

Ernest Mario School of Pharmacy Preceptor Rotation Manual

Prepared by the Experiential Education Office
and
Faculty, Department of Pharmacy Practice and Administration

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Welcome and Thank you Message

As a preceptor for the Ernest Mario School of Pharmacy (EMSOP), you play an important part in a remarkable network of healthcare professionals. Our current network of preceptors includes professionals across the state of New Jersey and across the country. You receive recognition by EMSOP by means of your appointment as an “Adjunct Faculty Preceptor.” The Experiential Education Office (EEO) staff, along with the administration and faculty of EMSOP, would like to thank all of our preceptors for their commitment and hard work in shaping our future pharmacy practitioners.

To assist us in meeting ACPE standards, every preceptor is expected to view our Preceptor Orientation Guide, “Developing Your IPPE/APPE Rotation.” This Guide was developed to promote the Experiential Education Program’s quality and best practices for consistency of expectations and outcomes for preceptors and students. (You may access our presentation in the CORE ELMS Library of Documents.) This Guide is also designed to help you better understand critical aspects of the program, and to provide you with a tool to enhance your precepting skills and to strengthen our ability assistance in your professional development as a preceptor. For some alumni or long-time Preceptors, this Guide will serve as a useful review. For new pharmacists and non-alumni, we hope that this Guide will help answer many of your questions about the Program and reinforce the commitment necessary to be a successful Preceptor.

Our Mission

The Ernest Mario School of Pharmacy's (EMSOP) Experiential Education Program offers a diverse and wide variety of rotation opportunities that expose students to the various areas of pharmacy practice to gain an understanding on the expanding roles and responsibilities of pharmacists in the evolving health care environment. The program offers real life experiences with attaining and expanding on students' attitudes, skills & knowledge to prepare them as future healthcare providers who deliver pharmaceutical care. Students also attain the requirements and competencies aligned with ACPE Standards and CAPE Outcomes to graduate and successfully obtain licensure, promoting the profession of pharmacy along with fostering the concept of "lifelong learning" through practical active learning opportunities.

Our mission is to offer students a broad set of opportunities to gain an understanding of the expanding roles and responsibilities of pharmacists in the evolving health care environment. The Experiential Education Office (EEO), collaborates with the Experiential Committee to coordinate and disseminate information, design and evaluate experiences, offer exposures to students relative to the various areas of practice available to pharmacists and to graduate a "general practitioner." Also, to ensure that our students graduate with a strong background in the profession of pharmacy, ready to take on the responsibilities of evolving the profession of pharmacy and become lifelong learners.

Experiential Education Office (EEO)

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Preceptor Expectations & Requirements

Once approved, the preceptor will receive communication directly from CORE ELMS with a follow up email from an EEO member with instructions on how to access the rotation management database with a login and password along with other resources such as the Preceptor Orientation and Introduction to CORE Elms instructional slides. These documents are also in the document library of CORE Elms and can be viewed at any time as a refresher.

Once your account has been set up, you may request a personal site visit or conference call with our Field Manager, Prof. Janice Allunario. If an Affiliation Agreement has not already been initiated with the preceptor's entity or site, then our Affiliation Agreement template will be forwarded for review and execution.

All preceptors must meet the following requirements:

- Minimum of 2 years of full-time pharmacy practice experience as employment or post-doctoral training, such as residency or fellowship
- Licensed and in good standing with a Board of Pharmacy. For elective rotations without patient care responsibilities, the organization (rather than the preceptor) should be licensed (or accredited) and in good standing with national, state or local regulatory bodies
- Have adequate professional staff and supportive technical and clerical staff to meet the learning objectives and to provide for optimum time for preceptor and student interaction
- Have interest and willingness to support the mission statement of EMSOP and to be a mentor and teach students
- Have interest and willingness to assign appropriate activities and projects that are in alignment with the goals, objectives and competencies for the rotation to enhance student learning
- Have interest and willingness to support and assist students in achieving the goals, competencies and objectives of assigned rotation
- Have interest and willingness to approve the online student attendance log in CORE ELMS and rectify any discrepancies with the student before the completion of the rotation
- Have interest and willingness to complete the 1 hour online "Preceptor Orientation" which is provided by EEO and housed in CORE Elms
- Have interest and willingness to assess student performance and offer feedback via the rotation management software of CORE ELMS for mid-point and final grade evaluation

Preceptors are expected to provide a description and syllabus for their rotation that can be included in their CORE Elms profile for students to view at any time. The EEO has a template that can be shared if needed, please send an email to rotation@pharmacy.rutgers.edu to request.

Overview of the Experiential Education Program

Our PharmD curriculum provides one of the most diverse and encompassing experiential rotations programs in the US, with a broad range of practice specialties and professional settings.

Experiential Education at EMSOP comprises approximately one-third of the curriculum and includes Introductory and Advanced Pharmacy Practice Experiences (IPPEs and APPEs). The experiential based course work occurs throughout the professional curriculum beginning in the summer after the first professional year. Rotations are routinely identified by graduating students as the most valuable part of the curriculum.

