NOTRE DAME OF MARYLAND UNIVERSITY

SCHOOL OF PHARMACY

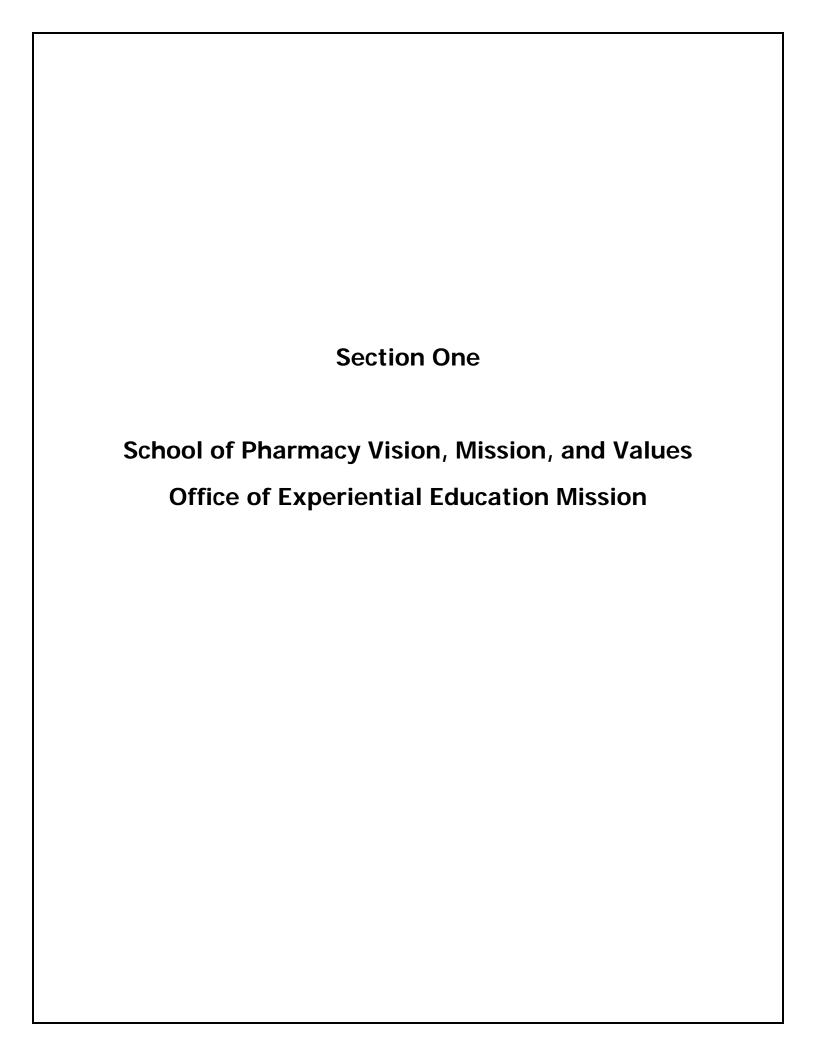**Introductory Pharmacy Practice Experience I**

PHRD 410

Health-System Pharmacy Practice

Course Manual
2017 - 2018

Educating Students…

…Creating Partnerships

Section One

School of Pharmacy Vision, Mission, and Values

Office of Experiential Education Mission

School of Pharmacy Vision

To provide exceptional pharmacy education by creating a model learning community dedicated to the transformation of societal health.

School of Pharmacy Mission

We educate student pharmacists to be compassionate, ethical professionals who improve medication use and provide quality patient care to a diverse population. We develop leaders and advance public health.

Our Values

The faculty, staff and student pharmacists pledge to work together to achieve our vision and mission in an environment that lives by and embraces the following values:

Altruism,
Collaboration
Excellence
Innovation
Integrity

Office of Experiential Education Mission

The Office of Experiential Education (OEE) at Notre Dame of Maryland University, School of Pharmacy is committed to student learning and pharmacy practice in an environment that embodies quality, values partnerships, and fosters collaboration. Our mission is to provide students with diverse and challenging Introductory and Advanced Pharmacy Practice Experiences that will prepare them to be successful practitioners in any practice setting.

<u>Office of Experiential Education</u>
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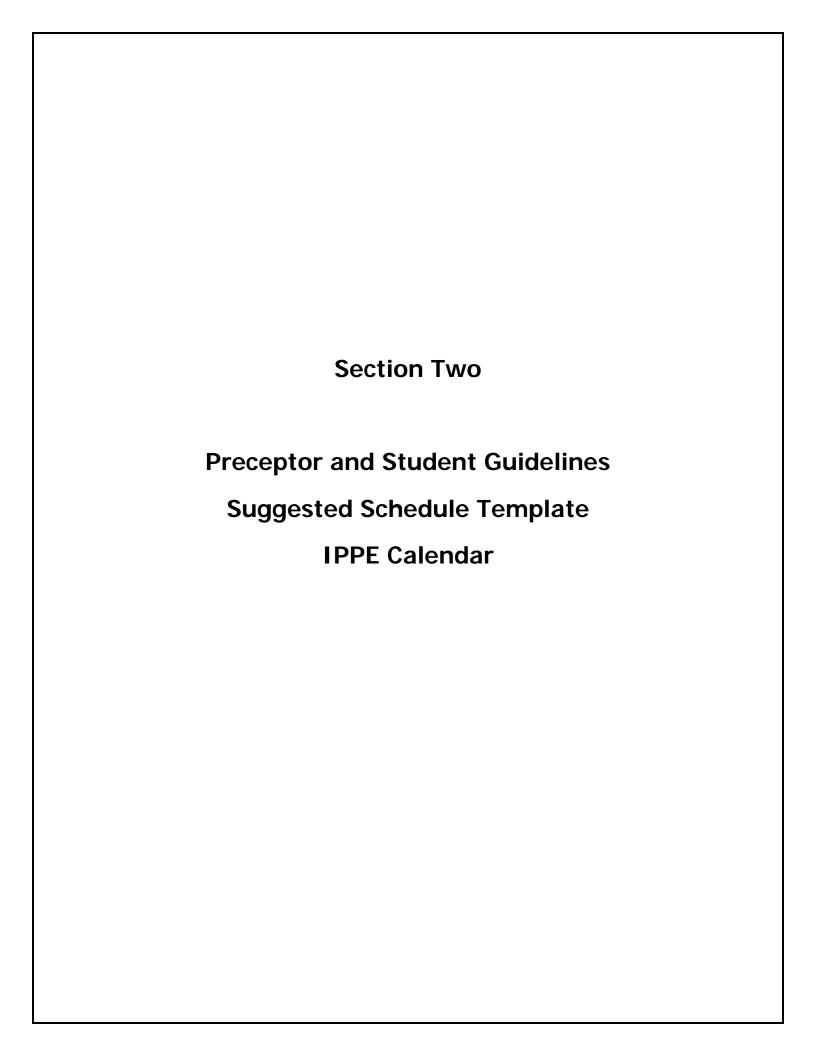Bunting Building, Room 143
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Section Two

Preceptor and Student Guidelines

Suggested Schedule Template

IPPE Calendar

Preceptor and Student Guidelines

1. ## Expectations of Students

   Students are required to read **all** sections of the Course Manual prior to the start of the rotation. Policies regarding professionalism, professional dress, confidentiality, etc. are clearly stated in the course manual. Students are expected to read these policies and act professional at all times during the rotation. It is important to recognize the pharmacist preceptor is busy and taking the time to help the students learn and succeed. It is imperative that the students be patient, appreciative of their support and time, and respectful of the confidentiality of patient and site information. Students should be assertive and ask for assistance when needed. Students should be proactive and always try to stay one step ahead.

   Preceptors may require students to sign confidentiality statements if required by the institution. Students who do not abide by the General Course Guidelines must be informed by the preceptor of their shortfalls, and recommendations for improvement should be provided. If problems continue to occur with the student despite prior warnings, the preceptor should contact the Office of Experiential Education (OEE).

2. ## Rotation Variability

   The sites to which students are assigned will vary somewhat in the type of experience they can provide. Each student will find his/her rotation experience may vary slightly from students at other sites. However, in order to ensure the same learning outcomes are achieved by all students, a standard set of learning objectives and activities, and method of evaluation will be utilized by all preceptors. As such, if a site cannot accommodate a standard learning activity, the preceptor may substitute another relevant activity/assignment.

   The Course Manual provides a suggested schedule for the completion of activities. Preceptors may, however, modify this in order to accommodate their own practice environment. Preceptors may also **add** activities, experiences, and/or reading assignments that will be beneficial to students. These will be in addition to the time the student should be at the site and also may include deviation from the on-site hours which can occur anytime between 8:00 a.m. - 12:00 p.m., as long as it does

not interfere with times students are required to be on campus for classes. For your reference, students' next class Mondays, Wednesdays, and Fridays begins at 1:00pm in the fall and may begin at 12:00pm in the spring if they choose an elective course beginning at that time.

Due to site variability, *preceptors may modify activities as appropriate* or assign additional activities. These activities should be documented in the appropriate section of the competency assessment form.

