PHCY 472-484
Longitudinal Research
Elective / Non Traditional
Advanced Pharmacy Practice Experiences (APPE)

Experiential Hours: 160
Course Credit: 4.0 credit hours
Course Section Number: section 956

Prerequisites: Students must successfully complete PY1, PY2 and PY3 didactic courses.
Practice Experience Meeting Times: Training will be provided between May and July (variable per region), and the research will extend longitudinally throughout the academic year.

(Revision Date: 8-18-15)

PRIMARY PRECEPOR/RESEARCH ADVISOR
See preceptor’s abbreviated syllabus.

SCHOOL FACULTY
Philip Rodgers, PharmD, FCCP
Assistant Dean of Pharmacy Practice Partnerships
Office: UNC Eshelman School of Pharmacy, CB# 7566, Beard 109L Chapel Hill, NC 27599
Telephone: 919-966-1705 Fax: 919-966-9730
Email: prodgers@unc.edu Office Hours: by appointment

Elizabeth Michalets, PharmD, BCPS CPP
Regional Assistant Dean of Clinical Affairs and Associate Professor of Clinical Education
Mission Health System and UNC Eshelman School of Pharmacy
509 Biltmore Avenue
Asheville, North Carolina 28801
Office: 828-213-7494, fax: 828-213-0514; cell: 828-242-8215; email: elizabeth.michalets@msj.org
Office Hours: by appointment

COURSE CREDIT AND EXPERIENTIAL HOURS
4.0 credit hours and 160 experiential hours
CO-REQUISITES
● Students must successfully complete PY1, PY2 and PY3 didactic courses.
● Students are encouraged but not required to travel to the ASHP Midyear meeting in December to present the longitudinal research project as a poster.
● Student are required to attend UNC Student Research Day in Chapel Hill in late spring.

COURSE SECTION NUMBER
Section 956

PHARMACY PRACTICE EXPERIENCE DESCRIPTION
The overall goal of the elective, non-traditional, non-patient focused APPE is to actively engage the student in conducting clinical research including hypothesis generation, institutional review board (IRB) approval (optional based on research site), data collection and analysis, along with presentation of study results. The clerkship will begin with training, an introduction to understanding the entire research process and selection of a research project between May - July (depending on the research site or region). However, the experience will extend longitudinally throughout the remainder of the academic year as the student continues to work on completing his/her own individual research project. Some research projects may be conducted by two students or in collaboration with a pharmacy resident.

During the summer training (example in Appendix 1), the student will engage in activities to enhance his/her understanding of the research process at the research site including submission of the research project to the local Institutional Review Board (IRB), if applicable to specific research site or project. The student will engage in group topic discussions focused upon historical and contemporary human subject protection, statistics and study design.

A student's research team will guide and support the student longitudinally throughout the entire research process, and this includes one primary preceptor, a biostatistician (optional) and one or more secondary preceptors.

SITE DESCRIPTION
See preceptor’s abbreviated syllabus.

DESIRED PHARMACY PRACTICE EXPERIENCE OUTCOMES AND OBJECTIVES:
Upon completion of the research pharmacy practice experience, the student pharmacist will be able to:
● Construct an organized, comprehensive research project which supports the research site's strategic initiatives. Examples include but are not limited to reduction in patient harm, achievement of desired patient outcomes, population management, reduction in waste, improvement in patient satisfaction.
● Complete rotation specific goals, objectives and the entire research project by the end of the academic year
● Demonstrate mature and professional attitudes, habits, values, and behaviors

SITE-SPECIFIC OBJECTIVES
● Actively participate, engage and contribute during scheduled topic discussions focused upon study design, statistics and protection of human subjects (see Appendix 3 for criteria and details)
● Complete a well-designed, longitudinal comprehensive research project which includes meeting deadlines set forth by the project preceptor and local faculty (see Appendix 4 for criteria and details)
● Effectively present research findings as a poster or platform presentation (see Appendix 5 for criteria and details) at UNC Student Research Day
● May be required to present research findings at a local venue, as determined by the research advisor
DESCRIPTION OF TEACHING/LEARNING METHODS

• Experiential learning: applying knowledge, skills and attitudes learned during training in May to an individual research project to be continued longitudinally and completed by the end of the academic year.

• Self-directed learning: students will engage in independent work by working on the individual research project while being supported and mentored by the research team.

REQUIRED RESOURCES AND MATERIALS

• Students must have internet access and a UNC email account.

• RxPreceptor at www.rxpreceptor.com is the rotation management software that is used by OEE to track all pharmacy rotations and associated information.


• Students must have internet access, access to the research site's computer system (if applicable) (if applicable).

• Students are provided electronic copies of additional reading materials (see required options) on the first day of the training period along with a list of self-assessment/study questions (Appendix 6).

• Students must have a white lab coat along with a UNC or individual site name badge (if applicable to site); these must be worn when present in any patient care area.

EXPECTATIONS FOR STUDENT ENGAGEMENT

• To receive full credit for this pharmacy practice experience, the student is expected to attend and participate in all scheduled training and introductory activities during the summer (specific dates determined by site) which includes arriving on time; the student is expected to remain until required activities have been completed or they are dismissed by their preceptor. It is expected that the student will come to the rotation site with an open mind and respectful demeanor.

• Student preparedness for group topic and book discussions is a critical element in this course.

• To receive full credit for the pharmacy practice experience, the student must complete the entire research project by the end of the academic year; criteria for full project completion are at the discretion of the project mentor/preceptor and local faculty.

• The student will be asked to track the amount of time spent on the pharmacy practice experience utilizing the time tracking function in RxPreceptor.

