoes
2. Greet the preceptor
3. Describe his experience and answers the questions precisely and comprehensively
4. Positive Constructive attitude
5. Following instructions

4. Hospital Preceptors reflection:

1. Punctuality & regularity
2. Interest in assigned tasks
3. Active learning
4. Attitude with staff
5. Adherence to timelines

Question Answers 10 grades	Portfolio 5 grades	Professionalism 10 grades	Hospital Preceptor Opinion 5
<p>Answers all questions about:</p> <ol style="list-style-type: none"> 1. IPPE-2 and its components 2. Assignments completed 3. Role of Pharmacist in team 4. Prescription handling, unit dose, patient counseling 5. His comments/suggestions for improvement 6. What you learnt since last visit 	<ol style="list-style-type: none"> 1. Proper format, organized in file 2. IPPE-2 program with details and forms 3. Students learning objectives for IPPE-2 4. All assignments, project 5. Daily activities report 	<ol style="list-style-type: none"> 1. Well dressed, including shoes (2) 2. Greet the preceptor (1) 3. Describe his experience and answers the questions precisely and comprehensively 4. (2) 	<ol style="list-style-type: none"> 1. Punctuality & regularity 2. Interest in assigned tasks 3. Active learning 4. Attitude with staff 5. General opinion

4.4.5. Final Assessment

1. Assessment will have following components:

i. Preceptors assessment:	60%
1. Internal Preceptor: 30 %	
2. External Preceptor:	30%
ii. Presentation of reports/SOAP	10%
iii. Weekly Reports/Project/Portfolio	10%
iv. OSCE	20%
<u>Total:</u>	<u>100%</u>



4.4.6. 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

1: Rotation information (represent 60 point):

N O.	ROTATIONS	10	9	8	7	6	5	4	3	2	1
1	Inpatient										
2	Outpatient services										
3	IV/TPN (Aseptic tech, Chemo, etc)										
4	Drug information services										
5	Clinical pharmacy (TDM, Patient counseling Case presentation, etc)										
6	Quality control										
7	Other (specify)										
Overall grade = % x 0.6 = points.											

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

2: Other activities (represent 20 points).

Activity	Score According To Student Performance									
	10	9	8	7	6	5	4	3	2	1
Assignments/ Presentation										
Project										
Report										
Overall grade = % x 0.2 = points.										

3: Personal and behavioral information (represent 20 points).

Activity	Score According To Student Performance									
	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: 60-69%

Final Grade: _____ Name and Signature of preceptor _____

4.4.6. IPPE-2 SEMINAR EVALUATION FORM

Site:.....

Name.....University #:Date.....

Title ofCase.....

	Statement	1	2	3	4	5
Report						
1.	Comprehensive description of her/his actual learning experience during whole period (not general)					
2.	Appropriate reflective comments and in depth understanding of experience					
3.	Innovative and workable suggestions for improvement of IPPE-2/practice					
Project						
4.	Well defined and introduced the project title with background					
5.	Detailed description of practice at the site					
6.	Appropriate conclusion with comments and suggestions					
Case						
7.	All subjective data was well described					
8.	All objective data was well summarized					
9.	Assessment was appropriate for level of training					
10.	Plan (therapeutic, pts.,education) was appropriate for level of training					
General:						
11.	Proper introduction of her/himself, site and preceptor					
12.	Overall depth of knowledge, critical thinking, reflection					
13.	Response to the questions					
14.	Presentation was clear, organized with appropriate transition					
15.	Overall evaluation of presentation					
Total						

Comments, if
any.....

.....

Name.....Sign.....
...





Section. 5.

Introductory Pharmacy Practice Experience-1





5.1. Introduction:

IPPE-1 is offered after completion of 2nd professional year. Students are trained during summer vacations, for total of 200 hours, i.e., 8 hours daily 5 days a week for a period of 5 weeks, (male in community pharmacies and female in out-patient pharmacies).

IPPE-1 is preceded by 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. IPP-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 also needed to fulfill objectives of IPPE-2.

5.2. Course Description

1. Course No. Credit hours and Location in the program

Course Information	Course Code	Course No	Credit Hours	Contact Hours 40/week	Lec.	Lab.	Tot.
	PP-3	2030231	2+0		-	-	200
Level	Summer Semester, 2nd year			Prerequisite	None		

Male students: Community Pharmacies.