3. **Grading and Feedback**

It is important that students regularly be given timely and constructive feedback by preceptors. Feedback from preceptors can be both informal and formal. Informal feedback would include comments or suggestions made after a discussion, activity, or during the course of the rotation. Formal evaluations must include the mid-rotation and final student assessments. These evaluations are essential to the student. The mid-rotation evaluation is a valuable tool for students to receive concrete ways to improve their performance. In addition, for areas in which the student is doing well, it is a motivational tool and words of encouragement. <u>Students are required to complete self-evaluations of the professionalism and competency assessments at the midpoint and end of the rotation.</u> **Preceptors are strongly encouraged to provide a student's evaluation on or before the last day of the IPPE.**

Please note that the student MUST earn a mean score of 2.5 or above (and no individual criteria score below a 2.0) on this competency assessment in order to PASS the rotation. Comments must be made for a final mean score of < 3.0 in order for the evaluation to be submitted through E-value. It is imperative for students to receive feedback as to what areas they need to improve upon as they progress through the experiential program. Comments are much more useful than numbers to students in helping them improve their performance.

4. **Attendance**

Students are required to be at their sites for 2 weeks full-time (80 hours) at the beginning of the rotation and 3 hours per week thereafter for the remainder of the

semester. Preceptors will sign off that students have completed the required number of hours on the midpoint and final professionalism evaluation forms. All missed time must be made up except when the university is closed due to inclement weather.

Students may not miss IPPE hours to prepare for an exam; however, if a preceptor feels it is in the best interest of the student, they may allow the student to change the day of the IPPE rotation the week of the exam. Preceptors may also modify a student's day at the IPPE site based on their schedule and should notify the students at least one week in advance of any schedule changes.

5. **Activities**

Refer to the manual for a list of activities students must complete throughout the rotation. Some activities should be completed during the two-week full-time at the beginning of each rotation and others are either weekly or longitudinal activities. Weekly activities are those that can be completed at any point during the rotation (please see the suggested scheduling of topics), but should be completed in one 3-hour time period at the site. Longitudinal activities are those activities that should be worked on throughout the rotation and will likely need several weeks to complete. Students should complete portions of these activities at various times throughout the rotation until complete. Students are to work with the preceptor to determine a timeline for completing longitudinal activities. Each activity's learning objectives help students to focus on the desired learning outcomes. If an activity is not available at a site, students must still complete the activity through preceptor discussion, research, or reading to fully comprehend the material and/or topic. Students are expected to routinely upload activities to E-Value. Students must add their preceptor as a supervisor as soon as possible to each activity in E-Value to allow viewing ability. All activities will be reviewed and signed off in E-Value by preceptors that they have been accurately completed. **Students are responsible for uploading their activities before the last day of their IPPE rotation.**

6. **Preceptor and Student Support**

In addition to this manual, the OEE is available to answer questions regarding the student, preceptor, or rotation. The goal of the OEE is to support the delivery of quality experiences for students and preceptors. If you have any questions or concerns, please do not hesitate to contact the OEE. Preceptor participation in the education of our students is greatly appreciated!

Suggested Schedule Template

Suggested timeframe	Activity	Worksheet #	Special Notes
Full-time 2-week period activities			
	Orientation and Pharmacy Management Overview	1	Includes getting to know the student (can review CV on E*Value), tour of facility, meeting with the preceptor and pharmacy team, discussion of expectations for rotation and professionalism
	Prescription Processing	2	May include shadowing on patient unit or satellite/decentralized pharmacy; shadowing and assisting a pharmacy technician
	Medication List	3	Preceptor to help student identify 25 most prescribed medications at the site
	Drug Information	4	Assignment is focused on drug information resources and the drug information process at the site; student and preceptor to develop a list of potential questions throughout rotation; Student to document DI question response on the template provided
	Pharmacy Operations	5	Includes inventory management, storage, emergency response, personnel requirements
	Medication Safety	6	May include meeting with Medication Safety Officer; Focus is also on medication errors, adverse events, and regulatory agencies
Activities *(suggested time frame to initiate activity to ensure completion by the end of the rotation)*			
Week 1-5:	Aseptic Compounding	7	Preceptors may need to factor in extra time for training in USP 797 standards; IV room pharmacist
	Medication Administration	8	Includes shadowing of a nurse or other healthcare provider administering medications
	Automation and Informatics	9	May include meeting with clinical decision support specialist , medication safety officer and/or other members of the pharmacy team that

			are involved with automation
Week 6-10:	Formulary Management	10	May include arranging for the student to attend a P&T meeting
	Professionalism and Communication	11	Requires student to make observations throughout rotation to complete
	Institutional Pharmacy Calculations	12	Student and preceptor/technician to develop a list of calculations to perform from prescription orders
Week 11-15:	Medication Reconciliation	13	May include shadowing a nurse or clinical pharmacist before performing this themselves; will need to report back to clinical pharmacist or preceptor with outcome/recommendations
	Discharge Counseling	14	May include shadowing a nurse or clinical pharmacist before performing this themselves; will need to do counseling in the presence of the preceptor or other health care provider

NOTE

- This is a suggested schedule template for the rotation. If the preceptor chooses to not follow this template, the activities are linked to a worksheet number and can be moved to anytime the preceptor feels would be most appropriate for completion.
- Preceptors have the freedom to assign other activities/assignments for the students that they feel will enhance their learning and understanding of and contribution to health-system pharmacy.

Health System IPPE Calendar
Fall 2017: August 7th – December 1st

Week	Location	Activity
August 7-18	Site Two-week, full-time M-F (80 hours)	Key concepts/observations; questions for further exploration Worksheets 1-6 during full-time hours
Week 1: August 21	Site (Request informal feedback from preceptor)	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 2: August 28	Site	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 3: September 4	Site Wednesday and Friday groups (Monday off – Labor Day)	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 4: September 11	**Site - Midpoint Evaluation**, On-campus discussion (September 11 – Community September 12 – Health System*)	**On Campus Discussion** Read questions in on-campus discussion chart for September 12 and be prepared to discuss them all
Week 5: September 18	Site	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 6: September 25	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 7: October 2	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 8: October 9	Site, On-campus discussion (October 9 – Community October 10 – Health System*)	**On Campus Discussion** Read questions in on-campus discussion chart for October 10 and be prepared to discuss them all
Week 9: October 16	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 10: October 23	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 11: October 30	Site	Key concepts/observations; questions for further exploration Worksheets 13-14 in weeks 11-15
Week 12: November 6	Site	Key concepts/observations; questions for further exploration Worksheets 13-14 in weeks 11-15
Week 13: November 13	Site, On-campus discussion (November 13 – Community November 14 – Health System*)	**On Campus Discussion** Read questions in on-campus discussion chart for November 14 and be prepared to discuss them all
Week 14: November 20	Site Only Monday group Wednesday and Friday groups off – Thanksgiving Holiday	**Final Guided Reflection (See Guidelines and Rubric in Section 5)**
Week 15: November 27	**Site - Final Evaluation** Final guided reflection and all worksheets must be uploaded to E-Value by 8: 00 am on *your* last assigned day of IPPE rotations (November 27-M, 29-W, or December 1-F)	

* Report to KSC 105 (3:30 pm – 5:30 pm) **Attendance is Mandatory**

Health System On-Campus Discussion Questions

September 12, 2017	October 10, 2017	November 14, 2017

• **Opportunity to discuss/share different types of hospital and pharmacy settings:**
  o What type of hospital are you at? (e.g. Teaching/Community/Government)
  o How many satellite pharmacies are at the hospital?
  o What type of pharmacy model does the pharmacy have? (Do they have a clinical specialist model or hybrid?)
 	
• **Is this a career option for me?**
  o What aspects of health systems pharmacy practice do you find most interesting/frustrating?
  o What is the pharmacist's day to day responsibility?
  o What is the pharmacist's day to day schedule?
  o Why did your pharmacist preceptor decide to go into hospital pharmacy?
  o Who does the pharmacist interact with the most daily?
  o What is the most frustrating part of the pharmacist's job in the hospital?
  o How much interaction does the pharmacist have dealing with patients?
 	
• **On-Campus Group Activity:** Please complete *IPPE Health Systems Discussion 1* PRIOR for in class discussion
	• **Focus on pharmacy operations and impact of robotics/IT on pharmacy workflow**
	  o What is the medication workflow process at your hospital?
	  o What automated systems does the hospital have in the pharmacy?
	  o Do you think the automated systems save time to the pharmacy personnel?
	  o Discuss how decisions to increase automation in the hospital were made. Who was involved in the decision making process and what were some of the reasons why automated systems were purchased?
	
	• **Understanding the dynamics of how pharmacy operations impacts others (nursing, physicians, patients, physical therapists, rounding clinical pharmacy specialists)**
	  o Have you seen a pharmacist do something that you do not agree with?
	  o What limitations does the pharmacist face daily?
	  o What other healthcare professionals have you interacted with outside of pharmacy and what is their perception/expectation of the pharmacist/pharmacy department?
	
	• **On-Campus Group Activity:** Please complete *IPPE Health Systems Discussion 2* PRIOR for in class discussion
		• **Drug Shortages/Formulary Issues**
		  o What is a current drug in critical shortage that the hospital is facing and how is your hospital dealing with it?
		  o Are there alternatives agents that can be used to treat patients?
		  o Have drug restrictions been implemented?
		  o How were prescribers notified of the shortage?
		  o How do drug shortages affect patient care?
		
		• **Pharmacist Training**
		  o Should further training (i.e. residency training) be required to work as a staff pharmacist in the hospital?
		  o How much impact does the staff pharmacist have on direct patient care?
		  o What skills are needed to be a staff pharmacist?
		
