Advanced Pharmacy Practice Experience (APPE)

Manual
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The College of Pharmacy Student Handbook and Manuals are hereby incorporated as a part of this catalog. The catalog is also hereby incorporated as a part of the Student Handbook and Manuals. The Catalog, Student Handbook and Manuals are available in the College of Pharmacy administrative offices and/or website.
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I. INTRODUCTION

The Roseman University of Health Sciences College of Pharmacy has developed a unique way of approaching the experiential training of pharmacy students. The primary goal of the experiential curriculum is to ensure that every student obtains the knowledge, skills and abilities necessary to enable him or her to practice competently in a variety of settings. The progression of pharmacy practice experiences are designed to help students make the successful transition from the didactic academic setting to the practice environment via practical application. The integration of classroom knowledge and professional performance serves as the cornerstone of the students’ education, both instilling professionalism and ensuring competency in the provision of pharmaceutical care.

The Advanced Pharmacy Practice Experience (APPE) rotations are designed to provide students with exposure to a variety of clinical pharmacy practice settings. Students are required to complete a total of thirty six (36) weeks of APPE, which is scheduled as 6, six-week rotation blocks as follows (please note that rotation assignments may occur in any order):

- Institutional Practice
- Ambulatory Care
- Advanced Community
- Acute Care (Internal Medicine, Critical Care or Transitional Care) and
- Two Selectives (described later in the Manual).

Additionally, students are required to complete a seventh Elective block for a minimum of four elective credit hours. The Elective may be experiential or didactic. Experiential electives typically include pharmacy practice opportunities that may or may not involve direct patient contact. Didactic electives are provided by College faculty and encompass a variety of topics.

Each APPE has three sets of learning outcomes: Professionalism Outcomes, Advanced Pharmacy Practice Experience General Outcomes, and Rotation-Specific Outcomes.

II. ROTATION POLICIES AND PROCEDURES

The information contained in this manual is complementary to that in the Student Handbook. Questions and/or clarifications pertaining to policies and procedures or other issues should be directed to the Advanced Experience Coordinator.

A. APPE ROTATION SCHEDULE AND ATTENDANCE

<table>
<thead>
<tr>
<th>Block</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation 1</td>
<td>5/23 – 7/01/16</td>
</tr>
<tr>
<td>Rotation 2</td>
<td>7/04 – 8/12/16</td>
</tr>
<tr>
<td>Rotation 3</td>
<td>8/15 – 9/23/16</td>
</tr>
<tr>
<td>Rotation 4</td>
<td>9/26 – 11/04/16</td>
</tr>
<tr>
<td>Rotation 5</td>
<td>11/07 – 12/16/16</td>
</tr>
<tr>
<td>Rotation 6</td>
<td>01/02 – 02/10/17</td>
</tr>
<tr>
<td>Rotation 7</td>
<td>02/13 – 03/24/17</td>
</tr>
<tr>
<td>Rotation 8</td>
<td>03/27 – 05/05/17</td>
</tr>
</tbody>
</table>

*Note: Students complete 7 rotations; one block serves as an off block for those not participating in summer remediation during block 2.
Complete attendance is an expectation of all students for every rotation. Students are expected to be present at the assigned practice site at least 40 hours per week during each rotation, as per preceptor schedule in order to earn 240 total intern hours over the six week block. Additional hours beyond those scheduled may be required in order to complete assignments or other rotation activities. The College expects students to modify all other schedules to allow full attendance during rotations.

Any absence not made up will be deducted from the total intern hours afforded for the rotation experience. If a student is ill or has a personal emergency, the student must contact the Advanced Experience Coordinator and preceptor within 24 hours. Documentation from a physician or relevant third party may be requested for these types of absences.

Requests for time off for any reason other than a personal or family emergency, student illness or bereavement must be approved at least two weeks in advance by both the Advanced Experience Coordinator and preceptor. Participation in extracurricular events, particularly those related to the profession, is encouraged but does not preclude rotation requirements. Verification of attendance or a written summary of activities may be required by the Advanced Experience Coordinator and/or preceptor.

The College encourages students to attend pharmacy professional meetings. In order to receive an excused absence for a pharmacy professional meeting, each student attending the meeting must individually submit a request, in writing to the appropriate Advanced Experience Coordinator at least two weeks prior to the meeting. The request must be accompanied by a copy of the student’s accepted registration for the meeting. Students are encouraged to participate in College-sponsored events (e.g. Career Fair and Interview Day) which may be scheduled during rotation hours. Involvement in College-sponsored events is considered an absence and students may be required to make up these hours.

Regardless of the reason for an absence, the Advanced Experience Coordinator or preceptor may require that part or all of the time be made up in order for the student to achieve rotation outcomes. Absences will be made up at the convenience of the preceptor. An incomplete (I) will be assigned until a final outcome for the rotation has been determined. Since some sites and/or rotation schedules may not allow students the opportunity to make-up hours, this should not be an expectation. Rotation outcomes not achieved due to absences may result in a “No Pass” if the number of days required for achievement exceeds those feasible to the site and/or rotation schedule.

If a student does not complete the entire 6-week experience during the assigned block’s time frame for any reason, the student will be required to complete an additional 6-week experience of the same course type. A continuous 6-week rotation is required; a rotation may not be started earlier or later or split for any reason. If the student does not complete the entire 6-week experience the student will be given No Pass (NP) for that experience. Regardless of the circumstances, experiential credit will only be given for a complete 6-week experience.

All student rotation schedules are coordinated through the Advanced Experience Coordinator. Any student who makes an unauthorized changed in their rotation schedule without the approval of the Advanced Experience Coordinator will be given a No Pass for the rotation. Schedules may only be modified at the discretion of the Advanced Experience Coordinator.

Once student-preceptor assignments are announced, changes are made only in circumstances when the preceptor or site becomes unavailable. With preceptor-driven changes, the Advanced Experience Coordinator provides reassignment options to the student for review and submission of preferences. The Advanced Experience Coordinator then works in order of the student’s preferences to confirm preceptor availability and approval for reassignment.
It is not appropriate for students to approach preceptors regarding arranging rotations or increasing availability. Neither is it appropriate for students to approach preceptors regarding changing a rotation that has been assigned without discussing the change with the Advanced Experience Coordinator first.

B. STUDENT REQUIREMENTS FOR PARTICIPATION IN APPE

1. General Requirements

Prior to beginning experiential rotations, each student must successfully complete the following requirements:

1. Health Insurance Portability and Accountability Act (HIPAA) training
2. Bloodborne Pathogens in Healthcare Facilities (OSHA) training
3. Tuberculosis Prevention Training
4. Clear Background Check
5. Negative Urine Drug Screen
6. Current Basic Life Support for Healthcare Providers (BLS)
7. Aseptic Technique Test
8. History and Physical
9. Immunizations and Health Screenings
   a. MMR (measles, mumps, rubella) proof of completion of the 2 shot series (at least 4 weeks apart); or serologic titers showing immunity
   b. Polio; or serologic titers showing immunity
   c. Tdap (tetanus, diphtheria, and pertussis) – one shot within 10 years
   d. Hepatitis A proof of completion of the 2 shot series (3 shots if Twinrix vaccine is administered); or serologic titers showing immunity (takes 6 months to complete)
   e. Hepatitis B proof of completion of the 3 shot series; or serologic titers showing immunity (takes 6 months to complete)
   f. Tuberculosis Screening
   g. Varicella (chicken pox) proof of completion of the 2 shot series (at least 4 weeks apart); or positive serologic titers showing immunity.
   h. Seasonal flu vaccination may be required if participating in a hospital rotation during the flu season.

The College will release this information to practice site upon request. By signing the Acknowledgement of the Roseman University of Health Sciences College of Pharmacy Experiential Policies and Procedures, students authorize the College to release this information. This is a requirement to participate in experiential rotations.

Students are responsible for any financial expenses associated with the requirements listed above.

Some practice sites may require additional requirements in order for students to be allowed on site. It is the student’s responsibility to complete these requirements prior to going on rotation. If a student does not complete these requirements, the student’s rotation assignment may be cancelled which could result in delay of graduation and additional tuition costs.