STUDENT REQUIRED ACTIVITIES, ASSIGNMENTS AND READING

• The student will be required to select a research project from a descriptive list of approved projects by faculty or site preceptors. The student may propose a research project, but it must be approved by faculty or the site research preceptors.

• Upon research project selection, each student may be required to complete a 10 minute presentation to the region or site’s research committee. The presentation should include planned study design, inclusion criteria and data collection strategies. The student will be asked not to begin the research project until final approval by the local research committee (if applicable) and IRB.

• Students will be assigned required reading from the following reference list, and the individual research advisor will select which readings are required. These should be read during the course of the training period or longitudinal clerkship as determined by the individual site. These articles are not required to be read prior to the start of the clerkship. Electronic copies of the articles are provided on the first day of the summer training period. The self-assessment/study questions should be used in preparation for group discussions and completion of the assignments.
Required Reading Options to be Determined by Research Advisor


  - Chapter 2 topics: types of studies, case control, cohorts
  - Chapter 4 topics: measures of association, incidence, prevalence, presentation of data, odds ratio, relative risk, absolute risk, relative risk, attributable risks
  - Chapter 14 topics: allocation of study subjects, randomization, eliminating bias, placebo effect

  - Topics: data presentation, types of data, frequency distributions, histograms, polygons, normal distribution, standard deviations, variability

Skloot, R. *The Immortal Life of Henrietta Lacks*, 2010

  - Topics: data distributions, hypothesis testing, types of common statistical tests, correlation, regression

Students are encouraged (but not required) to submit abstracts for the ASHP Midyear Clinical Meeting for poster presentation. Students are required to submit abstracts for UNC Student Research Day held in late spring of each year in Chapel Hill

Upon completion of the research project, the student should have successfully completed the following:

- Identified a relevant pharmacotherapeutic problem or gap in pharmacotherapeutic drug management that requires research to answer the question and improve our understanding of disease management approach by selecting a research project for longitudinal investigation
- Conducted a comprehensive primary literature review to evaluate relevant previously published literature prior to design of the research project
- Generated a research hypothesis and designed a study to test the hypothesis through the development and testing of a hypothesis associated with the student's individual research project
- Developed a written research proposal which includes a description of study design, primary and secondary objectives, inclusion criteria, exclusion criteria, and source for identifying study patients, data collection elements and planned statistical analyses
- Completed the required IRB training on human research subject protection prior to research initiation (such as citiprogram.org), if required by the site
- Submitted electronically (and verbally presented, if required) the research proposal materials to the local research committee and/or IRB for approval, if required by the research site, if required by research site
- Designed an appropriate data collection tool (i.e. Excel, Access) for data collection
- Collected all required data elements for study analysis
- Analyzed data results using appropriate statistical tests with the support of a biostatistician or project preceptor
● Formulated conclusions based on study results and a plan of action for implementing changes in patient care, if applicable
● Composed a research abstract for submission for the ASHP MidYear Clinical Meeting (encouraged) and for UNC Student Research Day (required)
● Interpreted and effectively communicated research findings in abstract, poster and/or platform presentation format in a national, statewide and/or local venue (determined by research site)
● Completed a written manuscript that is publication worthy for local newsletter and/or pharmacy or medical journal (optional, determined by research site)
● Applied regulatory and ethical principles when conducting research or presenting research results including adherence to HIPAA guide
● Attended an IRB meeting during the training period or throughout the longitudinal experience (if required by research site)
● Differentiated when IRB approval is required for research, if IRB submission is required by site
● Identified different types of data and basic statistical tests including parametric and nonparametric, describe power analysis, identify surrogate markers
● Described and discussed study types and strengths and limitations of the following: prospective, retrospective, case control, cohort, blinded, non-blinded, randomized, observational, experimental, matched pairs and cross over
● Described and identified ways to protect the rights of patients in research and the role of the Federal Code of Regulations
● Described and identified inappropriate versus responsible research conduct
● Described and identified research challenges from the IRB prospective, the patient prospective and the researcher prospective, if IRB submission is required by site

LATE ASSIGNMENT POLICY
All assignments must be submitted by the designated deadlines. Deadline dates are provided on the first day of the summer training period (see Appendix 2). One point will be deducted for each hard deadline missed.

ASSESSMENT AND GRADING
The student will be assessed by the preceptor and other individuals who are working on the research team with the student on performance and professionalism at the midpoint and at the end of the rotation. Please see experiential course assessment at the end of the syllabus. The midpoint evaluation will NOT be used in the calculation of the student’s grade however it will provide a basis for feedback regarding the student's progress, including action items where necessary for the rest of the rotation. Additionally, it is the student's responsibility to assure a midpoint evaluation is completed by the preceptor. Within one week of rotation midpoint, students not receiving a midpoint evaluation that is documented in RxPreceptor should notify the Office of Experiential Education.

Grading Scale:  Honors:  93.0 - 100%  Pass: 70.0 – 92.9%  Fail: <70.0%

GRADE ADJUSTMENT POLICY
Students who wish to appeal a rotation grade should follow the progression guidelines described at http://faopharmacy.unc.edu/student-admin/office-of-student-affairs/student-handbook/

REMEDIATION POLICY
Remediation is not offered.

INCOMPLETE GRADE POLICY
- Incomplete grades will be assigned when rotation assignments are not completed due to extenuating circumstances (i.e. prolonged illness, unexpected medical procedure required, family emergencies, etc.) but the student is capable/competent of passing the rotation. A preceptor should contact the Office of Experiential Education before the conclusion of the rotation to notify of “incomplete” status and provide rationale.
- Incomplete grades must be resolved within the first 8 weeks of the following semester.
- All incompletes must be resolved prior to being cleared for graduation.