		• **On-Campus Group Activity:** *IPPE Health Systems Discussion 3* will be used for in class discussion. ==Please fill out Part 1 of the worksheet along with above questions **PRIOR** to coming to discussion.==
		
		Overall IPPE Experience Discussion

Health System IPPE Calendar
Spring 2018: January 2nd – April 27th

Week	Location	Activity
January 2-10	Site Two-week, full-time M-F (80 hours)	Key concepts/observations; questions for further exploration Worksheets 1-6 during full-time hours
Week 1: January 10	Site <u>Monday and Friday</u> (Wednesday off – first day of classes follow a Monday Schedule and begin the longitudinal portion)	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 2: January 15	Site (Must attend on MLK Day to complete IPPE hours**)	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 3: January 22	Site, On-campus discussion (January 22 – Community January 23 – Health System*)	**On Campus Discussion** In preparation, read questions in on-campus discussion chart for January 23 and be prepared to discuss them all
Week 4: January 29	Site	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 5: February 5	Site	Key concepts/observations; questions for further exploration Worksheets 7-9 in weeks 1-5
Week 6: February 12	**Site - Midpoint Evaluation**	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 7: February 19	Site, On-campus discussion (February 19 – Community February 20 – Health System*)	**On Campus Discussion** In preparation, read questions in on-campus discussion chart for February 20 and be prepared to discuss them all
Week 8: February 26	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 9: March 5	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 10: March 12	Site	Key concepts/observations; questions for further exploration Worksheets 10-12 in weeks 6-10
Week 11: March 19	Site, On-campus discussion (March 19 – Community March 20 – Health System*)	**On Campus Discussion** In preparation, read questions in on-campus discussion chart for March 20 and be prepared to discuss them all
Week 12:Mar 26	**Spring Break – NO IPPE**	
Week 13: April 2	Site <u>Wednesday and Friday</u> (Monday off – Easter)	Key concepts/observations; questions for further exploration Worksheets 13-14 in weeks 11-15
Week 14: April 9	Site	Key concepts/observations; questions for further exploration Worksheets 13-14 in weeks 11-15
Week 15: April 16	Site	Key concepts/observations; questions for further exploration Worksheets 13-14 in weeks 11-15 **FRIDAY: Final Guided Reflection (See Guidelines and Rubric in Section 5)**
Week 16: April 23	Site (Friday off – last day of classes follow a Monday Schedule)	**Final Guided Reflection (See Guidelines and Rubric in Section 5)**
Week 16: April 23	**Site - Final Evaluation** Final guided reflection and <u>all</u> worksheets must be uploaded to E-Value by 8:00 am on *your* last assigned day of IPPE rotations (April 20-F, 25-W, or 27-M)	

* Report to KSC 105 (3:30 pm – 5:30 pm) **Attendance is Mandatory**
** To complete the initial 80 IPPE hours required for the semester, students must attend the rotation site for Seven, 9-hour days, <u>plus</u> MLK day (8 hours required this year) <u>plus</u> one (1) weekend (Saturday and Sunday)

Health System On-Campus Discussion Questions

January 23, 2018	February 20, 2018	March 20, 2018

• **Opportunity to discuss/share different types of hospital and pharmacy settings:**
  o What type of hospital are you at? (e.g. Teaching/Community/ Government)
  o How many satellite pharmacies are at the hospital?
  o What type of pharmacy model does the pharmacy have? (Do they have a clinical specialist model or hybrid?)
 	
• **Is this a career option for me?**
  o What aspects of health systems pharmacy practice do you find most interesting/frustrating?
  o What is the pharmacist's day to day responsibility?
  o What is the pharmacist's day to day schedule?
  o Why did your pharmacist preceptor decide to go into hospital pharmacy?
  o Who does the pharmacist interact with the most daily?
  o What is the most frustrating part of the pharmacist's job in the hospital?
  o How much interaction does the pharmacist have dealing with patients?
 	
• **On-Campus Group Activity:** Please complete *IPPE Health Systems Discussion 1* PRIOR for in class discussion
	• **Focus on pharmacy operations and impact of robotics/IT on pharmacy workflow**
	  o What is the medication workflow process at your hospital?
	  o What automated systems does the hospital have in the pharmacy?
	  o Do you think the automated systems save time to the pharmacy personnel?
	  o Discuss how decisions to increase automation in the hospital were made. Who was involved in the decision making process and what were some of the reasons why automated systems were purchased?
	
	• **Understanding the dynamics of how pharmacy operations impacts others (nursing, physicians, patients, physical therapists, rounding clinical pharmacy specialists)**
	  o Have you seen a pharmacist do something that you do not agree with?
	  o What limitations does the pharmacist face daily?
	  o What other healthcare professionals have you interacted with outside of pharmacy and what is their perception/expectation of the pharmacist/pharmacy department?
	
	• **On-Campus Group Activity:** Please complete *IPPE Health Systems Discussion 2* PRIOR for in class discussion
		• **Drug Shortages/Formulary Issues**
		  o What is a current drug in critical shortage that the hospital is facing and how is your hospital dealing with it?
		  o Are there alternatives agents that can be used to treat patients?
		  o Have drug restrictions been implemented?
		  o How were prescribers notified of the shortage?
		  o How do drug shortages affect patient care?
		
		• **Pharmacist Training**
		  o Should further training (i.e. residency training) be required to work as a staff pharmacist in the hospital?
		  o How much impact does the staff pharmacist have on direct patient care?
		  o What skills are needed to be a staff pharmacist?
		
		• **On-Campus Group Activity:** *IPPE Health Systems Discussion 3* will be used for in class discussion. ==Please fill out Part 1 of the worksheet along with above questions **PRIOR** to coming to discussion.==
		
		IPPE Preceptor of the Year Nominations
		
		Overall IPPE Experience Discussion

IPPE Health Systems Discussion 1:

Pharmacy Types and Operations and Distributions
Gallery Walk

Go to each poster and comment on the responses of each hospital's poster regarding the following:

1. Do you agree that the hospital is typed appropriately based on reason?

2. Does their stated clinical pharmacy model and description make sense to you?

3. Does the workflow make sense, is it similar to your hospital or how is it different?

4. Is there an automated system listed that does not sound familiar to you, is there a system that is used in your system as well, is there a system that is listed that is similar in function to what you see at your hospital but called something different and do you agree that is saves time?

IPPE Health Systems Discussion 2:

Pharmacy Types and Operations and Distributions
Gallery Walk

Go to each poster and comment on the responses of each hospital's poster regarding the following:

1. Does the workflow make sense, is it similar to your hospital or how is it different?

2. Is there an automated system listed that does not sound familiar to you, is there a system that is used in your system as well, is there a system that is listed that is similar in function to what you see at your hospital but called something different and do you agree that is saves time?

IPPE Health System Discussion 3:

Group members: Hospital site:

Part 1: Complete the following table based on your IPPE site, <mark>PRIOR</mark> to 3rd IPPE Health Systems Discussion on campus.

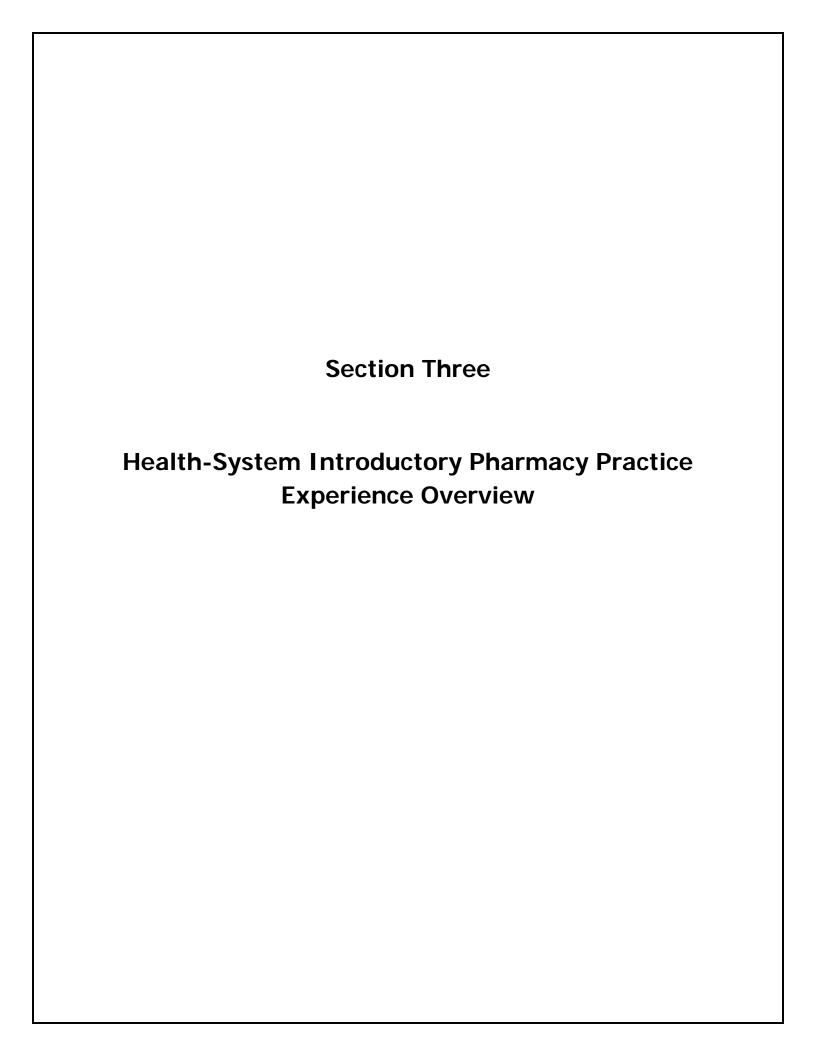| Clinical Services	Pharmacy Technician	Pharmacist with no residency training	Pharmacist with residency training

Drug Shortages:

Drug shortage item that your hospital is facing:

What drug restriction or alternative solution has been put into place due to the drug shortage:

Part 2: Complete with your group during 3rd IPPE Health Systems Discussion on campus. What is Your Impression on Clinical Pharmacy Services and Pharmacy Training?