2. Medical Insurance/Medical Care

All students are required to maintain medical insurance for the duration of the P3 year. Each student is responsible for their medical care and/or treatment in case of illness or injury while on rotation, if necessary, including transportation. In the event that a student no longer has medical insurance they are ineligible to continue their experiential training and will be removed from the practice site.
3. **Health Status**

Each student must provide certification that they have no health-related condition that would render the student unfit to participate in the clinical experience.

4. **Confidentiality Policy**

All students are required to adhere and sign to the following Confidentiality Policy prior to participating in rotations:

I acknowledge and agree to comply with the *Health Insurance Portability and Accountability Act of 1996 (HIPAA)* and any current and future regulations promulgated hereunder including without limitation the federal privacy regulations, federal security standards and the federal standards for electronic transactions. Confidential Information specifically includes, but is not limited to, employee information, patient information, computer or access password(s) issued to me, financial information, business activity information, details about the computer systems and software, displayed and printed information, and proprietary vendor information.

I will:

1. Use Confidential Information strictly in connection with, and for the sole purpose of, performing my assigned educational and patient care responsibilities;
2. Not disclose or communicate any Confidential Information to any person or entity whatsoever, except in performance of assigned educational and patient care responsibilities at the site or in the classroom;
3. Not disclose to any other person or entity, password(s) issued to me;
4. Always clear Confidential Information from my terminal screen and sign off the system when my tasks are completed;
5. Report immediately to my preceptor any unauthorized use, duplication, disclosure, or dissemination of Confidential Information by any person, including other students;
6. Mask the identity and any identifying information of the patient or employee, and site when presenting Confidential Information orally or in writing, as part of my assigned educational and/or patient care duties.

My failure to fulfill any of the obligations set forth in this confidentiality agreement or my violation of any of the terms of this agreement may result in:

1. Disciplinary action by the Roseman University of Health Sciences College of Pharmacy, including but not limited to, action taken under the College’s Standards of Professional Conduct;
2. Disciplinary action by the site, according to the site’s policies and procedures, including removal from the site;
3. Appropriate legal action (state and/or federal), including, but not limited to, civil or criminal prosecution.

5. **Transportation and Lodging**

Students are responsible for the provision of their own reliable means of transportation to travel to and from their rotation sites. Students are solely liable for any and all incidents that occur during their travel to and from their rotation site. Students are required to carry automobile liability insurance for their vehicle that meets at least the minimum coverage requirements for the state in which the vehicle is registered. Students must carry proof of such insurance coverage in their vehicle at all times when traveling to and from rotation sites. Students understand, agree, and acknowledge that Roseman is not responsible for any and all incidents that occur during their travel to and from rotation sites. Students also agree to comply with the Roseman transportation policy.
Students are also responsible for the provision of their own lodging for the duration of their experiential rotations, at their own personal cost.

6. **Compliance with Site / Facility Policies and Procedures**

Students must comply with all policies and procedures of the practice site. Preceptors must advise students of site policies during the orientation process. Students must respect practice site property. Inappropriate use of or damage to practice site property may result in disciplinary action by the site, College, or result in civil or criminal prosecution. Students shall assume the responsibility for the cost of equipment and supplies of practice site that are broken, damaged, or stolen by students. Students must return all property to the site upon completion of the rotation. Fines assigned by the site for past due items are the responsibility of the student.

C. **ADMINISTRATION OF IMMUNIZATIONS**

Students must be APhA certified in the Pharmacy-Based Immunization Delivery Certificate Program in order to be eligible to give immunizations. Students must abide by the state laws governing immunizations in order to practice this skill. These laws may include, but are not limited to supervision of an APhA certified Pharmacy-Based Immunization Delivery pharmacist, BLS certification, and company-based OSHA training. Please refer to site protocol and state laws for any additional requirements. Students are required to provide a copy of their APhA Immunization Certificate and any other required documents to their preceptor prior to immunizing.

D. **NEEDLE STICKS AND POST-EXPOSURE PROPHYLAXIS**

Some sites will provide post-exposure evaluation, source patient testing, and initial prophylactic treatment as a result of exposure to blood or bodily fluids during a rotation, according to the most recent Center for Disease Control guidelines. It is the responsibility of the student to seek out appropriate medical care for HIV or Hepatitis B testing and/or treatment. The exposed student will be responsible for the follow up with his/her own physician or other medical personnel. The student shall be responsible for payment of any care/testing received as well as any additional or follow-up care.

Students should follow site specific protocols regarding needle stick or bodily fluid exposure and notify the experiential team immediately.

For your protection and safety, students should not enter patient care areas where signage indicates an N95 (NIOSH-approved particulate filtering face-piece respirators) mask is required, as neither the College nor the Hospital will supply students with respiratory mask fit testing.

E. **COMPENSATION**

Students may not receive remuneration while receiving academic credit. The intern hours earned while on rotation cannot be for receipt of any payment whatsoever. Students may not receive or request compensation from sites or preceptors for hours, activities, projects or assignments related to any experiential rotation. Any student found to have received financial compensation for hours where academic credit is earned will be referred for professionalism probation, will receive a “No Pass” for the course and will be required to remediate an entire six-week rotation of the same course type.

F. **CASH REGISTER USE**

If permitted by the rotation site’s policy, students are allowed to operate the cash register at their rotation site, under the supervision and direction of their preceptors. Students are responsible to fully understand conditions
for cash register use prior to using the cash register. Preceptors who have concerns or questions about this policy should contact their local Advanced Experience Coordinator.

G. **DRESS CODE**

All students are expected to practice good personal hygiene (clean and well groomed) and wear professional attire while attending rotations. Students are to adhere to site-specific dress codes. A short white lab jacket should be worn at all times unless instructed otherwise by the preceptor. Students must wear their College identification badge and/or site identification at all times as instructed by the preceptor.

<table>
<thead>
<tr>
<th>Appropriate Appearance for Women</th>
<th>Appropriate Appearance for Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business casual or dress pants</td>
<td>Business casual or dress pants</td>
</tr>
<tr>
<td>Skirt or dress (minimum: knee length)</td>
<td>Clean and pressed shirt</td>
</tr>
<tr>
<td>Blouse or sweater</td>
<td>Tie (site-dependent)</td>
</tr>
<tr>
<td>Closed toe dress shoes</td>
<td>Jacket or sweater</td>
</tr>
<tr>
<td>Socks or hosiery</td>
<td>Closed toe dress shoes</td>
</tr>
<tr>
<td></td>
<td>Socks</td>
</tr>
</tbody>
</table>

**Inappropriate Appearance (women or men)**

- Jeans, camouflage pants (fatigues), low-rise pants, yoga pants, leggings, scrubs or sweat/athletic pants
- Spandex
- Shorts
- Low-cut / mini skirts (above the knee)
- Low cut or backless shirts and blouses (including halter and tank tops)
- T-shirts and sweat shirts
- Open midriff
- Open-toe shoes
- Athletic footwear
- Bare legs and feet
- Visible piercing (face, tongue, nose, and navel)
- Artificial nails (acrylic, gel nails and other compounds)
Lastly, the College recommends while on rotation students be conservative with respect to hair coloring. Pierced earrings may be acceptable however students should confirm this with the preceptor (i.e. site-specific restriction). Preceptors reserve the right to require students to comply with the dress code in order to continue the rotation.

H. RECORDING OF STUDENT INTERN HOURS

Each six-week rotation experience provides approximately 240 intern hours that may be counted towards licensure. Each state differs regarding the number of experiential education hours that may be counted towards the total required for licensure eligibility. Students should contact individual State Boards of Pharmacy for specific details. A listing of State Boards of Pharmacy can be found on the National Associations of State Boards of Pharmacy web site: http://www.nabp.net.

Student rotation hours are tracked and reported to boards of pharmacy by the Advanced Experience Coordinator only. The Advanced Experience Coordinator on each campus will verify and report all of the hours a student earns through the experiential component of the student’s education (IPPE and APPE rotation hours) upon graduation to the State Board of Pharmacy in which the school is located and the campus on which the student was enrolled for P3 year.