**PRACTICE EXPERIENCE FAILURE**
- A non-passing rotation grade will require a “make-up” rotation that is scheduled by the Office of Experiential Education. A “make-up” rotation will be scheduled at a different practice site and with a different preceptor. The failing grade is not removed from the student’s transcript.
- Despite this course being Honors/Pass/Fail, a failing grade in this course will be incorporated in the GPA (4 hr credit).

**PRACTICE EXPERIENCE AND PRECEPTOR EVALUATIONS**
Students are required to complete the clerkship evaluation in RxPreceptor one week following the completion of the rotation. Those not completing the evaluation will receive an “incomplete” grade for the course/rotation. This is a course requirement and a responsibility of all students completing a course. Student feedback is essential and highly valued in the School’s efforts to continually improve the quality of courses and the effectiveness of our faculty as educators. Student feedback is reviewed in detail. The evaluations are taken very seriously. Students not completing the rotation evaluation in RxPreceptor within one week following the completion of the rotation may receive an “incomplete” grade for the course/rotation. All clerkship evaluations are confidential and anonymous.

**ATTENDANCE POLICY**
Preceptors acknowledge that extenuating circumstances occasionally occur that prevent attendance during rotation. At the discretion of the preceptor, an excused absence during the month of May will be allowed as long as the objectives of the rotation are met. Any unexcused absence during the course of May must be made up in a way that meets with the preceptor’s approval. Failure to make up missed work will result in a grade of incomplete.

**Excused absences:** Planned or unplanned absences are excused only under the following circumstances, which are beyond the control of the student:
- **Medical necessity** refers to unpredictable or serious illness of the student or an immediate family member. Documentation, such as a physician letter, may be required at the request of the preceptor. Routine medical or dental visits do not meet this criterion. Students should schedule routine medical or dental visits at the end of the day to avoid missing a full day of rotation.
- **Bereavement Policy:** An absence may be excused due to the death of a student’s immediate family member (parent, child, spouse, grandparent, or sibling). Absences should not exceed a total of 4 absences during the rotation month. Excused absences do not have to be made up; however, if the preceptor determines that the objectives of the rotation cannot be met as a result of the excused absences, the student should work out a way to make up missed time at the preceptor’s convenience.
- Participation in a pre-approved professional activity (i.e. activities of the School, local, state, or national pharmacy organizations) constitutes an excused absence provided the student informs the preceptor of the planned absence at the beginning of the rotation. Documentation of the professional activity is required. Work as an employee does NOT constitute participation in a professional activity. Events that PY4 students are encouraged to attend include the NCAP Annual Convention in October, Career Day which is typically scheduled in early November and the School’s Student Research Symposium in late spring.
- **Other extenuating circumstances:** The preceptor may, at his/her discretion, approve a request for an excused absence for other reasons. When possible, such requests should be made in writing at the beginning of the practice experience.

**Unexcused absences** are absences from rotation during the month of May for any reason not listed above.

**Absence Notification Policy:** The student must contact the preceptor of an anticipated absence as early as possible prior to the absence. If circumstances prevent the student from providing prior notification, the student or his/her designate should contact the preceptor by phone first thing in the morning of the absence. Messages should include the student’s name, a brief summary of reason for
absence, and anticipated date of return. The preceptor will determine whether the absence is excused or unexcused.

PLAGIARISM AND REFERENCING
You are encouraged to use a variety of information resources to support your assignments, but you must give credit for any and all ideas that are not originally your own. In addition to citing published works, you must also reference any ideas derived from the Internet, lectures or seminars, or personal correspondence. More information on referencing can be found in the UNC Eshelman School of Pharmacy Student Handbook: http://faopharmacy.unc.edu/student-admin/office-of-student-affairs/student-handbook/#pane-0-6.

ACADEMIC INTEGRITY / HONOR CODE
The principles of academic honesty, integrity, and responsible citizenship govern the performance of all academic work and student conduct at the University as they have during the long life of this institution. Your acceptance of enrollment in the University presupposes a commitment to the principles embodied in the Code of Student Conduct and a respect for this most significant Carolina tradition. Your participation in this course comes with the expectation that your work will be completed in full observance of the Honor Code. Academic dishonesty in any form is unacceptable. If a violation is suspected, it may be reported to the Student Attorney General’s Office. If you have any questions about your responsibility or the responsibility of faculty members under the Honor Code, please visit the Office of Student Conduct web site (http://studentconduct.unc.edu), consult the Graduate and Professional Student Attorney General (gpsag@unc.edu), or contact a representative within the UNC Eshelman School of Pharmacy.

OFFICE OF EXPERIENTIAL EDUCATION AND SITE SPECIFIC POLICIES
Students and preceptors are expected to comply with the OEE policies and procedures published in the Experiential Education Manual at http://faopharmacy.unc.edu/student-admin/oee/manual/ Students are expected to communicate with the preceptor regarding such requirements prior to the rotation start date.

SPECIAL NEEDS
The UNC Eshelman School of Pharmacy is committed to providing reasonable accommodations for all persons with documented disabilities or accessibility concerns in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have a medical condition, disability, or accessibility concern that may impact your ability to meet the academic demands or requirements of the course, please contact the appropriate office on your campus. Students are required to self-identify for disability/accessibility support.
- Asheville based students, please contact Disability Services in person at 258 Brown Hall, by phone at (828) 232-5050, or by email at disabilityservices@unca.edu.
- Chapel Hill based students, contact Accessibility Resources and Services in person at the Student and Academic Services Building (SASB) Suite 2126, by email at accessibility@unc.edu or via their website at http://accessibility.unc.edu

BILLING
Tuition and fees for the Longitudinal APPE will be charged all in summer 1. Although you will register for the Long APPE in summer, fall, and spring, no tuition or fees associated with the Long APPE will be charged during the fall and spring. Although total credit hours over the summer may not reflect the full APPE, financial aid packages will take into consideration that billing for the Long APPE will be charged all in summer 1.