Experiential Education refers to pharmacy practice learning activities students complete within real-world pharmacy settings. Our program is structured so that students do 2 four-week full time Introductory rotations (IPPEs) for a total of 320 rotation hours: 160 hours at a community pharmacy during the summer session after the P1 year and 160 hours in a hospital/institutional pharmacy practice setting after the P2 year. Through IPPEs, students begin to practice skills related to the profession and they experience the responsibilities of practitioners working in these settings. The IPPEs complement the didactic curriculum and involve diverse experiences, including shadowing pharmacists, participating in the drug delivery process, observing the use of automation technology in pharmacy practice, involvement in patient care activities and creation of care plans, and participating in community health education opportunities. The IPPE experiences prepare students for the final stages of the curriculum and lay the foundation for “APPE readiness.”

Our curriculum is designed to prepare student pharmacists to provide patient-centered collaborative care as described in the Pharmacists’ Patient Care Process (PPCP) model, endorsed by the Joint Commission of Pharmacy Practitioners (JCPP). Using a patient-centered approach in collaboration with other providers on the healthcare team, pharmacists optimize patient health and medication outcomes using principles of evidence-based practice. The model provides a consistent process for the delivery of patient care across the profession. Using principles of evidence-based processes, pharmacists collect, assess, plan, implement, and follow up (monitor and evaluate) in any practice setting where pharmacists provide patient care and for any patient care service provided by pharmacists. Each of the School’s rotations provides students with experience using this cyclical model.

Each fall, the EEO provides IPPE and APPE Information Sessions and students learn how to select rotation sites they prefer. Once students enter their preferences, the CORE ELMS SmartMatch Optimization software is used to create student schedules. This match-like process pairs students with their preferences and if needed, address/region information. After schedules are created, the EEO and then students, review the assignments to identify issues of

concern. If needed and approved, schedule edits are entered prior to final release of schedules in January.

Immediately following the P3 year, students begin their Advanced Pharmacy Practice Experiences (APPEs), a total of 8 five-week full-time rotations in specified practice areas including community, hospital, acute care, ambulatory care, and elective rotations. At least three of these rotations must be precepted by full-time EMSOP clinical faculty. Each rotation requires a minimum of 200 practice hours, so students complete a minimum of 1600 APPE practice hours before graduation. The experiences at various pharmacy practice sites allow students to apply and expand their knowledge, skills, and attitudes they have been developing in the classroom and laboratory settings. The School is very proud that many students are offered employment or residency opportunities at sites where they completed rotations, a testament to their exceptional level of work ethic and professionalism, their fine-tuned skills, and their dedication and commitment to the profession. As students take on increased levels of responsibility in successive rotations, they master professional skills and competencies to take on those amplified responsibilities.

After PharmD graduation and successful completion of requirements and rotation hours, students may sit for the North American Pharmacist Licensure Examination (NAPLEX) and (based on the state where they wish to practice) the appropriate Multistate Pharmacy Jurisprudence Examination. Upon passing these exams, graduates may apply to the New Jersey Board of Pharmacy or other state board for pharmacist licensure.

Pharmacy Practice Experiences

Communication is the key to success; students will need to make informed choices in selections. Syllabi for rotations are posted in preceptors' rotation profiles in CORE ELMS

Introductory Pharmacy Practice Experiences

One P1 Year IPPE Community Experience Rotation

Duration: 4 weeks/160 hours

One P2 Year IPPE Hospital/Institutional Experience Rotation

Duration: 4 weeks/160 hours

Advanced Pharmacy Practice Experiences

Eight P4 Year APPE (Advanced) Practice Experience Rotations

Duration: 5 weeks each/ 200 hours each; total of 1600 hours (1440 hours required for licensure).

Students must complete eight APPE rotations:

Three rotations with EMSOP faculty preceptors

- APPE EMSOP Internal Medicine Rotation (with EMSOP Faculty member)

- APPE EMSOP Acute Care Medicine Rotation (with EMSOP Faculty member); choices include Critical Care, Pediatrics, Infectious Disease/Stewardship, Transplant and Emergency Medicine
- APPE EMSOP General Elective Rotation (with EMSOP Faculty member); choices include Internal Medicine, Acute Care, Population Health Ambulatory Care, Drug Information and Managed Care

Five rotations with adjunct preceptors

- APPE Community Rotation
- APPE Hospital/Institutional Rotation
- APPE Ambulatory Care Rotation (with EMSOP faculty or adjunct preceptors)
- APPE Clinical Other Rotation (with EMSOP faculty or adjunct preceptors)
- APPE General Elective Rotation

See Appendix 1 for a full description of the learning objectives of each type of rotation.

Students may choose to do a ninth rotation by arrangement if schedules permit.

Students can see the full list of available rotations during the rotation preferencing process.