Students and preceptors should NOT self-report any experiential hours to any board of pharmacy without contacting with the experiential team. Students should not ask preceptors to sign off on hours on any form other than a Roseman Assessment Form (available on Apollo or the preceptor website). It is important to make sure that the total hours earned at the site are recorded on the final assessment by the preceptor for each APPE block.

I. STUDENT RESPONSIBILITIES

1. Students should be knowledgeable of and compliant with the material contained in this Manual.
2. Students are responsible for contacting the preceptor at least two weeks prior to the start of the rotation.
3. Students are responsible for informing the College (Student Services and the experiential team) of any changes to address and telephone number within 7 days of the change taking effect. Communication from the College will be primarily via Roseman University email system. Students must check their Roseman University email account daily for updates and other information.
4. All expenses, fees and/or fares incurred to participate in APPE rotations are the responsibility of the student.
5. Students shall not copy or remove confidential information from facility premises.
6. Students are expected to be present at the practice site at least 40 hours per week during each rotation, as per preceptor schedule. Actual rotation hour requirements will vary depending on practice site.
7. Students are responsible for adhering to the rotation schedule and deadlines for assignments. Students are responsible for reporting all of their activities (including the completion of an assignment) to the preceptor.
8. Students are expected to behave professionally at all times when on rotation. Students should be respectful and courteous at all times.
9. Each student should be proactive with their experiential education, which necessitates active participation and communication.
10. Students should never be hesitant to admit that they do not know something, and should seek help when necessary. Students are encouraged to learn from one another if/when paired with another student for rotation experiences.
11. Advice or direction from a preceptor should be viewed as a learning experience. Students should never publicly question the advice or directions of a preceptor; rather these issues should be discussed in private.
Students and preceptors are encouraged to discuss differences or conflicts with the Advanced Experience Coordinator.

12. Students should take the initiative in communicating with physicians, patients, and other healthcare professionals but only under the direct supervision of their preceptor.
13. Each student is responsible for registering as a Pharmacy Intern with the Nevada or Utah State Board of Pharmacy and any State in which they will be interning. Each student is responsible for providing a copy of their Pharmacy Intern License to the to the Advanced Experience Coordinator and practice site.
14. Students who are enrolled at the Henderson, Nevada Campus must maintain a NV intern license for their duration of enrollment. Students who are enrolled at the South Jordan, Utah Campus must maintain a UT intern license for their duration of enrollment.
15. Students must abide by the laws and regulations that govern pharmacy practice and seek clarification from the preceptor when necessary.
16. Evidence of illicit substance or alcohol abuse by a student is reason for immediate sanction and possible termination from the program. Please see the Student Handbook for College policies and procedures regarding use of illicit substances or alcohol.
17. Students are required to submit assessment forms in Apollo by the due date.

J. PRECEPTOR RESPONSIBILITIES

1. Preceptor Responsibilities

1. Preceptors must be licensed pharmacists and in good standing with the State Board of Pharmacy where the practice site is located.
2. Preceptors must abide by the laws and regulations that govern pharmacy practice.
3. Preceptors should be knowledgeable of and compliant with the material contained in this manual.
4. Preceptors are expected to instill and demonstrate principles of professionalism and ethics.
5. Preceptors are expected to be respectful of fellow practitioners and allied health professions, inasmuch as the preceptor is a role model to the student.
6. Preceptors are responsible for clearly communicating student expectations regarding performance, appearance, attitude and method of practice to the student and Advanced Experience Coordinator, when concerns arise.
7. Preceptors are responsible for scheduling an orientation session with their student(s).
8. Preceptors are responsible for identifying an acceptable replacement licensed pharmacist to supervise students during absences.
9. Preceptors are responsible for fostering an environment of mutual learning.
10. Preceptors should not assume student competency but determine it by reviewing the student’s performance through discussions and observation.
11. Preceptors are responsible for reviewing student progress at regular intervals during the experience and sharing their observations with the students.
12. Preceptors are expected to provide constructive criticism, conveyed in private and an appropriate manner.
13. Preceptors should inform students of any areas requiring improvement as early as possible.
14. Preceptors are responsible for submitting a midpoint and final assessment by the prescribed due date using Apollo, documenting any areas needing improvement.
15. Preceptors are responsible for verifying the intern hours completed by each student to the College on the final assessment. The hours recorded should reflect those applicable as per State Board of Pharmacy requirements.
16. Preceptors are responsible for verifying student attainment of required rotation outcomes.

2. Preceptor Orientation to University Requirements
It is expected that all new preceptors complete the Roseman University College of Pharmacy Preceptor Application. Additionally, new preceptors are expected to view and complete the experiential online orientation video and questions. This following is the link: http://www.roseman.edu/preceptors/preceptortrainings.

3. **Rotation Orientation**

Suggested Orientation Outline and Content:

1. Review of rotation outcomes and manual
   - Preceptor expectations and contact information
   - Student expectations and contact information
   - Rotation-specific outcomes
   - Scheduled meetings, conferences and other activities
   - Daily responsibilities (students and preceptors)
   - Projects, required and site-specific, and presentations
   - Assessment procedure and timeline

2. Orientation to the practice site: dress code, hours of operation, acceptable / prohibited electronic devices, tour of facility, staff introductions, etc.
   - Students are not allowed to use their cell phone for personal calls or texting during rotation hours
   - If you must answer a person call/text, it must be done during a break time
   - Students may NEVER use their cell phone to take a picture of any patient or any confidential information

3. Pharmacy department policies and procedures including pharmacist responsibilities: writing in medical records, patient note format, answering questions, documenting interventions, taking verbal prescriptions, patient counseling, etc.

4. Pharmacy staff assignments: shift assignments, reporting structure, decision making process, etc.

5. Available clinical resources: drug information references, clinical specialists, etc.

6. Orientation to site forms: adverse drug reaction, drug utilization, formulary requests, prescription notes, etc.

7. Use of site resources: photocopier, inter-library loan, computers, internet access, telephones, etc.

8. Use of pharmacy department equipment and safety requirements: refrigerators, laminar flow hoods, pneumatic tubes, etc.

K. **STUDENT ASSESSMENT**

1. **Assessment Terminology**

The following definitions should be used when assessing students:

<table>
<thead>
<tr>
<th>PROFESSIONALISM OUTCOMES</th>
<th>MIDPOINT ASSESSMENT</th>
<th>FINAL ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Satisfactory Progress</td>
<td>Needs Improvement *</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENERAL APPE AND ROTATION-SPECIFIC LEARNING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student excels in this area.</td>
</tr>
<tr>
<td>Student is above average in this area.</td>
</tr>
<tr>
<td>Student meets expectations in this area.</td>
</tr>
<tr>
<td>Student is progressing, but does not yet meet expectations.</td>
</tr>
<tr>
<td>Student does not meet expectations.</td>
</tr>
</tbody>
</table>
### MIDPOINT ASSESSMENT

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory Progress</td>
<td>Needs Improvement</td>
<td></td>
<td></td>
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### FINAL ASSESSMENT

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Achieved</td>
<td>Satisfactory</td>
<td>Not Achieved</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Student is able to complete the assigned outcome.
- Student excels in this area.
- Student is able to complete the assigned outcome.
- Student’s progress towards achieving this outcome is acceptable.
- Student can complete the outcome with minimal assistance.
- Student is unable to complete the assigned outcome.
- Student cannot complete the outcome with significant assistance.
- Student is unable to complete the assigned outcome.

* Preceptors must contact the advanced Advanced Experience Coordinator if a student is performing unsatisfactorily (e.g. multiple “Needs Improvement”) upon completion of the rotation midpoint assessment. Frequent progress updates may be requested for the duration of the rotation. Thorough documentation is encouraged on the assessment forms.