*Financial Aid for students with May APPEs will be disbursed May 6, 2015. Financial Aid for students with June and July APPEs only will be disbursed within the month of May.
FINANCIAL AID

- Summer 2015 is part of the 2014-2015 academic year for financial aid purposes. If you have already completed the FAFSA for the 2014-2015 academic year, it is not necessary to complete it again. Complete the FAFSA for the 2015-2016 academic year for fall 2015 and spring 2016, if you have not done so already.
- If you were eligible for financial aid for the 2014-2015 year, then you will automatically be considered for financial aid for summer 2015, once you register.
- In general, student loans are the main source of funding during the summer term. If you accepted the maximum amount of financial aid offered for fall and spring, you will be eligible for mainly the Grad PLUS Loan. If you are offered the Grad PLUS Loan, you will need to go through another credit check by completing an additional Grad PLUS Request (application) for the 2014-2015 school year. This can be done online at http://studentloans.gov after April 15, 2015.

<table>
<thead>
<tr>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Name badges, computer access</td>
<td>Work on required IRB training</td>
<td>Work on required IRB training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orientation to site research process, IRB submission, project offerings by site</td>
<td>Individual appointments with project preceptors</td>
<td>Group topic discussion, (Reading #1, Henrietta Lacks Part 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orientation/tour of site</td>
<td></td>
<td>Individual appointments with project preceptors</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Group topic discussion, (Reading #2, Henrietta Lacks Part 2)</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
<td>Group topic discussion, (Reading #3, Hennekens, Strassels)</td>
<td>Group topic discussion, (Reading #4, Hennekens, Knapp and Miller)</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Deadline for final project selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Deadline for completion of required IRB training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Presentation of project proposal to local research committee or project preceptors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Required Readings (see full citation; provided electronically):

1. Henrietta Lacks Part 1
2. Henrietta Lacks, Part 2
3. Hennekens Chapters 2 and 14, Strassels
4. Hennekens Chapter 4, Knapp and Miller

5. Presentation of project proposal to local research committee or project preceptors for final approval
6. Deadline for submission of project to IRB
Appendix 2: Template
Sample Deadlines for Longitudinal Research Projects
(individualized by research site)

Bolded dates are absolute/hard deadlines unless otherwise approved by the preceptor
Un-bolded dates are soft deadlines to be used for guidance

PHASE 1: IRB AND PROJECT DESIGN  (summer training period)

Completion of IRB online modules  TBA, if required by site
Project identification  TBA
Project submission to IRB  TBA, if required by site

PHASE 2: DATA COLLECTION AND ANALYSIS

Draft abstract to preceptor(s) for review (optional)  TBA
(one week turnaround time for preceptor review and feedback required)
Abstract submission to ASHP for MidYear (optional)  TBA
(site opens Aug 15th)

Completion of all data collection  TBA

PHASE 3: PRESENTATION OF RESULTS

MidYear poster to preceptors for review (optional)  TBA
(one week turnaround time for preceptor review and feedback is required)
Poster printing (optional)  TBA
Midpoint Evaluation  TBA
Leave campus for break with completed poster (optional)  TBA
ASHP Midyear poster presentation (optional)  December date TBA

UNC Research Day Preparation
Abstract to preceptor(s) for feedback  TBA, approx. Feb 23rd
(a one week lead time for preceptor review and feedback is required)
Abstract with results due for blinded review  TBA, approx March 2nd
Platform presentation in Chapel Hill at Research Day  TBA, approx April 22nd
Final Evaluation  TBA, approx. April 27th
Project termination with IRB completed  TBA, approx. April 27th
HIPAA record keeping completed
Appendix 3: Site Specific Objective #1

- Actively participate, engage and contribute during scheduled topic discussions focused upon study design, statistics and protection of human subjects

<table>
<thead>
<tr>
<th>Evaluation Points in RxPreceptor Evaluation</th>
<th>Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Always participates in scheduled group discussions by contributing at least three ideas or raising three questions during each assigned discussion period. Always inquisitive. Clearly and effectively articulates contributions that reflect careful preparation and study of the assigned readings and self assessment questions. Always contributes to the group discussion with a positive attitude.</td>
</tr>
<tr>
<td>4</td>
<td>Usually participates in scheduled group discussions by contributing at least two ideas or raising two questions during each assigned discussion period. Usually inquisitive. Usually articulates clear and effective contributions that reflect preparation and study of the assigned readings and self assessment questions. Usually contributes to the group discussion with a positive attitude.</td>
</tr>
<tr>
<td>3</td>
<td>Occasionally participates in scheduled group discussions by contributing at least one idea or raising one question during each assigned discussion period. Occasionally inquisitive. Occasionally articulates clear and effective contributions that reflect preparation and study of the assigned readings and self assessment questions. Occasionally contributes to the group discussion with a positive attitude.</td>
</tr>
<tr>
<td>2</td>
<td>Rarely participates in scheduled group discussions by contributing ideas or raising questions during each assigned discussion period. Rarely inquisitive. Rarely articulates clear and effective contributions that reflect preparation and study of the assigned readings and self assessment questions. Rarely contributes to the group discussion with a positive attitude.</td>
</tr>
<tr>
<td>1</td>
<td>Never participates in scheduled group discussions by contributing ideas or raising questions during each assigned discussion period. Never inquisitive. Never articulates clear and effective contributions that reflect preparation and study of the assigned readings and self assessment questions. Never contributes to the group discussion with a positive attitude.</td>
</tr>
</tbody>
</table>
**Appendix 4: Site Specific Objective #2**