Conflict of Interest Rules/Ethical Standards

- Students may not do a rotation where they (or a family member) are now, or ever have been employed, or have a personal relationship with a potential preceptor.
- Students may not receive any compensation for their rotations.
- All work done on IPPE and APPE rotations must be the student's own. Plagiarism of any kind is a separable offense.

Financial Responsibility

Students are responsible for all financial obligations associated with IPPE and APPE experiences (whether in-state or out-of-state), including lodging, transportation/parking, travel, food, and incidental costs.

Transportation and Parking

All students must have reliable transportation during the months they are on rotation. The School cannot guarantee that rotation sites will be near mass transit or convenient for carpooling; most NJ sites are within a one hour's drive of campus. Students participating in out-of-state rotations should find housing that is convenient to the site. APPE students will need to come to the Busch Campus at times during the P4 year. For information about parking, click [here](#). Please read carefully; students are responsible for parking arrangements on campus.

Special Requests and Opportunities

All P4 students may also “apply” for exceptional rotation assignments, including Public Health Service (e.g., Indian Health Service, CDC, FDA, Bureau of Prisons, National Institutes of Health, United States Coast Guard), 5-week or 10-week industry rotations¹ (e.g., Bristol-Myers Squibb, Bayer, Celgene, Merck, Novartis, health outcomes at Xcenda, advertising at RevHealth), Managed Care, Pharmacy associations (e.g. APhA, NCPA, NACDS), and health systems (e.g. oncology at Memorial Sloan Kettering Cancer Center or at Hackensack University Medical Center). Each of these rotations has its own requirements, procedures for application, and deadlines. Students receive updated, detailed communications in IPPE/APPE Rotation Information Sessions.

A “Special Request” process has been developed for out of state students (non-NJ residents) who may also select one or two sites in their home state,² contact the Experiential Education Office for specific requirements. These sites may have or may not have hosted our students in the past, but EMSOP must have an affiliation agreement with each site. Students should allow six months for the appropriate legal approval by both parties.

Students may also apply to the KNIGHT ScholaRx Program, designed to develop scholarship, service, and leadership in motivated Pharm.D. candidates through a diversified block of advanced pharmacy practice experiences (APPE) in a health-system environment. The student will complete four advanced pharmacy practice experiences (APPE), including hospital practice, at one health system during cycles 1-5. See <https://pharmacy.rutgers.edu/knightscholar/> for a list of sites, requirements, and application deadlines.

Rotation Selection

EMSOP uses CORE ELMS, a sophisticated software optimization system, to match student needs/interests/preferences with PharmD requirements and available rotation sites. Students begin the APPE rotation selection process in the fall of the P3 year. Specific instructions are provided by the Experiential Education Office and posted on Sakai. Rotation assignments for IPPEs and APPEs will be announced by the end of January during P1-P3 years.

Some students elect to participate in a ninth rotation in order to gain additional experience in a specific area; to be more competitive for residencies, fellowships, and employment; or to take maximum advantage of opportunities to experience pharmacy practice in different settings. Students will have an opportunity to request a ninth rotation when they make their rotation selections. Others opt for a ninth rotation because they wish to become licensed in a state that

¹ Ten-week industry rotation requires a commitment to two back-to-back general elective rotations at the same site and participation in all 9 rotation cycles.

² Students may request the following rotations: APPE Community (pharmacy must do more than 10,000 Rxs per year), PPE Ambulatory Care, APPE Hospital, APPE General Elective. No EMSOP faculty rotations are offered outside of the state of NJ.

requires more than 1600 rotation hours. Those students should proactively contact the board of pharmacy in the state in which they hope to practice and should check with the National Board of Pharmacy (nabp.pharmacy) for additional information.

Certifications

To participate in experiential rotations, students must complete online and in-person training, background checks, drug testing, health validations/certifications, and attestation forms.

Students must be vigilant about meeting all deadlines and fulfilling all requirements completely.

Students should keep copies of test results, certificates of completion, immunization records, etc., in case these are needed for documentation. During the P1 year, students are informed of rotation health certification and other requirements as part of the informational and orientation sessions, in preparation for the P2 – P4 rotation years.

Student Rotation Requirements for Tests and Certifications

Test/Certification	P1	P2	P4
MMR vaccination or titer proof of immunity	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Varicella vaccination or titer proof of immunity	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Hepatitis B vaccination and quantitative titer proof of immunity	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Tdap, Adult Booster	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Influenza annual vaccine	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
TB testing	Follow Rutgers Univ Immunization requirements	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Health exam prior to start of rotation(s)	<i>Not required</i>	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
On-line training: RBHS HealthStream: HIPAA, Ethics & Compliance; Rutgers REHS: OSHA Blood Borne Pathogens	EMSOP required before IPPE Community	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
Criminal Background Checks and Urine Drug Screening.	EMSOP required before IPPE Community	EMSOP required before IPPE Hospital/Institutional	EMSOP required before APPEs
CPR Certification	Not required	Not required	EMSOP required before APPEs

*Rutgers University Immunization Requirements for students, <http://health.rutgers.edu/medical-counseling-services/medical/immunization-requirements-allergy-shots/#immunization-portal>.