Clinical Services	Direct Patient Care (Yes/No)	Pharmacy Technician	Pharmacist with no residency training	Pharmacist with residency training
Medication history				
Medication reconciliation				
Patient medication education/discharge counseling				
Order verification				
Warfarin/AC dosing				
PK dosing (Vanc/AG)				
IV to PO conversion				
Non-formulary to formulary switch				
Renal dosing				
Rounding with medical team				
Antimicrobial Stewardship				

Section Three

Health-System Introductory Pharmacy Practice Experience Overview

Course title

PHRD 410 Introductory Pharmacy Practice Experience I: Health-System Pharmacy Practice – 3 credits

Course description

This course is part of a four-course sequence designed to introduce students to a variety of practice settings with particular emphasis on community, health system, and clinical pharmacy practice. The experiences are intended to increase in time and complexity as students progress through the curriculum. This course sequence supplements the introductory experiences embedded into Pharmacist Care Lab I & II, Developing the Leader Within, Pharmacy Practice Management and Care of Diverse Populations. Students will gain experiences in a variety of settings dealing with issues pertinent to health system pharmacy practice. Communication skills and professionalism along with the importance of an interdisciplinary approach to patient care will be emphasized throughout the sequence. In this course, students will complete 125 hours, 80 hours (two weeks) of which will be full-time in a health system setting. This full-time experience will be followed by a longitudinal component where the student will spend 3 hours per week at the practice site for an additional 15 weeks. This experience is intended to prepare students for the Advanced Pharmacy Practice Experiences by introducing them to health-system pharmacy practice in which an emphasis will be placed on learning about the medication use process, pharmacy management and operations and medication safety. Students will have the opportunity to participate in patient-oriented activities and interact and communicate with other health care professionals.

Learning Outcomes

This course provides the foundational knowledge and skills needed to for the achievement of the following terminal learning outcomes at the conclusion of the professional program. Please refer to the Student Learning Outcomes Document for detailed information. The numbers correspond to the actual number of the outcome in the Student Outcomes Document.

2.   Evaluate and apply scientific and clinical literature to patient care
3.   Display professional behavior when interacting with patients, caregivers, other health care professionals and the public

4. Develop treatment plans to ensure optimal therapeutic and disease outcomes
5. Communicate with patients, caregivers, health care professionals and the lay public to provide safe and optimal use of medications and related devices
7. Ensure the safe and accurate delivery of medications and related devices
8. <mark>Comply with and uphold the laws and ethical standards of and related to the practice of pharmacy</mark>
9. Manage pharmacy systems and personnel in the delivery of medications and related devices
11. Lead the profession to promote safe medication use and to improve health care
12. Maintain professional competence

Course Objectives

The following course objectives were designed to support the development of the knowledge and skills needed for achievement of terminal student learning outcomes listed above. In turn, all student activities and assignments will support the achievement of the course objectives listed below.

Professionalism

1. Display professional behavior when interacting with patients and other health care professionals.
2. Provide ethical patient care.
3. Demonstrate the actions needed for life-long learning abilities.

Patient Care and Communication

4. Demonstrate effective communication skills when interacting with diverse patient and professional populations.
5. Identify, retrieve, and evaluate clinical literature to answer drug information questions.
6. Identify and resolve medication therapy problems.
7. Accurately and completely reconcile medications across the continuum of care.
8. Counsel patients regarding drug therapy.
9. Document patient care interventions.
10. Describe the responsibility of the pharmacist in communicating and collaborating with physicians, nurses, and other health-care professionals in optimizing the medication use process.
11. Explain how continuous quality improvement initiatives are utilized to improve and ensure quality patient care.
12. Describe the roles and responsibilities of other members of the health care team.
13. Demonstrate critical thinking skills to facilitate decision making.

<u>Practice Management and Pharmacy Operations</u>

14. Perform professional activities in compliance with HIPAA.
15. Comply with federal, state and local regulations that govern the practice of pharmacy.
16. Discuss pharmacy management and operations issues.
17. Discuss the roles and responsibilities of personnel necessary to effectively operate the pharmacy.
18. Evaluate and fill a prescription in compliance with state and federal laws.
19. Describe and evaluate the drug distribution system.
20. Demonstrate proficiency in reading and understanding common medical terminology.
21. Perform calculations required to compound, dispense and administer medications.
22. Demonstrate appropriate aseptic technique when preparing parenteral products.
23. Discuss drug and pharmacy service issues.
24. Discuss the role of the Pharmacy and Therapeutics Committee in determining formulary decisions and medication use policies.
25. Discuss the expanding role of technology and informatics in the practice of pharmacy and patient care
26. Explain and participate in inventory management and purchasing including ordering, receiving, storing, and returning merchandise.
27. Describe the organizational structure of the pharmacy and its relationship to the parent organization.

Learning Strategies/Methodologies

A variety of learning strategies are used in this course to provide students with opportunities to acquire the knowledge, attitudes, and practice skills necessary to achieve the course objectives. These strategies include but are not limited to:

<u>Activities</u>

Assigned activities will require students to integrate what they observe, learn and do at the practice site along with assigned readings to fully comprehend a specific topic. Depending on the specific activity, it may be completed within one site visit or may require the student to complete the work over several weeks throughout the rotation. Additionally, students should expect that some of the work must be completed at home in preparation for an on-site activity. This course manual provides students and preceptors with worksheets, where appropriate, to provide guidance for completion of

the activity. Preceptors will review and sign-off the worksheets once they are uploaded to E-Value. Students are expected to routinely upload activities and alert their preceptor of the uploaded information for review.

Preceptor Discussions

Active participation in the medication use process and discussions with preceptors and other pharmacists and staff will help students to learn as much as they can from the rotation. Preceptors may assign students relevant topics for research and discussion.

On campus discussions

Three mandatory on-campus discussions provide students with opportunities to further explore relevant topics and learn from each other's experiences. Students will be expected to attend all on campus discussions.

Final Reflection

At the end of the rotation, students must complete a reflective essay of their overall rotation experience and upload to E- value no later than 8:00 a.m. on the last day of the rotation. Final reflections are not graded, but instead reviewed by the Office of Experiential Education in order to continually improve the IPPE experiences.

Pre-requisite and co-requisite course requirements for Introductory & Advanced Pharmacy Practice Experiences

Year	Fall Semester - (19 credits)	Credits	Spring Semester - (17 credits)	Credits
P-1	PHRD 300: Foundations for Pharmacy Practice	2	PHRD 306: Pharmacist Care Lab II	2
	PHRD 301: Pharmaceutical Calculations	2	PHRD 308: Developing the Leader Within	2
	PHRD 302: Pharmacy & the U.S. Health Care System	3	PHRD 309: Immunology	3
	PHRD 303: Pharmaceutics I & Lab	4	PHRD 310: Care of Diverse Populations	3
	PHRD 304: Pharmacist Care Lab I	2	PHRD 311: Pharmaceutics II & Lab	4
	PHRD 305: Biochemistry	4	PHRD 312: Pharmacy Practice Management	3
	PHRD 307: Applied Biomedical Sciences Workshop	3		
	Fall Semester - (17 Credits)	**Credits**	**Spring Semester- (19 credits)**	**Credits**
P-2	PHRD 400: Biopharmaceutics & Clinical Pharmacokinetics	3	PHRD 405: Women's Health Issues	2
	PHRD 401: Clinical Research Design	3	PHRD 406: Pharmacist Care Lab IV	1
	PHRD 404: Pharmacists Care Lab III	1	PHRD 408: Pharmacy Law & Ethics	3
	PHRD 410 or 412: Introductory Pharmacy Practice Experiences I or II	3	PHRD 410 or 412: Introductory Pharmacy Practice Experiences I or II	3

	PHRD: 413 Pharmacotherapeutics I - Principles of Medicinal Chemistry & Pharmacology*	2	PHRD 417: Pharmacotherapeutics IV – Infectious Diseases	4
	PHRD 414: Pharmacotherapeutics II - Principles of Pharmacotherapeutics	2	PHRD 418: Pharmacotherapeutics V – Gastrointestinal Disorders	2
	PHRD 416: Pharmacotherapeutics III - Self-Care & Dermatologic Disorders	3	PHRD 419: Pharmacotherapeutics VI - Hematologic, Rheumatologic Disorders & Surgery	2
			Professional Elective	2
	Fall Semester - (19 credits)	**Credits**	**Spring Semester-(18 credits)**	**Credits**
P-3	PHRD504: Pharmacists Care Lab V	1	PHRD 506: Pharmacists Care Lab VI	1
	PHRD 505: Human Resources Management	3	PHRD 508: Complementary Medicine & Human Nutrition	3
	PHRD 507: Public Health	3	PHRD 509: Evidence Based Medicine	2
	PHRD 510: Longitudinal Care I	1	PHRD 512: Longitudinal Care II	1
	PHRD 513: Pharmacotherapeutics VII - Pulmonary Disorders	2	PHRD 516: Pharmacotherapeutics X - Endocrine Disorders & Women's Health	2
	PHRD 514: Pharmacotherapeutics VIII - Cardiovascular Disorders	4	PHRD 517: Pharmacotherapeutics XI - Neoplastic Disorders	2
	PHRD 515: Pharmacotherapeutics IX - Renal Disorders	2	PHRD 518: Pharmacotherapeutics XII - Central Nervous System Disorders	4