- Complete a well-designed, longitudinal comprehensive research project which includes meeting deadlines set forth by the project preceptor and local faculty

<table>
<thead>
<tr>
<th>Evaluation Points in RxPreceptor Evaluation</th>
<th>Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Consistently exceeds expectations for completion of the research project. Fully completes the research project, as set forth by the project preceptor at the beginning of the clerkship (when not impeded by system-associated, unavoidable circumstances inherent in the research). Consistently meets all project deadlines in advance. Consistently demonstrates characteristics of a critical thinker when developing the hypothesis, study design and interpretation of results. Consistently demonstrates proactivity, extreme organization and strong problem-solving skills with sophistication and depth. Consistently demonstrates accurate interpretation of the project results.</td>
</tr>
<tr>
<td>4</td>
<td>Occasionally exceeds expectations for completion of the research project. Fully completes the research project, as set forth by the project preceptor at the beginning of the clerkship (when not impeded by system-associated, unavoidable circumstances inherent in the research). Meets all project deadlines but not in advance. Occasionally exceeds expectations by demonstrating characteristics of a critical thinker when developing the hypothesis, study design and interpretation of results. Occasionally exceeds expectations by demonstrating proactivity, extreme organization and strong problem-solving skills with sophistication and depth. Occasionally exceeds expectations by demonstrating accurate interpretation of the project results but most often needs guidance from preceptor.</td>
</tr>
<tr>
<td>3</td>
<td>Meets expectations; fully completes the research project, as set forth by the project preceptor at the beginning of the clerkship (when not impeded by system-associated, unavoidable circumstances inherent in the research). Fails to meet all project deadlines. Sometimes demonstrates characteristics of a critical thinker when developing the hypothesis, study design and interpretation of results. Sometimes demonstrates proactivity, organization and problem-solving skills with sophistication and depth. Sometimes demonstrates accurate interpretation of the project results.</td>
</tr>
<tr>
<td>2</td>
<td>Falls below expectations; does not fully complete the research project, as set forth by the project preceptor at the beginning of the clerkship (when not impeded by system-associated, unavoidable circumstances inherent in the research). Fails to meet all project deadlines. Rarely demonstrates characteristics of a critical thinker when developing the hypothesis, study design and interpretation of results. Rarely demonstrates proactivity, organization and problem-solving skills with sophistication and depth. Rarely demonstrates accurate interpretation of the project results.</td>
</tr>
<tr>
<td>1</td>
<td>Falls expectedly below expectations; does not fully complete the research project, as set forth by the project preceptor at the beginning of the clerkship (when not impeded by system-associated, unavoidable circumstances inherent in the research). Fails to meet all project deadlines. Never demonstrates characteristics of a critical thinker when developing the hypothesis, study design and interpretation of results. Never demonstrates proactivity, organization and problem-solving skills with sophistication and depth. Never demonstrates accurate interpretation of the project results.</td>
</tr>
</tbody>
</table>
Appendix 5: Site Specific Objective #3

- Effectively present research findings as a poster and platform presentation

<table>
<thead>
<tr>
<th>Evaluation Points in RxPreceptor Evaluation</th>
<th>Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Exceeds expectations; Consistently and effectively communicates the research results in both written and oral presentation venues set forth by the project preceptor. Successfully submits an abstract and presents a poster for the ASHP Midyear Clinical Meeting.</td>
</tr>
<tr>
<td>4</td>
<td>Occasionally exceeds expectations; Occasionally exceeds expectations in effective communication of the research results in written and oral presentation venues but most often needs guidance from preceptor. Successfully submits an abstract and presents a poster for the ASHP Midyear Clinical Meeting.</td>
</tr>
<tr>
<td>3</td>
<td>Meets expectations; Sometimes demonstrates effective communication of the research results in written and oral presentation venues but most often needs guidance from preceptor. Successfully submits an abstract and presents a poster for the ASHP Midyear Clinical Meeting, unless excused for extenuating circumstances approved by preceptor.</td>
</tr>
<tr>
<td>2</td>
<td>Falls below expectations; Rarely demonstrates effective communication of the research results in written and oral presentation venues but most often needs substantial guidance from preceptor. Does not successfully submit an abstract or present a poster for the ASHP Midyear Clinical Meeting.</td>
</tr>
<tr>
<td>1</td>
<td>Falls expectedly below expectations; Never demonstrates effective communication of the research results in written and oral presentation venues but most often needs substantial guidance from preceptor. Does not successfully submit an abstract or present a poster for the ASHP Midyear Clinical Meeting.</td>
</tr>
</tbody>
</table>
Appendix 6: Self-Assessment/Discussion Questions for Required Reading

Reading 1 Henrietta Lacks, Part 1
1. What have been the benefits of Henrietta’s cells?
2. Why are the cells described as being immortal?
3. Do you think Henrietta would have consented to donating her cells today?
4. Do you think the caregivers considered that they were taking advantage of her family?
5. Was coercive research present?
6. What is your opinion of the philosophy that the patient’s cells could legitimately be used for research since she had received free medical care?
7. How did the autopsy result in Henrietta becoming more “humanized” to Mary Kubicek?
8. What is your opinion about Henrietta not being told that the radium and radiation treatments had left her infertile which was different from the contemporary standard of care at Johns Hopkins?