- Specific information on tests, and due dates is posted on Sakai (APPE Health Certification Requirements) and included in orientation sessions.
- Students are responsible for keeping personal records of all health certifications; they must review and update their records within students' CORE ELMS profile for preceptors and sites to access as well as in the Rutgers Student Health Portal to be in compliance with the University's health requirements
- International students with F1 non-immigrant status must apply for "Preceptor's Certification for CPT Authorization" at Rutgers Centers for Global Advancement and International Affairs: <https://global.rutgers.edu/resources-forms/visiting-students> at least four weeks prior to the start of the rotation. Our Office of Academic Services assists students with documentation.

Policies on Professionalism and Ethical Conduct

Criminal Background Checks

The Joint Commission for Accreditation of Health-Care Organizations (JCAHCO) now requires background checks for all students completing educational practice experiences. Many community pharmacies also require background checks on employees working in their pharmacy departments. Prior to assignment on EMSOP rotations, students must pass three criminal background checks (one prior to the IPPE community rotation; one prior to the IPPE hospital/institution rotation; and a third prior to APPE Cycle 1.) An external vendor facilitates this process. These background checks are for clearance to participate in rotations; they do NOT replace the background check required for the New Jersey State licensure exam. Students returning from suspension or a leave of absence may be required to complete a new criminal background check, at the discretion of the Dean or his/her designee.

Positive Result or Hit on Criminal Background Check

- Student must provide a complete written explanation including time, date, and specific details surrounding the arrest. Students should also provide any additional documentation such as police reports or other court documents which may help in providing an explanation to potential rotation sites. The School reserves the right to pursue disciplinary action under the University Code of Student Conduct, if appropriate. Results of such action (e.g. suspension, expulsion) may prevent a student from completing the program on time or at all. Students will only be considered for any scheduled rotation once all charges, arrests, pleas, and/or Pretrial Intervention Programs have been cleared or fulfilled. Students will be required to supply documentary proof that that any and all programs have been completed.
- If disciplinary action is deemed necessary/appropriate, the student's rotation assignment may be delayed. If no University disciplinary action is deemed necessary, after rotations are scheduled, each preceptor for a student with a hit on his/her criminal background check will be notified of the results and given the opportunity to accept or decline the student. Sites or preceptors requesting more information will be provided the student's written explanation and additional available documentation.
- If a site declines the student, an alternative rotation site with open availability for the same cycle will be identified and may accept or decline the student, based on reports. The Experiential Office will make three attempts to find a rotation site for the student.
- If student cannot be placed at sites to attain and complete rotation hours and Pharm D requirements, or if student is dismissed from the School of Pharmacy, the student is eligible to apply to other units of Rutgers to complete a degree. Except in cases of dismissal from the University, the School of Pharmacy will provide students with a "carry semester" during which they may apply to transfer to another University unit. However, decisions regarding accepting transfer students are made by the "receiving" unit and acceptance cannot be guaranteed.

Criminal Activity During Professional Experiences

Due to concerns regarding public safety and appropriate patient care, the EMSOP reserves the right to remove students who have been arrested or who are alleged to have engaged in criminal activity. Students will be offered the opportunity to comment and respond to allegations and/or arrests within 5 business days. In addition, if the School determines that a student poses a risk to self or others, the student will be removed from rotation while the matter is investigated. The matter will be addressed, and a determination will be made pursuant of University Policy and the law.

Substance Abuse Policy

The School encourages all students with addiction problems to seek appropriate treatment. The School does not perform random testing for drugs; however, drug screens may be required as a condition of participation in any experiential education settings. In the event of a positive drug screen, the student will be referred for evaluation to the [Professional Assistance Program of New Jersey \(PAPNJ\)](#), an addiction treatment program that is independent of Rutgers University and EMSOP. If a random drug screen is positive or evidence of drug abuse is discovered while a student is on rotation and the student is removed from rotation as a result, the student will receive an F for the rotation and be required to undergo evaluation by PAPNJ. Certification of fitness to return to rotation is required from PAPNJ before a student will be reassigned. If evaluation of PAPNJ warrants enrollment in a treatment plan, all expenses are covered by the student. A student is expected to accept and follow the treatment plan until student graduates or medical director deems appropriate to release.

Grading

Preceptors grade students on rotations. Each student should receive a midpoint evaluation and Longitudinal Assessment Form (LAF) that enables them to evaluate progress. The student should request this evaluation if the preceptor does not provide it. To get a final letter grade, students must complete all work and make up missed time satisfactorily by the final day of rotation. Students will receive a grade of incomplete if the requirements have not been met by that time. Students who fail to complete a rotation or who receive a final grade of D or F must repeat a rotation of the same type (e.g. EMSOP faculty internal medicine). For students graduating in May 2022 or later, grading will include an assessment of Entrustable Professional Activities.