	Professional Elective	3	Professional Elective	3
	Summer/Fall/Spring	**Credits**	**(36 credits)****	
P-4	PHRD 700 Advanced Pharmacy Practice Ambulatory Care	5	***All APPEs are five weeks in duration except 707*	
	PHRD 701 Advanced Pharmacy Practice Acute Care General Medicine	5	** Pharmacotherapeutics is taught sequentially within a semester*	
	PHRD 702 Advanced Health Systems Pharmacy Practice	5		
	PHRD 703 Advanced Community Pharmacy Practice	5		
	PHRD 704 Advanced Pharmacy Practice Elective I	5		
	PHRD 705 Advanced Pharmacy Practice Elective II	5		
	PHRD 706 Advanced Pharmacy Practice Elective III	5		
	PHRD 707 Advanced Pharmacy Practice & Education Capstone	1		
			Total Program Credits	**146**

*** Students must successfully pass the P-1 year in order to progress to Introductory Pharmacy Practice Experiences***

COURSE DESCRIPTIONS

PHRD 300 Foundations for Pharmacy Practice *(2 credits)*
The purpose of this course is to provide students with the foundational concepts and skills needed to practice pharmacy in the 21st Century as the role of the pharmacist expands and continues to change. In addition to one's knowledge of the scientific basis of practice, the ability to communicate and be an effective team member is critical to the pharmacist's role as an

educator, clinician and member of the health care team. As such, the processes of self and group assessment, team development and the use of effective communication strategies will be introduced in this course and reinforced throughout the curriculum. Application of these processes will occur through lecture, discussions, assignments, role-playing and case studies. *Lecture two hours per week.*

PHRD 301 Pharmaceutical Calculations *(2 credits)*

Accurately performing pharmaceutical calculations is a critical component in providing patient care in every pharmacy practice environment.   This course explores the various methods used to perform pharmaceutical calculations required for the usual dosage determinations and solution preparation. This course is an introduction to pharmaceutical prescriptions, the basic technique of calculating, weighing and measuring the ingredients involved in the formulations of various dosage forms. In addition, it provides knowledge in systems of weights and measures, Latin terms, reducing and enlarging formulas, ratio and proportions, various expressions of concentration, intravenous flow rates and dilution factors. Emphasis will also be placed on the skills involved in interpreting prescription and medication orders, and also identifying prescription errors and omissions. Students will attend lecture one hour per week.

PHRD 302 Pharmacy & the U.S. Healthcare System *(3 credits)*

This course provides students with a broad overview of the organization, delivery and financing of medical and pharmaceutical care in the U.S. The impact of state and federal policies on the practice and economics of pharmacy practice and the role of the pharmacist in health care legislation will be discussed. *Lecture three hours per week.*

PHRD 303 Pharmaceutics I *(4 credits)*

This is the first of a two-semester course sequence designed to teach students the basic principles and application of physio-chemical principles necessary for the design, development and preparation of pharmaceutical dosage forms. Students will develop the basic skills and techniques necessary for the compounding of pharmaceutical delivery systems, the appropriate evaluation, documentation and labeling of prescriptions and the mathematical calculations essential to compounding. *Lecture three hours per week, laboratory three hours per week. Co-requisite: PHRD 301 Pharmaceutical Calculations*

PHRD 304 Pharmacist Care Lab I *(2 credits)*

This is the first of a six-semester sequence designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. Early introductory pharmacy practice experiences will also be incorporated into Pharmacist Care Lab I. *Laboratory three hours per week.*

PHRD 305 Biochemistry *(4 credits)*
This course will provide students with a fundamental understanding of the structure, function and catabolism of biomolecules including carbohydrates, lipids, proteins and nucleic acids. Topics covered will include; bioenergetics and metabolism, genes and chromosomes, DNA and RNA metabolism, regulation of gene expression and recombinant DNA technology.
Lecture four hours per week.

PHRD 306 Pharmacist Care Lab II *(2 credits)*
This is the second of a six-semester sequence designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. Early introductory pharmacy practice experiences will also be incorporated into Pharmacist Care Lab II. *Laboratory three hours per week. Pre-requisite: PHRD 304 Pharmacist Care Lab I*

PHRD 307 Applied Biomedical Sciences Workshop *(3 credits)*
This course utilizes a small group, problem-based learning approach to teach students the interrelationship between and application of basic biomedical sciences principles to disease pathology, pharmacology, pharmacogenetics, and drug therapy. Students will be engaged in a workshop two hours per week and formative assessment one hour per week.

PHRD 308 Developing the Leader Within *(2 credits)*
As a health care professional, the pharmacist must be able to take a leadership role within his/her own practice, profession and community at large. This course will provide students with the opportunity for self-exploration, exploration of leadership models, and discussion of the relevance of political advocacy to pharmacy practice. This course will incorporate the communication, teamwork and self and group assessment skills that are introduced in Foundations for Pharmacy Practice. *Lecture and application two hours per week. Pre-requisite: PHRD 300 Foundations for Pharmacy Practice*

PHRD 309 Immunology *(3 credits)*
This course is an introduction to the organization, function and regulation of the immune system including the basic properties of humoral and cell-mediated immune responses, antigen and antibody structure and function, effector mechanisms, complement, major histocompatibility complexes, and cytotoxic responses. The role of these basic immunology principles in immuno deficiencies, auto-immune disorders, hypersensitivity reactions, immunity

issues associated with transplantation, cancer and antibody based drug therapy will also be covered. *Lecture three hours per week.*

PHRD 310 Care of Diverse Populations *(3 credits)*
This first public health course will introduce the socioeconomic, cultural, ethnic, geographic, and other variables which shape healthcare practice and perception. Students will become versed in common practices, myths, barriers, trends, resources, and care principles of diverse populations. An emphasis will be placed on the development of cultural competence such that students will be able to optimally work with diverse patient populations. Students will be required to participate in community based experiences that supports the course learning goals and objectives. *Lecture three hours per week.*

PHRD 311 Pharmaceutics II *(4 credits)*
This is the second of a two-semester course sequence designed to teach students the basic principles and application of physio-chemical principles necessary for the design, development and preparation of pharmaceutical dosage forms. Students will develop the basic skills and techniques necessary for the compounding of pharmaceutical delivery systems, the appropriate evaluation, documentation, and labeling of prescriptions and the mathematical calculations essential to compounding. This course will build on the concepts introduced in Pharmaceutics I. *Lecture three hours per week, laboratory three hours per week. Pre-requisite: PHRD 303 Pharmaceutics I*

PHRD 312 Pharmacy Practice Management *(3 credits)*
This course provides students with an understanding of financial and operations management as it relates to pharmacy practices in community, hospital and other practice settings. Topics such as inventory control, pricing, marketing, business plan development for new services, and management of innovative changes in pharmacy practice will be included. *Lecture three hours per week.*

PHRD 400 Biopharmaceutics & Clinical Pharmacokinetics *(3 credits)*
Biopharmaceutic and basic pharmacokinetic parameters such as absorption, distribution, metabolism and elimination, the relationship between drug concentration and clinical response, impact of patient characteristics and disease states on pharmacokinetic parameters and pharmacokinetic variations across the lifespan will be discussed. Students will learn how to calculate and interpret pharmacokinetic parameters, discuss and explain pharmacokinetic principles, assess factors that affect drug disposition, design and adjust drug dosage regimens, and predict and explain the mechanism(s) involved in drug interactions. *Lecture three hours per week. Pre-requisite: P-2 standing*

PHRD 401 Clinical Research Design *(3 credits)*
This course will introduce the research models and biostatistics that are commonly used in clinical research. Emphasis will be placed on literature evaluation and the application of design models to hypothesis testing in clinical practice. Ethical principles of clinical research and the role of institutional review boards will also be discussed. *Lecture three hours per week.*

PHRD 404 Pharmacist Care Lab III *(1 credit)*
This is the third of a six-semester sequence is designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays, and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. *Laboratory three hours per week. Pre-requisite: PHRD 306 Pharmacist Care Lab II*

PHRD 410 Introductory Pharmacy Practice Experiences I *(3 credits)*
This is the first of a four-course sequence designed to introduce students to a variety of practice settings with particular emphasis on health system practice. The experiences are intended to increase in time and complexity as students progress through the curriculum. This course sequence supplements the introductory experiences that are embedded into Pharmaceutical Care Lab I & II and Care of Diverse Populations. Students will gain experiences with a variety of issues pertinent to health system practice, and will be given an opportunity to reflect and discuss their health system experiences. Faculty will meet with students throughout the week to provide feedback and answer questions arising from their experiences. Communication skills along with the importance of an interdisciplinary approach to patient care will be emphasized throughout the sequence. In this first course, students will complete 125 hours, 80 hours of which will be full-time in a health system setting. Students will spend two weeks, full-time at the assigned practice site followed by 3 hours per week for 15 weeks. *Pre-requisite: P-2 standing.*

PHRD 413 Pharmacotherapeutics I – Principles of Medicinal Chemistry & Pharmacology *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. It is designed to provide students with the opportunity to learn, integrate and apply concepts from the four content areas in order to provide the necessary information for pharmaceutical management of a variety of disease states. In this first of twelve modules, basic principles of pharmacology and medicinal chemistry, as they relate to disease state management, are presented and serve as foundational material for subsequent modules. *Pre-requisite PHRD 305 Biochemistry, PHRD 309 Immunology, PHRD 307 Applied Biomedical Sciences Workshop*