Reading 2 Henrietta Lacks, Part 2
1. Who was the first to sell HeLa cells? How do you relate this from a historical perspective?
2. What company experienced the most financial gain from HeLa cells?
3. What similarities did Chester Southam's research have with physicians charged at the Nuremberg trials in 1947?
4. When did informed consent first appear?
5. Describe the origin of IRBs.
6. Do you think the lack of informed consent was influenced by socioeconomic or racial inequities?
7. What does informed consent mean to you after reading the book?
8. Do you think Henrietta would have provided consent for her cells had she been asked and adequately explained intentions?

Reading 3
1. When is a double blinded evaluation most necessary?
2. Describe ways of eliminating bias in a study design.
3. Describe the differences in a cohort study and a case control study.
4. When is correlation analysis used?
5. Describe when chi square analysis versus a student's t test can be used for data analysis.

Reading 4
1. What is the difference between prevalence and incidence?
2. Compare and contrast frequency histograms and frequency polygons.
3. Define discrete and continuous variables and ways of presenting each data.
4. What is the difference between absolute and relative risk analysis?
Preceptor's Evaluation of the Student at Midpoint and Final
Research APPE
(To be completed in RxPreceptor)

Student Name_______________________________________ Preceptor Name________________________________

List others who precepted this student and provided evaluation feedback: ______________________________________

<table>
<thead>
<tr>
<th>Student Performance</th>
<th>Description of Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1:</strong> The student demonstrates an acceptable level of professionalism. <strong>Students must earn a 3, 4 or 5 on all items in Professionalism Goal #1 to pass the rotation. Rotation failure will result if a student earns a 1 or 2 on any professionalism item.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SECTION WEIGHT:</strong> 15%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**A. Responsibility**


**B. Commitment to Excellence**

- Always participates in discussions. Always inquisitive. Always aware of personal limitations. Completes all tasks to best ability. Always committed to continued professional development. Always demonstrates positive attitude. Always learns/grows from experiences.
<table>
<thead>
<tr>
<th>C. Respect for Others</th>
<th>Occasionally respects the religion and culture of others. Occasionally respects patients’ confidentiality and privacy. Occasionally treats others personal property with respect. Occasionally listens carefully and respectfully. Occasionally fully present and attentive in all activities and interactions.</th>
<th>Usually respects the religion and culture of others. Usually respects patients’ confidentiality and privacy. Usually treats others personal property with respect. Usually listens carefully and respectfully. Usually fully present and attentive in all activities and interactions.</th>
<th>Always respects the religion and culture of others. Always respects patients’ confidentiality and privacy. Always treats others personal property with respect. Always listens carefully and respectfully. Always fully present and attentive in all activities and interactions.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never respects the religion and culture of others. Never respects patients’ confidentiality and privacy. Never treats others personal property with respect. Never listens carefully and respectfully. Never fully present and attentive in all activities and interactions.</td>
<td>Rarely respects the religion and culture of others. Rarely respects patients’ confidentiality and privacy. Rarely treats others personal property with respect. Rarely listens carefully and respectfully. Rarely fully present and attentive in all activities and interactions.</td>
<td>Rarely respects the religion and culture of others. Rarely respects patients’ confidentiality and privacy. Rarely treats others personal property with respect. Rarely listens carefully and respectfully. Rarely fully present and attentive in all activities and interactions.</td>
</tr>
<tr>
<td>E. Care and Compassion</td>
<td>Never actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Never thoughtful, respectful, and follows through with responsibilities. Never helps others in need.</td>
<td>Occasionally actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Occasionally thoughtful, respectful, and follows through with responsibilities. Occasionally helps others in need.</td>
<td>Always actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Always thoughtful, respectful, and follows through with responsibilities. Always helps others in need.</td>
</tr>
<tr>
<td></td>
<td>Rarely actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Rarely thoughtful, respectful, and follows through with responsibilities. Rarely helps others in need.</td>
<td>Usually actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Usually thoughtful, respectful, and follows through with responsibilities. Usually helps others in need.</td>
<td>Always actively listens to, is patient with, and shows compassion for patients/caregivers, peers, and instructors. Always thoughtful, respectful, and follows through with responsibilities. Always helps others in need.</td>
</tr>
</tbody>
</table>
### F. Clerkship Responsibilities

| Consistently disorganized. Fails to meet many deadlines and does not follow through with requests. Very poor problem-solving and decision making skills. One unexcused absence or consistently tardy to activities | Occasionally unorganized and unprepared. Assignments done on time but poor problem-solving and decision making skills. Fails to follow through on several requests. Occasionally tardy to activities | Regularly attends all activities and work completed on time... Sufficient problem-solving and decision making skills. Usually follows through on requests | Demonstrates advanced planning and/or completes some projects ahead of time. Well organized and punctual. Good problem-solving and decision making skills. Follows through on all requests |

### G. Relationships with Members of the Healthcare Team

| Consistently observes only; refuses to participate | Has difficulty establishing relationships; avoids confrontation | Establishes adequate relationships; participates if directed | Establishes good relationships; actively participates; team player |

### Comments:

Goal 2: **The student demonstrates the ability to conduct a systematic, efficient, and thorough drug information search and derives concise and accurate responses to drug information requests.**

**SECTION WEIGHT: 10%**

### A. Data Collection

| Consistently fails to obtain proper information from requestor | Collects some data, but omits several basic details | Usually collects obvious data with some detailed information from requestor | Usually collects obvious and also detailed data from requestor |

### B. Literature Retrieval/ Appropriate Use of Resources

| Consistently fails to perform systematic search, fails to identify appropriate resources | Sometimes performs systematic search and/or identify appropriate resources | Usually performs systematic search and identifies appropriate resources | Performs systematic search and identifies appropriate resources most of the time |

### C. Literature Evaluation

| Unable to evaluate basic medical literature | Sometimes able to evaluate basic medical literature | Usually able to evaluate basic medical literature | Usually able to evaluate literature with moderate depth |

### Consistently initiates activities; uses spare time wisely. Arrives early and stays late if necessary. Extremely organized. Completes all assignments in advance. Strong problem-solving and decision making skills. Follows through on all requests.