** A “No Pass” must be assigned if a single “Not Achieved” is given on the final assessment.

2. **Advanced Pharmacy Practice Experiences (APPE) Assessment Process**

Preceptors are to formally assess and document students twice, at the midpoint and end of the rotation, using the online rotation management system Apollo which can be accessed at [www.roseman.edu/Apollo](http://www.roseman.edu/Apollo). The midpoint and final assessment should include active discussion between the preceptor and student. Concurrent review of the student self-assessment and preceptor assessment is encouraged.

The APPE assessment form is divided into three sections: General Outcomes, Professionalism Outcomes, and Rotation-Specific Outcomes and/or Discussion Points. Each general outcome and rotation-specific outcome is assessed on successful completion of the described outcome. These outcomes may be “in progress” at the midpoint assessment. In addition, some outcomes may be “Non-Applicable”, as some practice sites may be unable to provide an opportunity for students to complete the assigned outcome.

The assessment process for Professionalism Outcomes is more distinct in that student behavior is either acceptable or not during both the midpoint and final assessment. Students can receive a “No Pass” for a rotation if they do not exhibit appropriate professional behavior, regardless of how they perform in other areas.

Preceptors and students are encouraged to contact the Advanced Experiential Coordinator if further clarification is required for any Outcome.

### Midpoint Assessment

The midpoint assessment is a formative assessment for the rotation experience. Preceptors will assess the student, and the student is required to complete a mid-point self-assessment. The professionalism outcomes are the same for all APPE experiences. Achievement of professionalism outcomes is documented for each rotation using the corresponding Midpoint Assessment Form. The intent of the midpoint assessment is to provide a constructive framework to identify areas for improvement so that students can successfully complete the rotation. Comments specifically addressing the deficiency and methods for improvement should be provided if a score of “1” or “2” is selected during the midpoint.
Preceptors must contact the Advanced Experience Coordinator if a student is performing unsatisfactorily; (e.g. multiple “1” or “2’s”), upon completion of the rotation midpoint assessment. Frequent progress updates may be requested for the duration of the rotation. Thorough documentation is encouraged.

**Final Assessment**

The final assessment is a summative assessment for the rotation experience. Students are required to complete a final self-assessment; however, only the preceptor’s assessment of the student is considered when determining the outcome for the rotation (“Pass” or “No Pass”).

A “No Pass” must be assigned if a single “Not Achieved” is given on any outcomes of the student Final Assessment. **Preceptors are required to provide documentation for each “Not Achieved”**. Thorough documentation of student progress is recommended.

**Student Assessment of Site and Preceptor**

Students are to provide constructive feedback on the Site and Preceptor Assessment Form. The information on this form will be shared with the preceptor at the end of each rotation year, but will be blinded and presented in aggregate to protect student privacy.

The Advanced Experience Coordinators review all assessments at the midpoint and final so as to provide support wherever needed to both students and preceptors.

**Submission of Student Assessment Forms**

Students are responsible for the completion and submission of all assessment forms in Apollo. **All assessment forms must be received by the College no later than seven (7) days after the completion of the rotation.** Final student rotation outcomes will not be recorded until all assessment forms have been received by the College.

**Unsatisfactory Performance**

Students who receive a “No Pass” for an experiential rotation should consult the Student Handbook for information regarding their subsequent academic standing.

3. **Student Appeal of Experiential Outcomes**

Students wishing to appeal the outcome of an experiential rotation may do so by following the procedures described in the Student Handbook. Depending on the circumstances, students may be allowed to continue to progress through the P3 curriculum until the rotation appeal has been resolved.

4. **Falsifying or Plagiarizing Assessments or Assignments**

Any student who is found to have falsified or plagiarized an assessment form or assignment will automatically receive a “No Pass” for the APPE rotation and will be referred for professionalism probation through the remainder of the student's enrollment at Roseman. Additional reprimand, up to and including termination from the program, may be given.

**III. DOCUMENTS AND FORMS**
A. Assessment Forms to be completed by students and preceptors can be found on our website at www.roseman.edu/preceptors or online at www.roseman.edu/Apollo.

All student and preceptor midpoint and final assessment forms are submitted online at www.roseman.edu/Apollo. Students and preceptors have individualized logins and passwords to access this site.

B. Experiential Policies and Procedures Acknowledgment Form – to be completed by the student prior to APPEs.

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Acknowledgment of Roseman University of Health Sciences
College of Pharmacy Experiential Policies and Procedures

<table>
<thead>
<tr>
<th>Student’s Initials</th>
<th>Policy</th>
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<tbody>
<tr>
<td></td>
<td>Rotation Schedule and Attendance</td>
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<td></td>
<td>Student Requirement for Participation in APPE</td>
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<td></td>
<td>I authorize the College to provide verification and/or a copy of required documents to practice site upon request</td>
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<td></td>
<td>Transportation and Lodging</td>
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<td></td>
<td>Student understands, agrees, and acknowledges that Roseman is not responsible for any and all incidents that occur during their travel to and from rotation sites. Student is solely liable for any and all incidents that occur during travel to and from the rotation site. Student is required to carry automobile liability insurance for their vehicle that meets at least the minimum coverage requirements for the state in which the vehicle is registered. Student must carry proof of such insurance coverage in the vehicle at all times when traveling to and from rotation sites. Student agrees to comply with the Roseman transportation policy.</td>
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<td>Medical Insurance/Medical Care</td>
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<td>Health Status</td>
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<td>I certify that I have no health-related conditions that would render me unfit for participate in any of the professional experience programs</td>
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<td>Confidentiality Policy</td>
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<td>Compliance with Site/Facility Policies and Procedures</td>
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<td>Administration of Immunizations</td>
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<td>Needle Stick and Post-Exposure Prophylaxis</td>
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<td>Dress Code</td>
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<td>Recording of Student Intern Hours</td>
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<td>Student Responsibilities</td>
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<td>Student Assessment</td>
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<td>Rotation Orientation</td>
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</tbody>
</table>
I acknowledge, understand and accept all of the policies and procedures in the 2016-2017 Advanced Pharmacy Practice Experience Manual.

I acknowledge that I have received a copy of the Advanced Pharmacy Practice Experience Manual. By signing my experiential policies and procedures form I acknowledge that I have read the Manual and understand it. In the event that a University policy is in conflict with a College/Program policy, the more strict policy will apply.

Name (Printed) ____________________________ Signature ____________________________ Date ____________

IV. PHARMACY PRACTICE EXPERIENCE DESCRIPTIONS AND OUTCOMES

A. Professionalism Outcomes

1. **Student is empathic**, i.e., demonstrates appreciation of others’ positions; attempts to identify with others’ perspectives; demonstrates consideration towards others.
2. **Student behaves in an ethical manner**, i.e., acts in patients’ best interests; acts in accord with the profession’s and/or practice site’s code of ethics.
3. **Student communicates articulately**, i.e., clearly communicates thoughts; uses appropriate terminology and vocabulary for intended audience.
4. **Student is punctual**, i.e., arrives at practice site and meetings early or on time; meets deadlines for completion of tasks and responsibilities.
5. **Student maintains confidentiality**, i.e., engages in discussions or other activities involving patient- and/or site-specific information for purposes of fulfilling professional responsibilities only; maintains confidential nature of patient- and/or site-specific documents.
6. **Student is respectful**, i.e., demonstrates regard for patients, superiors, colleagues, other personnel, and property; acts in a manner that shows recognition that he/she is a guest at the practice site as a professional student.
7. **Student demonstrates accountability**, i.e., holds oneself liable for tasks/duties/responsibilities that he/she is responsible; does not blame others for mistakes or mishaps, nor avoids responsibilities.
8. **Student accepts and applies constructive criticism**, i.e., responds openly and positively to feedback; modifies behavior if necessary.
9. **Student wears appropriate attire**, i.e., adheres to dress code (written or unwritten); attire is acceptable to practice setting.
10. **Student demonstrates confidence**, i.e., acts and communicates in a self-assured manner, yet with modesty and humility.