Females students: Outpatient Pharmacies of Secondary and Tertiary Health Care Facilities

Duration: 5 weeks: 200 hours, 8 hours daily, 5 days a week:

2. Objectives:

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

3. Students' Responsibilities/Activities/Tasks:

- Student will spend 8 hours daily on the training site (8 am-4pm) and will complete total of 160 hours.
- Student will be in professional attire (uniform, lab coat etc) during training period
- Student will observe the Pharmacist for patients counseling and will share, if allowed by the pharmacist
- Student will maintain portfolio for all his activities and assignments on daily basis
- One activity form will be completed daily and will be signed by the preceptor/pharmacist.
- Daily assignment regarding 5 drug and 5 disease states, will be prepared daily and will be checked by the preceptor during visit and at the end of training.

7. Student will present during 1st semester of 3rd year as per schedule attached
8. Student will produce training completion certificate signed by the Pharmacist

4. Data Collection: (IPPE-1 objective C.)

1. **Student will collect** following data about drugs of his/her assigned class and will include the results in his/her presentation:
 - a. How many item sold/moved (all the drugs from the group) in 10 days
 - b. Which one is the most commonly sold/moved drug from the group
 - c. Which brand of that drug is most commonly sold/moved
 - d. Students will design their own chart or proforma for recording the results on daily basis. This is just to train the students for collection of data

5. COCP Preceptor's Visit:

- a. COCP preceptors will visit the sites as per schedule or without schedule
- b. Record students' performance regarding:
 - i. Attendance and Professionalism
 - ii. Portfolio assessment: Daily Report, assignment, data collection, Patient's Counseling record
 - iii. Achievement of IPPE-1 Objectives

6. Students Presentations:

1. Student will prepare a 10 minute presentation followed by 5 minutes question answer session.
2. The presentation will be held according to the schedule prepared by IPPE-1 supervisor, during 1st semester, 2013-2014.
3. The presentation will include::
 - i. Name of all the brands available
 - ii. Mechanism of action, Clinical Indications, Adverse effects, , Contraindications and important drug interactions of the assigned class of drugs
 - iii. Data collected during the training (please refer to the following paragraph No.2)
 - iv. Experience of student in the training, what he/she learnt in the training and suggestions for improvement.

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

Assessment may have following components:

v. Preceptors assessment:	60%
1. Internal Preceptor:	30 %
2. External Preceptor:	30%
vi. Presentation of reports/SOAP	10%
vii. Weekly Reports/Project/Portfolio	10%
viii. OSCE	20%
ix. <u>Total:</u>	<u>100%</u>

Signature of the preceptor.....

Note:

- *Written assignment for each drug should cover mechanism of action, clinical uses, indications, contraindications, adverse effects and drug interactions of each drug.*
- *Written assignment for each disease state include major sign and symptoms and treatment options*

8. IPPE-1 ASSESSMENT FORM
(for Site Preceptor)

Students name: _____ I.D: _____

Pharmacy: _____ Training Period: _____

Domain	10	9	8	7	6	5	4	3	2
Attendance									
Attitude									
Communication skills									
Punctuality									
Enthusiasm									
Knowledge background									
Professional appearance									

Name & Signature: _____

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

Grading system policy:

Grade Letter	Grade	Percentage
A+	High excellent	95-100
A	Excellent	90-< 95
B+	High very good	85-<90
B	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

9. IPPE-1, 2013
Community Pharmacies

DAILY PROGRESS REPORT

Date.....

Name..... University Academic #.....

1. List of 5 drugs for review of literature/package insert and completed written assignment:.....
 - a.
 - b.
 - c.
 - d.
 - e.
2. Name of 5 diseases for the sale of prescription of which, you learnt the communication with the patient by observing your preceptor:
 - a.
 - b.
 - c.
 - d.
 - e.

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

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







**College of Clinical Pharmacy,
King Faisal University**

PO Box 400, Al-Ahsa -31982,
Kingdom of Saudi Arabia

Phone: +966-13-5817175, Fax: 00966-13-5817174

E-mail: clinicalpharmacy@kfu.edu.sa