### Establishes working relationships and proactively participates as an integral member; appropriately assertive.
### D. Answers Drug Information Questions

<table>
<thead>
<tr>
<th>Rarely applies the obtained information to appropriately answer the specific DI question</th>
<th>Occasionally applies the obtained information to appropriately answer the specific DI question</th>
<th>Usually applies the obtained information to appropriately answer the specific DI question</th>
<th>Applies the obtained information to appropriately answer the specific DI question most of the time</th>
<th>Always applies the obtained information to appropriately answer the specific DI question</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### E. Documentation

<table>
<thead>
<tr>
<th>Rarely documents drug information responses and the search strategies utilized</th>
<th>Occasionally documents drug information responses and the search strategies utilized</th>
<th>Usually documents drug information responses and the search strategies utilized</th>
<th>Documents drug information responses and the search strategies utilized most of the time</th>
<th>Always documents drug information responses and the search strategies utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### Comments:

#### Goal 3: The student displays both verbal and written communication skills appropriate to this practice setting.

**SECTION WEIGHT: 20%**

### A. Verbal Communication with Preceptor and Other Healthcare Professionals

<table>
<thead>
<tr>
<th>Appears arrogant; use of unclear language, incorrect info, offensive tone, slang or cursing; insensitive to surroundings</th>
<th>Impersonal and abrupt; generally provides correct info; does not always respect surroundings</th>
<th>Maintains a good proactive dialogue; respectful of surroundings</th>
<th>Directs conversation; allows others to easily provide or receive info; respectful of surroundings</th>
<th>Effective communication with all interactions; uses clear and correct language; sensitive to surroundings</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### B. Written Communication

<table>
<thead>
<tr>
<th>Assignments late, illegible and with grammatical spelling and organizational errors</th>
<th>Assignments completed on time but inarticulate, poorly cited; with some grammatical or spelling errors</th>
<th>Well-cited info; rare grammatical or spelling errors</th>
<th>Well-cited info with articulation; no writing or spelling errors</th>
<th>Critically presented, well-cited info with articulation, clarity and insight</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### C. Medical Notes (e.g. SOAP, FARM, pharmacokinetic note)

<table>
<thead>
<tr>
<th>Disorganized; omits pertinent info; numerous grammatical or spelling errors; uses first person; appears biased</th>
<th>Occasionally unorganized; often difficult to understand and follow; provides irrelevant details; several grammatical or spelling errors</th>
<th>Generally organized and focused with few grammatical or spelling errors; avoids bias</th>
<th>Well-organized; summarizes info appropriately &amp; precisely; occasional grammatical or spelling errors; avoids bias</th>
<th>Completely organized; no grammatical or spelling errors; includes all pertinent info; note follows logical sequence; thorough yet concise; avoids bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### Comments:
Goal 4: The student demonstrates sound problem-solving skills and is able to utilize new information learned during the rotation.  
**SECTION WEIGHT: 20%**

<table>
<thead>
<tr>
<th>A. Problem Solving</th>
<th>Correctly solves basic problems but does not demonstrate critical thinking skills</th>
<th>Correctly identifies and solves problems but may not evaluate critically</th>
<th>Usually demonstrates critical thinking skills when solving problems</th>
<th>Demonstrates characteristics of a critical thinker when solving problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to solve basic problems</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**B. Integrate, Apply and Retain New Information Acquired During the Rotation**

<table>
<thead>
<tr>
<th>Describes the audience/other public or other audience</th>
<th>Cannot describe the mission, goals and objectives of the organization. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Usually unable to describe the mission, goals and objectives of the organization. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Minimally describes the mission, goals and objectives of the organization. Basic understanding of how the organization interfaces with other health care disciplines or the public.</th>
<th>Describes the services provided to the public and/or other audience. Reasonably understands how the organization interfaces with other health care disciplines or the public.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not demonstrate the use or integration of new knowledge</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Describes the services provided to the public and/or other audience</th>
<th>Cannot describe the services provided to the public and/or other audience. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Usually unable to describe the services provided to the public and/or other audience. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Minimally describes the services provided to the public and/or other audience. Reasonably understands how the organization interfaces with other health care disciplines or the public.</th>
<th>Describes the services provided to the public and/or other audience. Reasonably understands how the organization interfaces with other health care disciplines or the public.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot describe the organizational and reporting relationships of the unit and preceptor to which he/she is assigned</td>
<td>Cannot describe the organizational and reporting relationships. Does not understand how the preceptor interfaces with others within the organization.</td>
<td>Usually unable to describe the organizational and reporting relationships. Does not understand how the preceptor interfaces with others within the organization.</td>
<td>Minimally describes the organizational and reporting relationships. Basic understanding of how the preceptor interfaces with others within the organization.</td>
<td>Describes the services provided to the public and/or other audience. Understands how the preceptor interfaces with others within the organization.</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cannot describe the management functions of the organization</td>
<td>Cannot describe the management functions of the organization.</td>
<td>Usually unable to describe the management functions of the organization.</td>
<td>Minimally describes the management functions of the organization.</td>
<td>Describes the management functions of the organization.</td>
</tr>
</tbody>
</table>