B. Advanced Pharmacy Practice Experience General Outcomes

During the third professional year (P3), students are required to complete the following rotations: Ambulatory Care, Acute Care, Advanced Community Practice, Institutional Practice, two (2) Selectives and one (1) Elective rotation (minimum of four credit hours). The goal of these rotation experiences is to help students become active participants in the pharmaceutical care process. Students, under the supervision of a preceptor, will learn how to integrate their knowledge of pharmaceutics, pharmacology, pathophysiology, pharmacokinetics, and pharmacotherapeutics when developing individual patient-care plans.
Each rotation will emphasize and encourage outcome-oriented decision making. Students will formulate recommendations and participate in decisions about drug therapy considering economic, clinical and humanistic factors such as efficacy, toxicity, costs, third party coverage, and delivery methods. Students will interact with patients and other healthcare professionals, monitor assigned patients, attend and participate in daily rounds, conferences and discussions. Students will develop life-long learning skills through participation in journal clubs, case presentations, answering drug information questions, and attendance at special conferences (such as medical grand rounds and pharmacy department-sponsored lectures).

The forty two (42) General Outcomes described below were derived from the College Mission and Vision Statements, Expected Outcome Competencies, and the Center for the Advancement of Pharmaceutical Education, Educational Outcomes (CAPE 2013). Preceptors and students are encouraged to contact the Advanced Experiential Coordinator if clarification is required for a particular outcome.

**Foundational Knowledge**

1. Demonstrates an understanding of diagnosis, etiology and pathophysiology of rotation-relevant disease states.
2. Demonstrates an understanding of pharmacology, toxicology, pharmaceutics, pharmacokinetics, pharmacodynamics and pharmacotherapeutics pertaining to drug therapies.
3. Critically analyze scientific literature related to drugs and diseases to enhance clinical decision making.

**Essentials for Practice and Care**

**Patient-Centered Pharmaceutical Care**

4. Collects subjective and objective evidence related to patient, medications, allergies/adverse reactions, and disease, by performing patient assessment (including physical assessment) from chart/electronic health records, pharmacist records and patient/family interviews.
5. Interpret evidence and patient data.
7. Formulate evidence based care plans, assessments, and recommendations.
8. Develop and implement patient care plans.
9. Monitor the patient and adjust care plan as needed.
11. Evaluate drug therapy for appropriateness of indication and dose, adverse drug reactions, drug-lab, drug-drug, and drug-disease interactions, and response or lack thereof.

**Medication use systems management/Practice Management**

12. Describe the role of the pharmacist in impacting the safety and efficacy of each component of a typical medication use system (i.e., procurement, storage, prescribing, transcription, dispensing, administration, monitoring, and documentation).
13. Utilize technology to optimize the medication use system.
14. Apply standards, guidelines, best practices, and established processes related to safe and effective medication use.
15. Demonstrate the ability to organize responsibilities and function effectively in the practice setting.
16. Demonstrate an understanding of the relationship between state/federal laws and regulations, accreditation standards, and daily practice.

Health and wellness/pharmacy administration
17. Participate with interprofessional healthcare team members in the management of, and health promotion for, all patients.
18. Document and/or demonstrate the impact of pharmaceutical care on patient outcomes (medication adherence, quality of life, etc.)

Population-based care/ Public Health initiatives
19. Develop and provide an evidence-based approach that considers the cost, care, access, and satisfaction needs of a targeted patient population.
20. Identify and assess patient needs for disease prevention and detection interventions.

Approach to Practice and Care

Problem Solving/Critical Thinking
21. Identify and define the primary problem facing a patient and their medications and/or disease states.
22. Define goals and alternative goals as they relate to a patient’s therapy.
23. Demonstrate the ability to synthesize and integrate information (clinical, cultural, ethical, economic, and legal) effectively when making practice- or patient care-related decisions.

Educator/Communication/Drug Info/Literature Evaluation
24. Demonstrate the ability to coordinate educational efforts with other healthcare providers, when appropriate, to ensure a consistent, comprehensive, and team-based encounter.
25. Assist patients in navigating the complex healthcare system.
26. Communicate in a manner that values team-based decision making and shows respect for contributions from other areas of expertise.
27. Effectively communicates with other healthcare providers, patients and/or caregivers (listening, writing and verbal skills).
28. Given a request for information, define the issue(s), choose appropriate references, and critically evaluate the literature to formulate an accurate, comprehensive and balanced response.
29. Interview patients using an organized structure, specific questioning techniques and medical terminology adapted for the audience.
30. Effectively communicate with other healthcare providers, patients and/or caregivers (listening, writing and verbal skills).
31. Construct logical and appropriate oral and written recommendations for managing drug therapy.
32. Appropriately document patient-specific information demonstrated through entries in patient profiles, prescriptions, medication orders, consults, progress notes and/or reports.

Personal and Professional Development

Ethical Decision Making, Social Interaction, and Life-long Learning
33. Demonstrate ethical and moral reasoning when interacting with others and developing drug therapy plans.
34. Maintain motivation, attention, and interest (e.g., habits of mind) during learning and work-related activities.
35. Demonstrate an attitude that is respectful of different cultures.
36. Demonstrate an appreciation of the roles and responsibilities of other healthcare providers.
37. Develop relationships, value diverse opinions, and understand individual strengths and weaknesses to promote teamwork.
38. Develop new ideas and approaches to improve quality or overcome barriers to advance the profession.
39. Demonstrate creative decision making when confronted with novel problems or challenges.
40. Deliver patient-centered care in a manner that is legal, ethical, and compassionate.
41. Recognizes and articulates personal and professional strengths and weaknesses.
42. Demonstrate motivation towards self-betterment through performance or required activities.

C. **Required Rotations Outcomes**

1. **Ambulatory Care**

   The purpose of this rotation is for students to gain professional skills in an ambulatory care practice environment. The Ambulatory Care rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of 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
   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

2. **Acute Care**

   The purpose of this rotation is for students to gain professional skills in an acute care environment. The Acute Care rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their
ability to provide pharmaceutical care. The most commonly encountered medical conditions include cardiovascular disorders (hypertension, congestive heart failure, etc.), diabetes, infectious disease, pulmonary disorders, renal dysfunction, hepatic dysfunction as well as mental health as related to acutely ill patients.

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

1. Describe the roles and responsibilities of acute care pharmacists 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

3. **Advanced Community**

The purpose of this rotation is for students to gain professional skills in a community practice environment. The Advanced Community rotation affords students the opportunity to effectively participate in the patient care decision-making process. Emphasis will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. Emphasis will be placed 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
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. Counsel patients and/or caregivers on appropriate nutritional management strategies as related to their chronic illness(es)
12. Counsel patients and/or caregivers on non-pharmacologic therapies
13. Educate patients and/or caregivers on appropriate use of prescription and/or over-the-counter/herbal therapies including efficacy, toxicity, and drug interactions
14. Educate patients and/or caregivers on methods for preventing and detecting chronic illness(es)
15. Respond to drug information requests under the supervision of the preceptor
4. Institutional Practice

The purpose of this rotation is 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, record-keeping, 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. Discuss the relationship of each member of the healthcare team and their role in 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 repack 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 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

D. Selective Rotations Outcomes

Selective rotations include all specialized areas of pharmacy practice in an institutional or ambulatory care setting that encompass preventative, acute and chronic care for various age groups. Selective rotations must be
six-weeks in duration. Selective A Experiences includes those that offer consistent direct patient care opportunities for students. Selective B Experiences differ in that indirect patient care opportunities predominate.

<table>
<thead>
<tr>
<th>Selective A (patient-care oriented)</th>
<th>Selective B (non-patient care oriented)</th>
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<tbody>
<tr>
<td>Anticoagulation</td>
<td>Compounding</td>
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<td>Cardiology</td>
<td>Drug Information</td>
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<td>Drug Use Policy</td>
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<td>Emergency Medicine</td>
<td>Investigational Drug Service</td>
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<td>Geriatrics</td>
<td>Managed Care</td>
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<td>Hematology / Oncology</td>
<td>Medication Safety</td>
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<td>Heart Failure</td>
<td>Nuclear</td>
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<td>HIV / AIDS</td>
<td>Pharmaceutical Industry</td>
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Selective A – (cont.)