PHRD 414 Pharmacotherapeutics II – Principles of Pharmacotherapeutics *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. It is designed to provide students with the opportunity to learn, integrate and apply concepts from the four content areas in order to provide the necessary information for pharmaceutical management of a variety of disease states. In this second of twelve modules basic principles of: absorption, distribution, metabolism and excretion (ADME), homeostasis, drug interactions, drug induced diseases and clinical lab values are presented and serve as foundational material for subsequent modules. Implications and application across the life span will be incorporated. *Pre-requisite PHRD 413 Pharmacotherapeutics I*

PHRD 416 Pharmacotherapeutics III – Self-Care & Dermatologic Disorders *(3 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this third of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of fever, eye disorders, cough, cold, allergy and dermatologic disorders. Implications and application across the life span will be incorporated. *Pre-requisites: PHRD 413, 414 Pharmacotherapeutics I and II*

PHRD 405 Women's Health *(2 credits)*
This course provides an overview of gender-based medicine and implications of gender-based research on the prevention, diagnosis and treatment of diseases and conditions in women. In addition, health related issues that are unique to women including psychosocial issues that occur during the course of their lifespan will be discussed. Information in this course will supplement information taught in the Pharmacotherapeutics course sequence. *Lecture two hours per week.*

PHRD 406 Pharmacist Care Lab IV *(1 credit)*
This is the fourth of a six-semester sequence is designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays, and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. *Laboratory three hours per week. Pre-requisite PHRD 404 Pharmacist Care Lab III*

PHRD 408 Pharmacy Law & Ethics *(3 credits)*
This course will focus on the study of state and federal statues, regulations and court decisions which govern the practice of pharmacy and drug distribution. Civil liability and elements of

business and contract law will also be addressed. Ethical issues in pharmacy practice facing health care providers, patients and society will also be discussed. Particular emphasis will be placed on examining the integration of pharmacy law and ethics when making patient care decisions. *Lecture three hours per week.*

PHRD 412 Introductory Pharmacy Practice Experiences II *(3 credits)*
This is the first of a four-course sequence designed to introduce students to a variety of practice settings with particular emphasis on community practice. The experiences are intended to increase in time and complexity as students progress through the curriculum. This course sequence supplements the introductory experiences that are embedded into Pharmaceutical Care Lab I & II and Care of Diverse Populations. Students will gain experiences with a variety of issues pertinent to community practice, and will be given an opportunity to reflect and discuss their health system experiences. Faculty will meet with students throughout the week to provide feedback and answer questions arising from their experiences.Communication skills along with the importance of an interdisciplinary approach to patient care will be emphasized throughout the sequence. In this first course, students will complete 125 hours, 80 hours of which will be full-time in a community setting. Students will spend two weeks, full-time at the assigned practice site followed by 3 hours per week for 15 weeks. *Pre-requisite: P-2 standing.*

PHRD 417 Pharmacotherapeutics IV – Infectious Diseases *(4 credits)*
Pharmacotherapeutics (PT) is a 2-year, team-taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry and therapeutics. In this fourth of twelve modules, students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of fungal, bacterial and viral diseases. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I and II*

PHRD 418 Pharmacotherapeutics V Gastronintestinal Disorders *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team-taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry and therapeutics. In this fifth of twelve modules, students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of gastrointestinal disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I and II*

PHRD 419 Pharmacotherapeutics VI – Hematologic, Rheumatologic Disorders & Surgery *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this sixth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of hematological, rheumatological disorders as well as the appropriate utilization of pharmacological substances in surgery. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I and II*

PHRD 504 Pharmacist Care Lab V *(1 credit)*
This is the fifth of a six-semester sequence is designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays, and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. *Laboratory three hours per week. Pre-requisite: PHRD 406 Pharmacist Care Lab IV*

PHRD 505 Human Resource Management *(3 credits)*
This course will focus on personnel management as it relates to pharmacy practice. Topics such as performance management, effective hiring and recruitment strategies, retaining, motivating, developing and rewarding of employees will be discussed. Information in this course will provide the necessary foundation for students to develop the supervisory skills needed for practice. *Lecture three hours per week. Pre-requisite 312 Pharmacy Practice Management*

PHRD 506 Pharmacist Care Lab VI *(1 credit)*
This is the sixth of a six-semester sequence is designed to integrate material from the curriculum and introduce selected practice related topics. The goal is for students to develop the ability to apply information as well as practice skills that are taught throughout the curriculum. Emphasis is placed on the use of active learning strategies, case studies, role-plays, and presentations in order to engage students in the learning process. Students are expected to synthesize information at increasing levels of complexity as they progress through the course sequence. *Laboratory three hours per week. Pre-requisite: PHRD504 Pharmacist Care Lab V*

PHRD 507 Public Health *(3 credits)*
This is the second public health course will build on the materials content from Care of Diverse Populations and early experiential activities. This course focuses on population based health care and the role of pharmacists in public health. The impact of health care disparities, generational differences and health promotion and prevention strategies on population based

care will be discussed. Project and community based experiences will be utilized throughout the curriculum so that students can apply or further explore concepts discussed in this course. *Lecture three hours per week. Pre-requisite: PHRD 310 Care of Diverse Population*

PHRD 508 Complementary Medicine & Nutrition *(3 credits)*
This course is designed to introduce students to complementary forms of medicine such as herbal therapy, homeopathy, chiropractic, acupuncture/acupressure, body massage, ayurvedic, and shamanic practices. Emphasis is placed on the student's ability to retrieve and evaluate these forms of complementary medicine with the intent of providing appropriate patient recommendations. This course will also provide students with an overview of nutritional concepts and use of parenteral and enteral nutrition. *Lecture three hours per week. Pre-requisite: PHRD 401 Clinical Research Design*

PHRD 509 Evidence Based Medicine *(2 credits)*
This course is designed to teach students how to identify, analyze and apply current evidence to clinical practice. Through case examples and drug information questions, students will find, analyze, and apply evidence to solve medication related problems. This course will build upon principles discussed in Clinical Research Design. Application and clinical use of biostatistics will be emphasized. *Lecture two hours per week. Pre-requisite: PHRD 401 Clinical Research Design*

PHRD 512 Longitudinal Care *(1 credit)*
This service-learning course is designed to provide students with opportunities to deliver pharmaceutical care to an ambulatory patient population on a continuing basis and to develop an understanding of patient-specific and social issues surrounding an individual or family's ability to be adherent with health-related instructions. Additionally, this course will provide students with a "caring" foundational experience as part of the professionalization process that inculcates the values and ethics of treating people as both humans and individuals. Students will be assigned to a patient in the community for the duration of the semester. Each student will make arrangements to visit his/her assigned patient on a regular basis for at least one hour and will be required to attend weekly or bi-weekly on-campus discussion groups. Students are required to write reflections of their patient experiences and document patient interactions through SOAP notes. This course will not only provide students with an opportunity to apply didactic knowledge to real life patients, but will also meet the needs of individuals within the community. *Pre-requisites: P-3 standing, PHRD 413, 414 Pharmacotherapeutics I & II*

PHRD 513 Pharmacotherapeutics VII – Pulmonary Disorders *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and

therapeutics. In this seventh of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of pulmonary disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I & II*

PHRD 514 Pharmacotherapeutics VIII – Cardiovascular Disorders *(4 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this eighth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of cardiovascular disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I & II*

PHRD 515 Pharmacotherapeutics IX – Renal Disorders *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this ninth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of renal disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I & II*

PHRD 516 Pharmacotherapeutics X – Endocrine Disorders *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this ninth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of endocrine disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I and II*

PHRD 517 Pharmacotherapeutics XI – Neoplastic Disorders *(2 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this eighth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of neoplastic diseases. Implications and application across the life

span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics and II*

PHRD 518 Pharmacotherapeutics XII – Central Nervous System Disorders *(4 credits)*
Pharmacotherapeutics (PT) is a 2-year, team taught, integrated course combining material from four major content areas: pathophysiology, pharmacology, medicinal chemistry, and therapeutics. In this eighth of twelve modules students will have the opportunity to learn, integrate and apply concepts from the four content areas in order to provide appropriate pharmaceutical management of central nervous system disorders. Implications and application across the life span will be incorporated. *Pre-requisites: P-2 standing; PHRD 413, 414 Pharmacotherapeutics I & II Pharmacotherapeutics I and II*

Advanced Pharmacy Practice Experiences (APPE)
Students must successfully complete all didactic coursework and IPPE prior to participation in APPE.

PHRD 700 Advanced Pharmacy Practice Ambulatory Care *(5 credits)*
This rotation is a structured, full-time, 5-week patient care experience in ambulatory care. It is designed to provide the student with the opportunity to develop and refine the skills necessary to deliver pharmaceutical care, with an emphasis on rational drug therapy and outcomes, to an ambulatory care patient population. Students will have the opportunity to apply their didactic knowledge to various therapeutic issues and disease states encountered in clinical practice. Emphasis will be placed on problem-solving, critical thinking, and basic clinical skills such as patient counseling, obtaining medication histories, drug information retrieval and evaluation, and drug therapy monitoring. Interaction and communication with other health care professionals for the promotion of optimal drug therapy are stressed to help the student develop a sound professional approach to the practice of pharmacy. In addition, students are encouraged to broaden their existing competencies and incorporate their professional and personal goals into this rotation.