**D. Discuss the management functions of the organization**

| Cannot describe the management functions of the organization. | ☐                                                                                   | ☐                                                                      | ☐                                                                         | ☐                                                                            |

**Goal 5: Organizational Structure: The student will demonstrate an understanding of the functional and structural dimensions of the organization to which he/she is assigned and its role in the health care delivery system.**  
**SECTION WEIGHT: 10%**  

<table>
<thead>
<tr>
<th>A. Describe the mission, goals and objectives of the organization</th>
<th>Cannot describe the mission, goals and objectives of the organization. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Usually unable to describe the mission, goals and objectives of the organization. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Minimally describes the mission, goals and objectives of the organization. Basic understanding of how the organization interfaces with other health care disciplines or the public.</th>
<th>Describes the mission, goals and objectives of the organization. Understands how the organization interfaces with other health care disciplines or the public.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot describe the mission, goals and objectives of the organization. Does not understand how the organization interfaces with other health care disciplines or the public.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Describe the services provided to the public and/or other audience</th>
<th>Cannot describe the services provided to the public and/or other audience. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Usually unable to describe the services provided to the public and/or other audience. Does not understand how the organization interfaces with other health care disciplines or the public.</th>
<th>Minimally describes the services provided to the public and/or other audience. Reasonably understands how the organization interfaces with other health care disciplines or the public.</th>
<th>Describes the services provided to the public and/or other audience. Reasonably understands how the organization interfaces with other health care disciplines or the public.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot describe the services provided to the public and/or other audience. Does not understand how the organization interfaces with other health care disciplines or the public.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Describe the organizational and reporting relationships of the unit and preceptor to which he/she is assigned</th>
<th>Cannot describe the organizational and reporting relationships. Does not understand how the preceptor interfaces with others within the organization.</th>
<th>Usually unable to describe the organizational and reporting relationships. Does not understand how the preceptor interfaces with others within the organization.</th>
<th>Minimally describes the organizational and reporting relationships. Basic understanding of how the preceptor interfaces with others within the organization.</th>
<th>Describes the organizational and reporting relationships. Reasonably understands how the preceptor interfaces with others within the organization.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot describe the organizational and reporting relationships. Does not understand how the preceptor interfaces with others within the organization.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Discuss the management functions of the organization</th>
<th>Cannot describe the management functions of the organization.</th>
<th>Usually unable to describe the management functions of the organization.</th>
<th>Minimally describes the management functions of the organization.</th>
<th>Describes the management functions of the organization.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot describe the management functions of the organization.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### Goal 6: The student is able to complete the clerkship specific goals and objectives.

#### SECTION WEIGHT: 25%

<table>
<thead>
<tr>
<th>A. Formal Write-Up or Case Presentation</th>
<th>B. Optional Site Specific Objective #1</th>
<th>C. Optional Site Specific Objective #2</th>
<th>D. Optional Site Specific Objective #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls unacceptably below expectations. Unable to satisfactorily complete basic, routine tasks despite directed questioning. The preceptor must complete the task</td>
<td>Falls unacceptably below expectations. Unable to satisfactorily complete basic, routine tasks despite directed questioning. The preceptor must complete the task</td>
<td>Falls unacceptably below expectations. Unable to satisfactorily complete basic, routine tasks despite directed questioning. The preceptor must complete the task</td>
<td>Falls unacceptably below expectations. Unable to satisfactorily complete basic, routine tasks despite directed questioning. The preceptor must complete the task</td>
</tr>
<tr>
<td>Falls below expectations. Requires guidance and directed questioning to complete basic, routine tasks. Performs below the level of an average 4th year pharmacy student</td>
<td>Falls below expectations. Requires guidance and directed questioning to complete basic, routine tasks. Performs below the level of an average 4th year pharmacy student</td>
<td>Falls below expectations. Requires guidance and directed questioning to complete basic, routine tasks. Performs below the level of an average 4th year pharmacy student</td>
<td>Falls below expectations. Requires guidance and directed questioning to complete basic, routine tasks. Performs below the level of an average 4th year pharmacy student</td>
</tr>
<tr>
<td>Meets expectations. Requires guidance and directed questioning to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an average 4th year pharmacy student</td>
<td>Meets expectations. Requires guidance and directed questioning to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an average 4th year pharmacy student</td>
<td>Meets expectations. Requires guidance and directed questioning to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an average 4th year pharmacy student</td>
<td>Meets expectations. Requires guidance and directed questioning to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an average 4th year pharmacy student</td>
</tr>
<tr>
<td>Occasionally exceeds expectations. Requires limited prompting to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an advanced 4th year pharmacy student</td>
<td>Occasionally exceeds expectations. Requires limited prompting to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an advanced 4th year pharmacy student</td>
<td>Occasionally exceeds expectations. Requires limited prompting to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an advanced 4th year pharmacy student</td>
<td>Occasionally exceeds expectations. Requires limited prompting to complete complex tasks. Independently completes basic, routine tasks. Performs at the level of an advanced 4th year pharmacy student</td>
</tr>
<tr>
<td>Consistently exceeds expectations. Independently completes most complex tasks and all basic, routine tasks. Performs at the level of a practicing pharmacist</td>
<td>Consistently exceeds expectations. Independently completes most complex tasks and all basic, routine tasks. Performs at the level of a practicing pharmacist</td>
<td>Consistently exceeds expectations. Independently completes most complex tasks and all basic, routine tasks. Performs at the level of a practicing pharmacist</td>
<td>Consistently exceeds expectations. Independently completes most complex tasks and all basic, routine tasks. Performs at the level of a practicing pharmacist</td>
</tr>
</tbody>
</table>

**Comments:**