EMSOP Rotations Goals and Objectives

Our program consists of both Introductory Pharmacy Practice Experiences (IPPEs) and Advanced Pharmacy Practice Experiences (APPEs). While at any rotation site, students must abide by the rules, regulations and policies of the facility or entity and are always expected to act in a professional and ethical manner.

During the experiential component of the PharmD program, students learn about and personally incorporate a set of Ability Based Outcomes (ABOs) that support their success as professionals. Overall, these ABOs identify key educational goals in these major areas:

- To develop each student as a Learner
- To develop each student as a Caregiver
- To develop each student as a Problem Solver
- To develop each student to be Self-aware
- To develop the student as a leader and innovator
- To develop each student as a professional

For a complete list of the ABOs, [click here](#)

The specific ABOS are based on EMSOP's mission and vision statements, which incorporate materials from the Center for the Advancement of Pharmaceutical Education, Educational Outcomes (CAPE 2013), NAPLEX Blueprint, the JCPP Patient Process, ACPE Standards 2016, and Entrustable Professional Activities.

[Entrustable Professional Activities](#)

APPEs are designed to build competence and confidence in pharmacy professional activities. Following ACPE guidelines, EMSOP uses Entrustable Professional Activities (EPAs) to focus and to assess professional growth. EPAs are units of professional practice or descriptors of work, defined as specific tasks or responsibilities that trainees are entrusted to perform without direct supervision once they have attained sufficient competence. EPAs are independently executable, observable, and measurable in their process and outcome. Core EPAs for new pharmacy graduates are discrete, essential activities and tasks that all new pharmacy graduates must be able to perform without direct supervision upon entering practice or postgraduate training. EPAs operationalize competency statements to ensure the consistent ability of an entry-level licensed pharmacist, provide a real-world, tangible way to measure performance, and provide students with a clear picture of their future professional roles. The EPA core domains include the following areas of competency:

- Patient care provider
- Interprofessional team member
- Population health promoter
- Information master
- Practice manager
- Self-developer

See the full AACP description of Core Entrustable Professional Activities for New Pharmacy Graduates [here](#).

Pharmacists' Patient Care Process

Developed by the Joint Commission of Pharmacy Practitioners, the vision of [JCCP Pharmacists' Patient Care Process](#) is: "Patients achieve optimal health and medication outcomes with pharmacists as essential and accountable providers within patient-centered, team-based healthcare." Training designed to give students the tools to attain this vision is embedded in every rotation.

General Goals:

- Utilize the Pharmacist Patient Care Process to establish individualized therapeutic goals and outcomes for a patient.
- Identify the etiology, pathophysiology, and treatment (drug and non-drug) of disease states commonly found.
- Assess the patient and provide appropriate pharmacotherapy recommendations.
- Collaborate with members of the health care team to identify and prevent medication related issues and to optimize patient pharmacotherapy.
- Build confidence in one's ability to communicate effectively with patients and health care providers regarding disease states and pharmacotherapy.
- Develop teaching skills by presenting formal and informal cases, in-services, and lectures.

Student attainment of these outcomes is documented in rotation reflections and uploaded into students' electronic portfolios.

IPPEs: Core Objectives

IPPEs introduce students to community and hospital/institutional practice settings and are especially important for students with limited employment experience. IPPEs create a foundation for advanced rotations; they support APPE readiness.

In the IPPE rotations, students observe and develop professional skills in major areas of contemporary pharmacy practice, including:

- Observation and engagement in patient care services, including disease management, patient education and pharmacotherapeutic consultation
- Prescription processing and distribution, including community, ambulatory and inpatient aspects
- Development of pharmaceutical care plans for patient-specific problems
- Continued development of skills in drug information/informatics and pharmacy consults
- Development of verbal presentation skills within the medical-pharmacy arena
- Introduction to basic pharmacy management and administration in the community and hospital environments
- Introduction to consultations with other health care professionals regarding patient care and drug-related issues.

APPEs: Core Objectives

APPEs build on IPPE experiences to provide students with “real life experiences” as they evolve to become active participants in the delivery of the pharmaceutical care process. Students, under the supervision of their preceptors, learn how to integrate their knowledge of pharmaceuticals, pharmacology, pathophysiology, pharmacokinetics, and pharmacotherapeutics when developing individual patient-care plans through the JCPP Pharmacists’ Patient Care process.