PHRD 701 Advanced Pharmacy Practice Acute Care General Medicine *(5 credits)*
This rotation is a structured, full-time 5-week patient care experience in adult internal medicine in an institutional acute care setting. It is designed to provide the student with the opportunity to develop and refine the skills necessary to deliver pharmaceutical care, with an emphasis on rational drug therapy and patient outcomes, to an inpatient population. This will be accomplished by participation in the daily activities of work rounds with the internal medicine team and through consultation with other health care providers involved in the care of patients. Students will have the opportunity to apply their didactic knowledge to various therapeutic issues and disease states encountered in clinical practice. Interaction and communication with other health care professionals for the promotion of optimal drug therapy are stressed to help the student develop a sound professional approach to the practice of pharmacy. In addition,

students are encouraged to broaden their existing competencies and incorporate their professional and personal goals into this rotation.

PHRD 702 Advanced Health Systems Pharmacy Practice *(5 credits)*
This rotation is a structured, full-time, 5 –week pharmacy practice experience in health-system pharmacy. It is designed to provide the student with the opportunity to develop understanding and competence within all aspects of health-system pharmacy. The students will accomplish this through participation in a hospital pharmacy department which provides a variety of services that may include, but not limited to, medication reconciliation, therapeutic pathways, antibiotic surveillance, patient counseling, pharmacokinetic monitoring, parenteral nutrition consults, and interdisciplinary educational sessions. The student will also gain experience in managing the procurement, ordering, dispensing, monitoring, and administration of medication products. Students will also have the opportunity to learn administrative skills through activities such as management of technical staff and supportive personnel, compliance with relevant laws and standards, financial analysis, and health-system policy and procedures. In addition, students are encouraged to broaden their existing competencies and incorporate their professional and personal goals into this rotation.

PHRD 703 Advanced Community Pharmacy Practice *(5 credits)*
This rotation is a structured, full-time, 5-week patient care experience in community practice. It is designed to provide the student with the opportunity to develop and refine the skills necessary to deliver pharmaceutical care, with an emphasis on rational drug therapy and outcomes. Students will have the opportunity to apply their didactic knowledge to various therapeutic issues and disease states encountered in clinical practice. Emphasis will be placed on problem-solving, critical thinking, patient counseling, application of clinical skills, and providing medication therapy management services to patients whenever possible. Opportunities for further development in the use of OTC, alternative therapies, and home diagnostic tests and monitoring systems and durable medical equipment will be provided. Issues related to reimbursement by third parties will be discussed. Skill development in the dispensing process, extemporaneous compounding (depending on the site) is an additional facet of the rotation. In addition, students are encouraged to broaden their existing competencies and incorporate their professional and personal goals into this rotation.

PHRD 704, 705, 706 Advanced Pharmacy Practice Elective I, II, III *(5 credits each)*
Each elective advanced pharmacy practice experience (APPE) site will provide opportunities for students to develop the advanced pharmacy practice experience program outcomes in areas such as, but not limited to, community, health-system, clinical, industry, and administrative pharmacy practice. These experiences will further develop a student's knowledge and skills in the areas of their practice choice. Interaction with other health care professionals, professionalism, and strong communication skills is strongly emphasized. Students are

encouraged to broaden their existing competencies and incorporate their professional and personal goals into these rotations.

PHRD 707 Advanced Pharmacy Practice & Education Capstone *(1 credit)*
This one week capstone experience will be completed after successful completion of PHRD 700 through PHRD 706. This course will integrate campus based patient care discussions, project poster sessions and community based health promotion & prevention activities. These activities will be developed and led by students under the direct supervision of a faculty member.
Pre-requisites: 700-706

Section Four

Policies and Procedures

Policies and Procedures

Attendance Policy

Students will complete 125 hours in the assigned health-system/community pharmacy. Two-weeks (80 hours) will be a full-time experience followed by a longitudinal component of 3 hours per week at the practice site for an additional 15 weeks. The 125 required hours does not include time needed to complete activities, readings or attend additional activities as deemed appropriate by preceptors. Preceptors reserve the right to require students to participate in outside activities that will supplement their learning experience at the site. This time is in addition to the 125 hours and cannot be exchanged for the regular 3-hour weekly time period.

Attendance is mandatory for IPPE rotations. Students are required to report to their scheduled site on time. In case of an emergency, illness or tardiness, students must notify the preceptor and the OEE, via email (if possible) and telephone immediately. Students must arrange with the preceptor to make up missed time. The student must also complete and submit the 'Experiential Education Absence Request Form' to the preceptor and OEE for any absence. The form must have arrangements documented for how the missed time will be made up, the preceptor's signature and uploaded for the experiential assistant director's review.

In unusual circumstances in which the student must plan for an absence, prior approval must be obtained from the OEE and the preceptor. The student must complete and upload the 'Experiential Education Absence Request Form' to E-Value. The form must have arrangements documented for how the missed time will be made up, signed by the preceptor, and uploaded to e-value for the experiential assistant director. Failure of a student to notify their preceptor of any absence will be considered an unexcused absence and may result in failure of the rotation.

Attendance is mandatory for IPPE On-Campus Discussions. Students are required to attend all on campus discussions. In case of an emergency or illness, students must notify the faculty instructor and the OEE, via email prior to the start of the discussion. Students must submit all assignments for that day within 24 hours of the absence. **The Office of Experiential Education reserves the right to lower a student's mean professionalism evaluation score by 1.0 (E.g. 5 to 4) for each unexcused absence which may result in failure of the rotation.**

Professionalism Policy

Student pharmacists are also members of the pharmacy professional community. As such, it is important for a student to build and reinforce a professional identity that is built upon the principles of integrity, ethical behavior, honesty, fairness and mutual respect. As a result, students shall conduct themselves in a professional manner at all times and follow all established School and practice site policies. Adherence to these principles is vital to the development of a professional relationship between the pharmacist and his/her patients and society. Students agreed to live by these principles upon acceptance into the School of Pharmacy.

Professionalism is defined as the active demonstration of the attributes of a professional. These attributes include: knowledge and skills of the profession, commitment to self-improvement of skills and knowledge, service orientation, pride in the profession, covenantal relationship with patient, creativity and innovation, conscience and trustworthiness, accountability for one's work, ethically sound decision making and leadership. Professional socialization is the process by which an individual develops the attitudes, values and beliefs of a professional. The goal of professional socialization is to develop professionalism as described above and this process must begin at the beginning of an individual's professional education. Professionalism is demonstrated by a student who:

Communication & Interpersonal Interactions

- Uses appropriate verbal & non-verbal communication
- Communicates assertively – actively and appropriately engages in dialogue or discussion
- Is non-judgmental – student demonstrates an attitude of open-mindedness towards others and situations; does not "stereotype" others or prejudge situations
- Is respectful – demonstrates regard for self, standardized patients, peers, faculty, staff and university property
- Is empathetic – demonstrates appreciation of others' positions; attempts to identify with other with others' perspectives; demonstrates consideration towards others
- Is diplomatic – is fair and tactful in all dealings with patients, peers, faculty and staff.
- Is confident – acts & communicates in a self-assured manner, yet with modesty and humility
- Is cooperative – i.e. non-argumentative; willing and helpful
- Is truthful in all interactions, being straightforward

Work Ethic

- Is punctual
- Is reliable, dependable, accountable for one's actions
- Behaves in an ethical manner
- Produces quality work
- Accepts constructive criticism and modifies behavior if necessary
- Is self-directed in undertaking tasks, self-motivated
- Handles stress – remains calm, levelheaded, and composed in critical, stress or difficult situations
- Is an active learner – seeks knowledge; asks questions, searches for information, takes responsibility for own learning
- Follows through with responsibilities – if task is left incomplete or problem is not resolved, student seeks aid
- Demonstrates a desire to exceed expectations – goes "above and beyond the call of duty", attempts to exceed minimal standards and requirements for tasks/assignments/responsibilities
- Utilizes time efficiently – allocates and utilizes appropriate amounts of time to fulfill responsibilities; utilizes others' time wisely

All cell phones and pagers are to be on silent mode or turned off. Cell phones, pagers, and text messages are **NOT** to be answered at any time. Cell phone use is only acceptable when accessing drug information resources or when permitted by the preceptor for emergency purposes.

Professional Dress Policy

Students will dress professionally and pay attention to personal hygiene in the practice environment. Attire and personal grooming should not distract from nor compromise the professional integrity of the School of Pharmacy or the pharmacy profession. The following is considered appropriate attire:

a) **all** students are to wear a clean, white, long-sleeved lab jacket (provided in the P-1 year) with the School of Pharmacy logo and a name badge
b) men: slacks, collared shirt with tie, dress shoes and socks
c) women: slacks, skirts, dresses, dress shoes
d) hair (including facial hair) is to be neatly trimmed and styled
e) fingernails are to be neat, clean and well maintained – acrylic nails and nail polish is not permitted at any time during the experience as it in violation of USP 797 clean room standards
f) body piercings should have limited visibility and tattoos should be covered

g) perfume and scented creams are not allowed in the practice environment due to the potential to exacerbate patient allergies and lung conditions

Students are expected to adhere to any other site specific dress policies.

Mini-skirts, jeans, sneakers, low-cut dresses, tee shirts, torn clothing, baseball caps, etc. are **NOT** professional dress. Students should note the difference between professional attire and fashionable attire. In addition, students will be spending a great deal of time standing and walking, please wear appropriate shoes.