<table>
<thead>
<tr>
<th>Selective A – (cont.) (patient-care oriented)</th>
<th>Selective B - (cont.) (non-patient care oriented)</th>
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<tbody>
<tr>
<td>Home Health / Home Infusion</td>
<td>Pharmacy Administration</td>
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<td>Hospice Care</td>
<td>Pharmacy Informatics</td>
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<td>ICU</td>
<td>Pharmacy Management</td>
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<td>Immunization</td>
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<tr>
<td>Infectious Disease</td>
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<td>Long Term Care / Consulting</td>
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<td>Medication Therapy Management</td>
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<td>Shock Trauma</td>
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<td>Solid Organ Transplant</td>
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<td>Trauma / Surgery</td>
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1. Selective A Experiences

a. Cardiology

The purpose of this rotation is for students to gain professional skills in a cardiology practice environment. The Cardiology rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions include coronary heart disease (stable angina, acute coronary syndrome, and coronary revascularization), heart failure, dysrrhythmia, hypertension, and dyslipidemia.
At the end of this experience, the student should be able to:

1. Describe the roles and responsibilities of a cardiology pharmacy specialist in the institutional or ambulatory care settings
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. Perform disease-specific physical assessment (if applicable)
5. Describe the role of the most common diagnostic tests used in cardiology
6. Identify and prioritize medical problems in the cardiology setting
7. Provide appropriate triage to patients depending on their presenting signs and symptoms
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans.
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Describe the role of interventional procedures in the management of cardiac conditions
14. Respond to drug information requests under the supervision of the preceptor

b. Critical Care

The purpose of this rotation is for students to gain professional skills in the area of critical care. The Critical Care rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their 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 well-being as related to critically ill patients.

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

1. Describe the roles and responsibilities of acute care pharmacists 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 critical 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. Respond to drug information requests and provide appropriate education to other healthcare providers
11. Compare and contrast pharmacologic and pharmacokinetic parameters in patients in the critical care setting with patients in the sub-critical patient population

C. Geriatrics

The purpose of this rotation is for students to gain professional skills in a geriatrics practice environment. The Geriatrics rotation affords students the opportunity to effectively participate in the process of providing patient care to elderly patients. Students will participate in a variety of activities,
functioning as an integral member of the healthcare team. Emphasis will be placed on the student’s ability to their understanding of common medical conditions seen in the elderly population.

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

1. Describe the roles and responsibilities of geriatric pharmacists in institutional or ambulatory care practice settings
2. Participate in daily patient care activities as directed by the preceptor
3. Describe the physiologic and anatomic changes that are associated with aging
4. Collect and analyze pertinent data from the medical chart or other sources as needed to provide patient care
5. Perform disease-specific physical assessment (if applicable)
6. Provide appropriate triage to patients depending on their presenting signs and symptoms
7. Identify and prioritize medical problems
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration appropriate dosage form selection
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Respond to drug information requests under the supervision of the preceptor
13. Provide appropriate education to patients, caregivers, and/or other healthcare providers

14. Hematology/Oncology

The purpose of this rotation is for students to gain professional skills in a hematology/oncology practice environment. The Hematology/Oncology rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their 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, immunosuppression, pain management, and infectious disease.

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

1. Describe the roles and responsibilities of hematology/oncology pharmacists in institutional or ambulatory care settings
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. Perform disease-specific physical assessment (if applicable)
5. Describe the most common complications of cancer
6. Identify and prioritize medical problems in the hematology/oncology setting
7. Provide appropriate triage to patients depending on their presenting signs and symptoms
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration appropriate dosage form selection
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments.
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Respond to drug information requests under the supervision of the preceptor
e. **Hospice Care**

The purpose of this rotation is for students to gain professional skills in a hospice practice environment. The Hospice rotation affords students the opportunity to effectively participate in the process of providing patient care in the hospice setting. Students will participate in a variety of activities, functioning as an integral member of the healthcare team. Emphasis will be placed on the student’s ability to demonstrate their understanding of common indications for and treatment modalities in hospice care.

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

1. Describe the roles and responsibilities of pharmacists in the hospice care practice setting
2. Describe the indications for and disease states associated with the need for hospice care
3. Participate in direct patient care for hospice patients as directed by the preceptor
4. Collect and analyze pertinent data from the patient, the caregiver, and the patient profile as needed to provide patient care
5. Identify and prioritize medical problems in the hospice care setting
6. Apply pharmacologic, pharmacokinetic and therapeutic principles when developing treatment plans taking into consideration the appropriate infusion method and drug delivery device
7. Describe the legal issues and allowances for dispensing controlled substances to patients receiving hospice care
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. Provide counseling and education to healthcare providers, patients and/or caregivers
11. Respond to drug information requests under the supervision of the preceptor

f. **Home Health / Home Infusion**

The purpose of this rotation is for students to gain professional skills in a home health/home infusion practice environment. The Home Health/Home Infusion rotation affords students the opportunity to effectively participate in the process of providing patient care in the home setting. Students will participate in a variety of activities, functioning as an integral member of the healthcare team. Emphasis will be placed on the student’s ability to demonstrate their understanding of common indications for and treatment modalities in home care.

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

1. Describe the roles and responsibilities of pharmacists in home health/home infusion practice settings
2. Describe the most common products and services that are provided by a home health/home infusion pharmacy
3. State the JCAHO Home Health Standards and describe how compliance is maintained and documented
4. Describe reimbursement guidelines for nutrition support and other homecare services
5. Participate in direct patient care for home care patients as directed by the preceptor
6. Collect and analyze pertinent data from the patient, the caregiver and the patient profile as needed to provide patient care
7. Identify and prioritize medical problems in the home care setting
8. Identify indications for triage depending on their presenting signs and symptoms
9. Apply pharmacologic, pharmacokinetic and therapeutic principles when developing treatment plans taking into consideration the appropriate infusion method and drug delivery device
10. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
11. Develop a plan for monitoring patient progress based on the treatment plan
12. After evaluating the appropriateness and completeness of the order, prepare small and large volume sterile products using aseptic technique
13. Identify potential stability/compatibility issues with the most commonly dispensed parenteral products
14. Provide counseling and education to healthcare providers, patients and/or caregivers
15. Respond to drug information requests under the supervision of the preceptor

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

The purpose of this rotation is for students to gain professional skills in a HIV/AIDS and immune deficiency practice environment. The HIV/AIDS Immune Deficiency rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions include HIV/AIDS complications, medication adverse effects, nutrition issues, immunosuppression, pain management, and infectious disease.

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

1. Describe the roles and responsibilities of pharmacists in specialized HIV/AIDS practice settings
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. Perform disease-specific physical assessment (if applicable)
5. Describe the most common complications of HIV/AIDS
6. Identify and prioritize medical or nutritional problems in the HIV/AIDS setting
7. Provide appropriate triage to patients depending on their presenting signs and symptoms
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration drug interactions, tolerability, and adherence
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Respond to drug information requests under the supervision of the preceptor

h. **Infectious Disease**

The purpose of this rotation is for students to gain professional skills in an infectious disease practice environment. The Infectious Disease rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions may include meningitis/encephalitis, endo/pericarditis, sepsis, respiratory infections, skin/soft tissue infections, osteomyelitis, and infections in immunocompromised patients.

At the end of this experience, the student should be able to:
1. Describe the roles and responsibilities of infectious disease pharmacists in institutional or ambulatory care settings
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. Perform disease-specific physical assessment (if applicable)
5. Identify and prioritize medical problems in an infectious disease practice setting
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. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
10. Develop a plan for monitoring patient progress based on the treatment plan
11. Provide appropriate education to patients, caregivers, and/or other healthcare providers
12. Respond to drug information requests under the supervision of the preceptor

i. **Long-Term Care / Consulting**

The purpose of this rotation is for students to gain professional skills in a long-term care/consulting practice environment. The Long-Term Care/Consulting rotation affords students the opportunity to effectively participate in the process of providing patient care to patients in this practice setting. Students will participate in a variety of activities, functioning as an integral member of the healthcare team. Emphasis will be placed on the student’s ability to demonstrate their understanding of common medical conditions seen in this setting.