Each rotation emphasizes and encourages outcomes-oriented decision making. Students formulate patient care plan recommendations and participate in decisions about drug therapy, while considering the relationship between the plans and economic, clinical, and sociocultural factors, such as efficacy, toxicity, costs, third party coverage, outcomes and delivery methods. Students interact with patients and other healthcare professionals, monitor assigned patients, and participate in daily rounds, conferences, and discussions. Students develop lifelong learning skills through participation in journal clubs and case presentations, answering drug information questions, and attending conferences and meetings (e.g. medical grand rounds, P & T meetings, and pharmacy department-sponsored in-service lectures). APPEs are expected to expose students to a patient population that exhibits diversity in ethnic and/or socioeconomic culture, medical conditions, gender, and age.

Students must complete eight APPE rotations:

- Three rotations with EMSOP faculty preceptors
 - APPE EMSOP Internal Medicine Rotation (with EMSOP Faculty member)
 - APPE EMSOP Acute Care Medicine Rotation (with EMSOP Faculty member); choices include Critical Care, Pediatrics, Infectious Disease/Stewardship, Transplant and Emergency Medicine
 - APPE EMSOP General Elective Rotation (with EMSOP Faculty member); choices include Internal Medicine, Acute Care, Population Health Ambulatory Care, Drug Information and Managed Care
- Five rotations with adjunct preceptors
 - APPE Community Rotation
 - APPE Hospital/Institutional Rotation
 - APPE Ambulatory Care Rotation (with EMSOP faculty or adjunct preceptors)
 - APPE Clinical Other Rotation (with EMSOP faculty or adjunct preceptors)
 - APPE General Elective Rotation

Appendix 1: Rotation Goals and Objectives

APPE EMSOP Internal Medicine, APPE EMSOP Acute Care, APPE Clinical Other Rotations

This rotation is designed for students to develop professional skills in an internal medicine or acute care environment. Students participate in a variety of patient care and clinical activities, functioning as an integral member of the healthcare team and contributing to the patient care decision-making process. Emphasis is on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. During these rotations, students see patients with medical conditions and disorders that include hypertension, congestive heart failure, diabetes, infectious disease, pulmonary disorders, renal dysfunction, hepatic dysfunction, patients who are immunocompromised, and patients with mental health conditions. They also see the effects of health disparities.

At the end of these experiences, the student should be able to:

1. Describe the roles and responsibilities of a pharmacist in the institutional setting
2. Participate in daily patient care activities as directed by the preceptor
3. Collect and analyze pertinent data from the medical chart or other sources as needed to provide patient care
4. Describe the role of the most common diagnostic tests used in adult acute care
5. Identify and prioritize medical problems in the acute care setting
6. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans
7. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
8. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
9. Develop a plan for monitoring patient progress based on the treatment plan
10. Provide appropriate education to patients, caregivers, and/or other healthcare providers
11. Respond to drug information requests under the supervision of the preceptor

APPE Community Rotation

This rotation is designed for students to gain professional skills in a community practice environment. It affords the opportunity to effectively participate in the patient care decision-making process. Emphasis is placed on understanding common disease states, treatment modalities, providing pharmaceutical care with an emphasis on disease state management initiatives.

At the end of this experience, the student should be able to:

1. Describe the roles and responsibilities of pharmacists in community practice

2. Participate in direct patient care for disease management of chronic illnesses as directed by the preceptor utilizing MTM services for example
3. Collect and analyze pertinent data from the patient, the caregiver, and the patient profile as needed to provide patient care
4. Identify and prioritize medical problems in the community setting
5. Perform disease-specific physical assessment (if applicable)
6. Provide appropriate triage to patients depending on their presenting signs and symptoms
7. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans
8. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
9. Develop a plan for monitoring patient progress based on the treatment plan
10. Evaluate point-of-care monitoring parameters (e.g., blood glucose, urine chemistry, peak flow analysis, physical assessment parameters) when appropriate
11. Participate in immunization services under supervision of preceptor
12. Counsel patients and/or care-givers on appropriate nutritional management strategies as related to their chronic illness(es)
13. Counsel patients and/or care-givers on non-pharmacologic therapies
14. Educate patients and/or care-givers on appropriate use of prescription and/or over-the-counter/herbal therapies including efficacy, toxicity, and drug interactions
15. Educate patients and/or care-givers on methods for preventing and detecting chronic illness(es)
16. Respond to drug information requests under the supervision of the preceptor
17. Create and facilitate a Community outreach service/opportunity.

APPE Ambulatory Care Rotation

This rotation is designed for students to gain professional skills in an ambulatory care practice environment and to effectively participate in the patient care decision-making process. Students will participate in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is developing the student's ability to understand common disease states and treatment modalities as well as their ability to provide pharmaceutical care.

At the end of this experience, the student should be able to:

1. Describe the roles and responsibilities of pharmacists in the ambulatory care practice setting
2. Participate in direct patient care for disease management of chronic illnesses as directed by the preceptor via platforms of telemedicine if applicable
3. Collect and analyze pertinent data from the medical chart and the patient as needed to provide patient care
4. Perform disease-specific physical assessment

5. Provide appropriate triage to patients depending on their presenting signs and symptoms
6. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans
7. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers and/or the patient
8. Develop a plan for monitoring patient progress based on the treatment plan
9. Provide appropriate education to patients, caregivers, and/or other healthcare providers
10. Respond to drug information requests under the supervision of the preceptor
11. Effectively communicate disease state management with patients and/or healthcare providers.