At the end of this experience, the student should be able to:
1. Describe the roles and responsibilities of consultant pharmacists involved in caring for patients in long-term care practice settings
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. Perform disease-specific physical assessment (if applicable)
5. Identify and prioritize medical problems
6. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration appropriate dosage form selection
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. Respond to drug information requests under the supervision of the preceptor
11. Provide appropriate education to patients, caregivers, and/or other healthcare providers
12. Apply the Federal guidelines related to the correct use medications in long-term care facilities

j. **Medication Therapy Management**

The purpose of this rotation is for students to gain professional skills in medication therapy management activities. The MTM rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of 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. Participate in daily patient care activities as directed by the preceptor
2. Collect and analyze pertinent patient information as needed to provide patient care
3. Develop evidence-based medication or non-mediation treatment plan
4. Monitor and evaluate patient’s response to treatment plan, including safety and effectiveness
5. Perform a comprehensive medication review to identify, resolve and prevent medication-related problems, including adverse drug events
6. Document the care delivered
7. Communicate essential information to the patient’s other primary care providers
8. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
9. Provide verbal education and training designed to enhance patient understanding and appropriate use of his/her medication
10. Respond to drug information requests under the supervision of the preceptor

**k. Nutrition**

The purpose of this rotation is for students to gain professional skills in the area of nutrition. The Nutrition rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions may include malnutrition syndromes, malabsorptive syndromes (short gut, inflammatory bowel disease, etc.), high metabolic need states (burns, critical care, etc.), and conditions requiring specialized feeding devices.

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

1. Describe the roles and responsibilities of nutrition pharmacists 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. Identify and prioritize nutrition issues in at-risk patients
5. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans
6. Demonstrate the ability to recommend changes in diet/drug therapy to other healthcare providers
7. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
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

**l. Pediatrics**

The purpose of this rotation is for students to gain professional skills in the area of pediatrics. The Pediatrics rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered medical conditions include infectious disease (acute otitis media, pneumonia, meningitis, gastroenteritis, and infant sepsis), nutritional issues, dehydration, ingestions, immunizations, and appropriate dosage calculation and administration.

At the end of this experience, the student should be able to:
1. Describe the roles and responsibilities of pediatric pharmacists in institutional or ambulatory care practice settings
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. Perform disease-specific physical assessment (if applicable)
5. Describe how physical and cognitive development are assessed in the pediatric setting
6. Provide appropriate triage to patients depending on their presenting signs and symptoms
7. Identify and prioritize medical problems
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration appropriateness of different dosage forms
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Respond to drug information requests under the supervision of the preceptor

m. Psychiatry

The purpose of this rotation is for students to gain professional skills in the area of psychiatry. The Psychiatry rotation affords students the opportunity 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 will be placed on the student's ability to demonstrate their 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.

At the end of this experience, the student should be able to:
1. Describe the roles and responsibilities of psychiatric pharmacists in institutional or ambulatory care practice settings
2. Participate in daily patient care activities as directed by the preceptor
3. Describe the major features of the most common psychiatric disorders
4. Collect and analyze pertinent data from the medical chart or other sources as needed to provide patient care
5. Perform disease-specific patient interview and physical assessment (if applicable)
6. Identify and prioritize medical problems
7. Provide appropriate triage to patients depending on their presenting signs and symptoms
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration adverse effect profiles and drug interactions
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Respond to drug information requests under the supervision of the preceptor

n. Solid Organ Transplantation

The purpose of this rotation is for students to gain professional skills in the area of solid organ transplantation. The Solid Organ Transplantation rotation affords students the opportunity 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 will be placed on the
student’s ability to demonstrate their 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.

At the end of this experience, the student should be able to:
1. Describe the roles and responsibilities of solid organ transplantation pharmacists in institutional and ambulatory care practice settings
2. Describe the most common complications of solid organ failure
3. Participate in daily patient care activities as directed by the preceptor
4. Collect and analyze pertinent data from the medical chart or other sources as needed to provide patient care
5. Perform disease-specific physical assessment (if applicable)
6. Identify and prioritize medical problems in the solid organ transplantation setting
7. Provide appropriate triage to patients depending on their presenting signs and symptoms
8. Apply pharmacologic, pharmacokinetic, and therapeutic principles when developing treatment plans taking into consideration drug interactions, tolerability, and adherence
9. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
10. Utilize available protocols, medication policies, and/or critical pathways in order to recommend appropriate evidence-based and cost-effective treatments
11. Develop a plan for monitoring patient progress based on the treatment plan
12. Provide appropriate education to patients, caregivers, and/or other healthcare providers
13. Respond to drug information requests under the supervision of the preceptor

Trauma/Surgery

The purpose of this rotation is for students to gain professional skills in the area of trauma/surgery. The Trauma/Surgery rotation affords students the opportunity 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 will be placed on the student’s ability to demonstrate their understanding of common disease states and treatment modalities as well as their ability to provide pharmaceutical care. The most commonly encountered pharmacotherapeutic issues include hemodynamic support (fluids and/or pressors), sedation/pain management, infectious disease, wound care, nutrition, and the prevention of complications (thrombosis, etc.).

At the end of this experience, the student should be able to:
1. Describe the role and responsibility of the trauma/surgery pharmacist in institutional settings
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 medical devices used in trauma/surgery
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 other healthcare providers
11. Respond to drug information requests under the supervision of the preceptor
2. Selective B Experiences
   
a. Compounding

The purpose of this rotation is for students to gain skills in the area of pharmaceutical compounding. The Compounding rotation affords students the opportunity to effectively participate in the process of preparing compounded medications for patients. Students will 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).

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

1. Describe the roles and responsibilities of compounding pharmacists in the community setting
2. Describe the State/Federal laws and FDA regulations pertaining to compounding
3. Provide data to support the appropriate use of compounded medications using current literature
4. Identify the most appropriate resources for obtaining information about formulae and/or stability for compounded preparations
5. Evaluate physician orders for appropriateness of drug selection and dose
6. Collect and analyze pertinent data from the patient, the caregiver, and the patient profile as needed to provide patient care
7. Perform accurate pharmaceutical calculations for the formulation of extemporaneous preparations
8. Demonstrate the ability to recommend changes in drug therapy to other healthcare providers
9. Monitor the effectiveness of the compounded medication through patient/caregiver interview
10. Counsel patients and/or care-givers on non-pharmacologic therapies
11. Educate patients and/or care-givers on appropriate use of prescription and/or over-the-counter/herbal therapies including efficacy, toxicity, and drug interactions
12. Respond to drug information requests under the supervision of the preceptor
13. Provide appropriate education to healthcare providers, patients and/or caregivers

b. Drug Information

The purpose of this rotation is for students to gain professional skills as a provider of drug information. The Drug Information rotation affords students the opportunity to effectively participate in the process of responding to drug information requests from other healthcare providers and potentially patients. Emphasis will be placed 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 will 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.

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

1. Describe the roles and responsibilities of pharmacists involved with drug information services
2. Discuss the various types of drug information inquiries including: drug identification, pharmacokinetics and pharmacodynamics, drug interactions, adverse drug reactions, toxicology, teratogenicity, use during breast feeding, compatibility and/or stability, product efficacy, drug dosing and drug costs
3. Develop and utilize a systematic approach for drug information research and retrieval
4. Acquire sufficient background information to provide an accurate and comprehensive drug information response
5. Develop proficiency with the National Library of Medicine indexing system for retrieving information (PubMed)
6. Utilize the major abstracting and indexing services available for drug information retrieval
7. Compare and contrast drug information resources with respect to advantages and disadvantages
8. Critically evaluate the literature (study design/methods including statistical analyses), grading the evidence in order to develop an accurate, comprehensive and balanced response
9. Prepare a newsletter, drug monograph, or other formal response for publication and/or distribution

c. **Drug Use Policy**

The purpose of this rotation is for students to gain professional skills in the area of drug use policy (DUP). The Drug Use Policy rotation will provide students with exposure to and experience with medication usage evaluations (MUE), Joint Commission on Accreditation of Healthcare Organizations (JCAHO) policies and procedures, and other continuous quality improvement (CQI) requirements within the practice site. Students will develop an appreciation of applied pharmacoeconomics and its relationship with formulary management, guideline/protocol development, and MUE programs.