APPE Hospital/Institutional Rotation

This rotation is designed for students to gain professional skills in the distributive functions of pharmaceutical care in the inpatient setting (e.g., prescription orders and order entry, dispensing, recordkeeping, patient interviewing and counseling, patient profiles/charts, third-party billing, legal requirements, compounding, sterile products, communication with other health care professionals, inventory control and etc.).

Upon completion of the rotation each student will be able to perform the following outcomes with competency in an institutional setting:

1. Identify and describe the many healthcare team members and their role in delivering patient care, including pharmacy support personnel
2. Describe the intra-institutional relationship of pharmacy services with other departments and/or services
3. Identify and analyze the key elements of medication orders
4. Identify potential problems with medication orders
5. Review medication administration records for appropriate charting and/or documentation
6. Calculate dosage based upon body surface area and weight
7. Accurately dose a medication using pharmacokinetic calculations
8. Prepare medications for dispensing with the appropriate dosage/units
9. Accurately compound sterile products
10. Discuss the accurate technique for compounding and dispensing cytotoxic agents
11. Accurately repackage medications for unit-of-use
12. Appropriately label medications for dispensing and/or distribution
13. Provide appropriate administration instructions for medication orders
14. Appropriately monitor medications administered to patients
15. Utilize the appropriate resources to answer drug information questions
16. Communicate effectively with a patient, for the purpose of obtaining information, or conveying drug information
17. Identify, investigate, report and document the outcomes of a medication event

18. Identify, investigate, report and document outcomes of an adverse drug reaction
19. Discuss (and apply as applicable) formulary management, medication use, drug policy development, drug policy implementation or drug policy analysis
20. Describe the process for approval of pre-printed medication orders
21. Describe institutional policies regarding the administration of drugs per protocol
22. Describe the process for drug procurement and inventory control
23. Describe the steps for controlled substance procurement and inventory management
24. Accurately fill and access the automated dispensing systems.
25. Appropriately restock a crash cart (emergency box, crash box)
26. Describe the information contained on a material safety data sheet [Occupational Safety and Health Administration (OSHA) requirements]
27. Identify the location of the material safety data sheet binder
28. Describe the institution's policy for handling of hazardous and cytotoxic agents
29. Discuss the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards and other institution-specific quality control programs
30. Inspect a nursing unit for adherence with Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards.

EMSOP General Elective, EMSOP Faculty General Elective Rotation

Students on this rotation may be involved in direct patient care or in non-patient care in the healthcare environment. Rotations may be in federal agencies, the pharmaceutical industry, in national/state pharmacy association management, and/or in long-term care. Examples include cardiology, critical care, hematology/oncology, HIV/AIDS: Immune Deficiency Service, Infectious Disease, Long-term Care/Consulting, Pediatrics, Psychiatry, Solid Organ Transplantation, Community/Compounding, Drug Information, Clinical Research and Development, Global Regulatory Affairs and Clinical Safety, the FDA Office of Compliance, and the National Cancer Institute.

Descriptions of some rotations are provided below; more specifics are posted in the preceptor profiles in CORE ELMS.

Cardiology

This rotation develops professional skills in a cardiology practice environment. Students participate in the patient care decision-making process through a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. In cardiology, students are likely to see medical conditions including coronary heart disease (stable angina, acute coronary syndrome, and coronary revascularization), heart failure, dysrhythmias, hypertension, and dyslipidemia.

Critical Care

This rotation develops professional skills in the area of critical care. Students participate in the patient care decision-making process, in a variety of clinical activities, functioning as an integral

member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. Students may be exposed to pharmacotherapy in the areas of cardiology, pulmonology, infectious diseases, nephrology, neurology, nutrition, pharmacokinetics, and overall wellbeing as related to critically ill patients.

Hematology/Oncology

This rotation develops professional skills in a hematology/oncology practice environment. Students participate in the patient care decision-making process in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions include cancer complications, chemotherapy adverse effects (neutropenia, tumor lysis syndrome, mucositis, anemia, nausea/vomiting, etc.), nutrition issues, pain management, immunosuppression, and infectious disease.

Human Immunodeficiency Virus (HIV) / Acquired Immune Deficiency Syndrome (AIDS): Immune Deficiency Service

This rotation develops professional skills in a HIV/AIDS and immune deficiency practice environment either in patient or ambulatory care settings. Students participate in the patient care decision-making process in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. On the rotations, students are most likely to encounter medical conditions including HIV/AIDS complications, medication adverse effects, nutrition issues, immunosuppression, pain management, and infectious disease.

Infectious Disease

This rotation develops professional skills in an infectious disease practice environment. Students participate in the patient care decision-making process in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. On the rotation, students are mostly likely to encounter medical conditions including meningitis/encephalitis, endo/pericarditis, sepsis, respiratory infections, skin/soft tissue infections, osteomyelitis, and infections in immunocompromised patients.

Long-Term Care / Consulting

This rotation develops professional skills in a long-term care/consulting practice environment. Students participate in patient care to patients in this practice setting. Students participate in a variety of activities, functioning as an integral member of the healthcare team. Emphasis is on the student's ability to demonstrate an understanding of common medical conditions seen in this setting.

Pediatrics

This rotation develops professional skills in the area of pediatrics. Students participate in the patient care decision making process, in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care (including appropriate dosage calculations and administration) and preventative care through immunizations. On this rotation, the most commonly encountered medical conditions include infectious disease (acute otitis media, pneumonia, meningitis, gastroenteritis, and infant sepsis), nutritional issues, dehydration, and ingestions.

Psychiatry

This rotation develops professional skills in the area of psychiatry. Students participate in the patient care decision-making process through participation in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions include depression, anxiety disorders, substance abuse, bipolar disorder, and psychotic disorders.

Solid Organ Transplantation

This rotation develops professional skills in the area of solid organ transplantation. Students participate in the patient care decision-making process in a variety of clinical activities, functioning as an integral member of the healthcare team. Emphasis is placed on the student's ability to demonstrate an understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical issues include post-operative management, infection prevention, acute rejection, chronic rejection, renal and hepatic dysfunction dosing, and monitoring of organ function.

Community/ Compounding

This rotation develops professional skills in pharmaceutical compounding. Students participate in the process of preparing compounded medications for patients, focusing on compound prescriptions that are not commercially available or economically feasible to manufacture in order to meet individual patient needs. The most commonly compounded preparations may include oral liquids (solutions, suspensions, etc.), capsules, suppositories, lozenges, nasal sprays, and topical preparations (gels, creams, and ointments) and veterinary formulations.

Drug Information

This rotation develops professional skills as a provider of drug information. Students participate in the process of responding to drug information requests from other healthcare providers and potentially patients. Emphasis is on how to properly receive drug information requests, conduct a systematic literature search and review, and assimilate the information obtained into an appropriate response. Students develop an enhanced appreciation of the different types of information resources and appropriate utilization. Additional activities may include assisting

with the development of a newsletter and/or drug monograph for presentation during a Pharmacy and Therapeutics (P&T) Committee meeting.

Clinical Research and Development

This rotation provides the student an opportunity to participate in a highly interactive industry-based rotation within the Research and Development department of a pharmaceutical company. The rotation is designed to provide an overview of clinical trial development within the Oncology therapeutic area and will provide students with experience in various research-based activities. Students are introduced to regulatory governances of good clinical practices and engage in projects to enhance their research, writing and presentation skills by contributing to the development of clinical documents (e.g., sections of clinical protocols, investigator meeting materials, and journal clubs), clinical data review, and/or data literature mining. Students may also see clinical trial activities such as database and statistical plan development, as well as other trial start-up, maintenance, and close-out activities. The specific activities depend on the timing of the rotation and specific needs of ongoing research.

Global Regulatory Affairs and Clinical Safety

This rotation introduces students to US regulatory activities in a pharmaceutical company Regulatory Affairs department. The student interacts directly with subject matter experts in these groups, many of whom interact directly with regulatory agencies. Students complete assignments related to the areas of regulatory affairs they see. The student also develops an overview of the other groups within the company that interact with Regulatory Affairs to develop a drug. On this rotation the student will meet pharmacists in a variety of positions throughout the company.

National Cancer Institute - National Institutes of Health - Division of Cancer Treatment and Diagnosis

This rotation is for students with a strong interest in investigational drug research and/or oncology. The rotation focuses on the management of investigational oncology agents for research sponsored by the National Cancer Institute (NCI) from the time of early drug development to FDA approval. The rotation includes experiences in investigational drug labeling, Investigational New Drug applications (INDs), special exception protocols, adverse event monitoring, clinical trial design, protocol review, and investigational drug inventory. Students will need to complete some assignments before starting the rotation as specified in the syllabus and read/sign the NCI's Confidential Disclosure Agreement.

FDA-CDER/Office of Compliance

This rotation is an introduction to the role of the FDA, particularly the Office of Compliance, and the activities that affect patient health care. The Office of Compliance's mission is to promote and protect public health through strategies and actions that minimize consumer exposure to unsafe, ineffective, and poor-quality drugs. The student learns what the Office of Compliance does to ensure patient care, through its day-to-day activities and long-term missions. The student will learn about role of the Office of Compliance in policy development, recalls/shortages, manufacturing quality, unapproved and labeling compliance, compounding, and other related fields that affect the quality of patient care on a high level.

Students are encouraged to review CORE ELMS preceptor site profiles for current, full descriptions to make informed choices on selecting rotations.