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

1. Describe the roles and responsibilities of pharmacists involved with drug use policy
2. Describe the purpose of MUE and drug regimen reviews as methods for promoting appropriate medication prescribing
3. Describe the drug standardization process, budgetary allocation and formulary review process including pharmacist involvement on P&T Committees
4. Perform literature analysis and participate in the development of critical pathways, drug utilization policies and MUE criteria
5. Collect pertinent data for incorporation into a MUE or other quality improvement initiative
6. Participate in therapeutic outcome evaluations, pharmacoeconomic evaluations, drug-budget forecasting and formulary development
7. Provide appropriate education to other healthcare providers
8. Prepare written material suitable for publication and/or dissemination within the institution
d. **Managed Care**

The purpose of this rotation is for students to gain advanced professional skills in the area of managed care. The Managed Care rotation will afford students the opportunity to be directly involved with disease state management (DSM) programs, designed to maximize patient care utilizing the most cost-effective outcomes. Students may also help to improve healthcare services by alerting physicians of treatment opportunities and facilitating patient awareness and empowerment.

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

1. Describe the roles and responsibilities of pharmacists in manage care practice settings
2. Contribute to the development and analysis of benefit options for customers
3. Describe the negotiation process and implementation of contracts with pharmaceutical manufacturers and buying groups
4. Contribute to the development and maintenance of formularies and clinical drug use criteria
5. Formulate and implement strategies to integrate the use of clinical criteria into patient care
6. Participate in communications with pharmacy distribution networks (community pharmacy, in-house pharmacy or mail-order services)
7. Perform prospective and retrospective economic and clinical outcomes analysis
8. Construct reports and recommend plans for enhancements based on conclusions from outcome analyses
e. **Nuclear Pharmacy**

The purpose of this rotation is for students to gain advanced skills in the area of nuclear pharmacy. The Nuclear Pharmacy rotation will afford students the opportunity to assist with the preparation of nuclear pharmaceuticals for distribution to medical facilities.

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

1. Describe the roles and responsibilities of nuclear pharmacists
2. Describe the indications for different types of diagnostic nuclear medicine procedures
3. Identify and describe the major differences in the characteristics of therapeutic and diagnostic radiopharmaceuticals
4. Characterize radiation risk from therapeutic and diagnostic radioactive drugs to the patient, his family, and healthcare workers (e.g. nurses, pharmacists, physicians).
5. Design a radiopharmaceutical regimen for a patient based on their age and disease state
6. Evaluate orders for accuracy and completeness; effectively communicate the need for dosing modification when necessary
7. Actively participate in advanced compounding procedures
8. Counsel and educate patients and healthcare professionals regarding the use and biodistribution of radiopharmaceuticals

f. **Pharmaceutical Industry (Pharmaceutical sales)**

The purpose of this rotation is for students to learn about the functions and activities of pharmaceutical manufacturers. The Pharmaceutical Industry rotation will afford students the opportunity to be exposed to different departments within the organization in order to gain a better understanding of the role of the pharmaceutical industry in the provision of healthcare. In addition, students will become familiar with the potential job opportunities available to pharmacists within this setting.

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

1. Describe the roles and responsibilities of pharmacists working in the pharmaceutical industry
2. Explain the daily activities of pharmaceutical sales representatives
3. Describe the how the knowledge of detailed information about the company’s products relates to the daily activities of pharmacists working for a drug manufacturer
4. Explain the legal and industry-wide standards (Pharma) for drug marketing within the pharmaceutical industry
5. Review educational materials on products marketed by the manufacturer
6. Participate in the education of healthcare providers regarding pharmaceutical products

g. **Pharmacy Informatics**

Pharmacy informatics rotation is an experience that exposes students to the evolution of an organization’s medication-use systems by applying pharmacy informatics principles, standards, and best practices. The student will gain basic understanding of the language and concepts of information technology (IT) thereby exposing the student to the interdisciplinary environment of informatics project teams. The purpose of this experience is to advance the understanding of the student to the professional duties and responsibilities of a pharmacy informatics specialist.

At the end of this experience, the student should be able to:
1. Work closely with Information Systems and Pharmacy staff to develop system programming requirements while understanding system capabilities and limitations
2. Develop and oversee medication management-related systems’ databases
3. Identify, suggest solutions to, and resolve system or application problems
4. Assess medication-use systems for vulnerabilities to medication errors and implement medication-error prevention strategies
5. Actively participate in development, prioritization, and determination of core clinical decision support systems
6. Assist in mining, aggregating, analyzing, and interpreting data from clinical information systems to improve patient outcomes
7. Utilize clinical decision support tools for monitoring, evaluating, responding, and reconciling medication-related events and information
8. Identify the safety issues that are associated with the implementation of new technologies into existing medication use systems
9. Manage and direct safe and appropriate use of medications, drug distribution, and administration

h. Pharmacy Practice Management

The purpose of this rotation is for students to learn about the activities of a pharmacy manager. Students will be exposed to different job responsibilities in order to gain a better appreciation of the role of the pharmacy manager in the provision of healthcare.

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

1. Describe the mission, vision, goals, objectives, policies, organizational structure, and history of the department of pharmacy
2. Describe the leadership, conflict resolution and negotiation skills that are necessary to be an effective pharmacy manager
3. Explain the process of budget, staffing, staff development, financial and process improvement planning and the tools and resources needed for each
4. Describe how pharmacy services are promoted and/or marketed
5. List the departments, organizations and/or businesses that the pharmacy department must work with in order to achieve its goals and objectives
6. Describe how legal, regulatory, and/or accrediting agencies affect the activities of the pharmacy department
7. Explain the process for recruiting and hiring pharmacy staff
8. Perform information gathering and critical analysis as part of projects assigned during the experience
9. Utilize effective oral and written communication skills while providing information to the pharmacy staff

i. Professional Organizations

The purpose of this rotation is for students to learn about the functions and activities of a national or regional professional pharmacy organization. Students will be exposed to different departments within the organization in order to gain a better understanding of the types of services these organizations provide and of the potential job opportunities within these types of organizations.

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

1. List the positions within the organization that are filled by pharmacists
2. Describe the mission, vision, goals and objectives of the organization
3. Describe the role professional pharmacy organizations play in the profession and practice of pharmacy
4. Describe the activities of professional organizations in regards to local, state, and national government affairs or legislation
5. List the ways in which the organization strives to meet the needs of its members (publications, meetings, etc.)
6. Describe how professional pharmacy organizations work and collaborate with other professional organizations, healthcare-related groups and schools of pharmacy
7. Attend and assist with the coordination of meetings conducted by the organization (including national or regional meetings if available)
8. Perform information gathering and critical analysis as part of projects assigned during the experience
9. Utilize effective oral and written communication skills while providing information to the organization staff, preceptor(s) and/or organization members

j. Research

The purpose of this rotation is for students to learn about and participate in clinical research. Students will be exposed to different aspects of clinical pharmacy research in order to gain a better understanding of the types of research that can be performed and of the potential job opportunities that could include a research component.

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

1. Describe the purpose and types of clinical research that are performed in an institutional setting
2. Evaluate the medical literature to determine the feasibility and background information for the type of research performed at the site
3. Describe the role of IRB committees in ensuring the quality and safety of medical research
4. Participate in data collection for a clinical research project
5. Participate in the organization and analysis of the research data that has been collected
6. Describe the requirements for maintaining medical research records

E. Elective Opportunities

Students are required to complete a minimum of four (4) elective credit hours.

a. Elective Rotations

Students may complete an additional six week APPE rotation block to fulfill their elective requirement, in either community practice or an additional selective A or B rotation. The ability to provide an additional selective rotation opportunity will be per availability.

b. Didactic Electives

The didactic elective opportunities currently offered to students including course descriptions are located in the Student Catalog.