The following types of clothing are not allowed at any time:

- Hats, caps or other headgear are not to be worn indoors. Head covers that are required for religious purposes or to honor cultural tradition are permitted.
- Tank tops, tube tops, halter tops, spaghetti string or off the shoulder tops
- Clothes that are shear, low cut, revealing or tops that do not cover to the waist; slacks, skirts or pants that expose skin below the waist
- Short shorts, mini-skirts, pajama bottoms
- Flip flops, thong sandals, shower shoes
- Clothing with obscene or lewd text or pictures, depictions of alcohol, drugs or other smoking materials

Students who are considered to be in violation of the professional dress policy will be asked to leave the site and return in appropriate attire. The Office of Experiential Education will be notified as soon as possible of any students who are asked to leave the rotation. Students will be responsible for making up any time missed at the site.

Social Media Policy

Social Medias are powerful communications tools. They are defined as media intended to be disseminated through social interaction, created using highly accessible and scalable publishing techniques. Because of the emerging nature of social media platforms, these guidelines do not attempt to name every current and emerging platform. Rather, they apply to those cited and any other online platform available and/or emerging including social networking sites and sites with user-generated content (examples include- but are not limited to You Tube, Facebook, iTunes, LinkedIn, Twitter, Flickr, MySpace and Blogs).

The following guidelines must be followed by all students, faculty and staff of Notre Dame of Maryland University, School of Pharmacy.

- Protect Confidential and Proprietary Information: Do not post confidential or proprietary information about the University or School, students, employees or alumni.
- Respect of Copyright and Fair Use: Content that is threatening, obscene, a violation of intellectual property or privacy laws, or otherwise injurious or illegal, may not be used.
- Think before Posting: There are no "private" social media sites. Archived material can re-emerge years after its publication date, and comments can be forwarded or copied. Be mindful of any photos that are selected for posting on any social media site.
- Avoid University Logos for Endorsements: Do not use Notre Dame of Maryland University logos or any other University or School images or iconography on personal social media sites.
- Respect University and School Image: In keeping with the traditions of Notre Dame of Maryland University, School of Pharmacy, be professional, thoughtful and respectful.   As a student of the School of Pharmacy, postings can impact the image of the University as well as that of the student.
- Terms of Service: Adhere to the *Terms of Service* of any social media platform employed.

Disciplinary Policy

Notre Dame of Maryland University, School of Pharmacy student pharmacists are expected to display high standards of character both in their didactic and experiential coursework. Student pharmacists in the professional practice experience program will be expected to adhere to the Student Pledge of Professionalism, Pharmacist Code of Ethics and Oath of the Pharmacist. In addition, students must respect and adhere to specific rules and regulations governing individual practice sites.

Student deviations from the rules and regulations set forth by the Professional Practice Experiences Manual and/or those of specific site(s), will incur disciplinary action. This may include, but is not limited to:

- Dismissal from a practice site, temporarily or indefinitely
- Failure of a rotation
- Dismissal from the School of Pharmacy

The preceptor(s) or director of pharmacy will immediately notify the OEE of incidences of misconduct. The OEE will work with the preceptor or director of pharmacy in determining the course of action needed to address the incident. In such cases, the OEE will also file an Incident Report with the Office of the Dean. Please refer to the

School of Pharmacy Handbook for more information regarding the disciplinary process and failed
rotations: http://www.ndm.edu/files/resources/sopstudenthandbook20152016.pdf.

Academic Honesty Policy

Students who violate the Intellectual Responsibility and Plagiarism Policy as stated in the 2016-2017 Notre Dame of Maryland University, School of Pharmacy Handbook will be subject to disciplinary action, which may include failure of the course.

Grading & Evaluation

IPPE I and II are graded on a pass/fail scale. Successful completion of all rotation assignments and activities, achievement of the course objectives and a passing grade for professionalism will warrant a passing grade for each IPPE. Failure to pass the professionalism evaluation, despite a passing grade for the competency evaluation will result in failure of the IPPE. In order for students to receive feedback regarding areas of strength and areas for improvement, preceptors will provide students with a mid-rotation evaluation. Students are expected to utilize this feedback to improve in areas noted for improvement. A final evaluation will also be provided to students at the conclusion of each IPPE. **The Office of Experiential Education reserves the right to lower a student's mean professionalism evaluation score if the student does not complete and/or upload all activities** *and* **Final Reflection by the last day of the rotation** *(e.g. December 1 is last day of the student's IPPE; all work including evaluations MUST be done by 8:00am December 1)*. **Each late day will result in a lowering of the mean professionalism score by 1.0. After three days, a grade of zero will be assigned and result in failure of the Introductory Pharmacy Practice Experience.**

Rotation Evaluations
As part of the quality assurance of the experiential program, rotation evaluations must be completed by the students in e-value. **If the student does not complete the Experiential Education Site and Preceptor Evaluation** *and* **Final Reflection by the last day of the rotation** *(e.g. December 1 is last day of IPPE; all work including evaluations MUST be done by 8:00am on December 1)*, **each late day will result in a lowering of the mean professionalism score by 1.0. After three days, a grade of zero will be assigned and will result in failure of the Introductory Pharmacy Practice Experience.**

Evaluations must be done professionally. Evaluations deemed to be unprofessional by the OEE will result in the lowering of the student's professionalism grade which may result in failure of the rotation. Please plan ahead and ensure rotation evaluations are completed on time. Students experiencing technical difficulties should contact the OEE immediately, so issues may be resolved in a timely fashion.

Preceptors will receive student evaluations of the preceptor, site, and overall rotation after precepting at least two students. This data will be accessible in aggregate form and may be viewed at any time.

Safety Policy

Several professional practice experiences will be offered in Baltimore City and its surrounding suburbs. These are urban environments, which require students to be aware of and take responsibility for their safety. Being alert, proactive, and using common sense are ways in which to maintain safety. As with any city environment, using good judgment is always recommended. Listed below are a few safety suggestions to keep in mind during professional practice experiences:

- Locate the security station at each rotation site and keep the phone number on you at all times
- Walk with others (when possible) while entering or leaving a rotation site
- When parked at or near rotation sites, keep all valuables located in your car out of sight
- Avoid isolated and dark areas
- Carry your cell phone and keep it accessible
- When available, use the institution's shuttle service to area parking lots, public transportation, etc.
- Immediately report any violations of safety to the site's security office and to the OEE

Accommodations for Students with Disabilities

Students, who have identified themselves as disabled and have documented their disability, will be provided reasonable accommodations in the course in accordance with section 504 of the Rehabilitation Act and the Americans with Disabilities Act of 1990. If accommodations are required, students with disabilities should identify themselves to the University Disability Support Services Office [410-532-5434], provide the DSS office with an assessment by an appropriate provider (e.g. medical doctor or licensed psychologist), and present a completed accommodations form from the DSS office to

the Assistant Dean of Student Affairs as soon as possible. Course instructors will be notified thereafter.   Accommodations will not be provided until documentation is received by the SOP Dean's office.

Sexual Misconduct and Discrimination

"No person in the United States, shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance…" — Title IX of the Education Amendments of 1972, and its implementing regulation at 34 C.F.R. Part 106 (Title IX)

Notre Dame of Maryland University seeks to foster and maintain an atmosphere of mutual respect and concern for all members of the University community. As such, the University does not discriminate against students, faculty or staff based on sex in offering equal access to its educational programs and activities or with respect to employment terms and conditions. Sexual- and gender-based harassment and misconduct, including sexual violence, are a kind of sex discrimination and are prohibited by Title IX and the University.

NDMU is committed to maintaining an environment that is free from discrimination based on sex, and maintains that commitment by responding promptly and effectively when it learns of any form of possible discrimination based on sex. The University responds to reports of sexual harassment, including sexual violence, as part of its efforts to stop the misconduct, prevent its recurrence, and remedy its effects. In compliance with Title IX, the University has Sexual Misconduct and Sexual Harassment policies. (http://www.ndm.edu/files/resources/ndmu-sexual-misconduct-policy-final-10012016-2.pdf)

Please contact Dr. Nicole Culhane (410-532-5527; nculhane@ndm.edu) immediately if you have any concerns about the policy or if you suspect or are aware of any potential violation(s).

Inclement Weather Policy

The student should follow the inclement weather policy of the individual practice site. In the event of inclement weather, students must contact their individual preceptor for instructions regarding attendance. Driving conditions may be hazardous

and weather conditions will differ in and outside the state, so students must contact the preceptor to determine if they should travel to the site. If the preceptor excuses the student due to weather conditions or if the student believes driving conditions would pose a safety risk, the student must discuss with the preceptor how the time missed will be made up. In addition, students must notify the OEE of the absence within 24 hours.

Requirements for Experiential Training

Students must fulfill the following requirements to meet eligibility requirements for participation in IPPE I and II. Individual sites may have additional requirements that students must complete. Students are responsible to look in e-value under Site Requirements to determine if there are any additional requirements they must complete prior to the first day of rotations. Students are required to contact their preceptor or designated contact person at least **2 weeks** prior to the start of the rotation. Preceptors may provide additional logistical information needed by the students. **It is the student's responsibility to fulfill these requirements. Failure to do so may result in removal from the practice site and thus failure of the rotation.**

Criminal Background Check and Drug Screening

It is common practice for agencies and/or clinical sites to have policies requiring screening and/or criminal background checks for their employees, volunteers, and students who are assigned to the facility. Notre Dame of Maryland University, School of Pharmacy will comply with these requirements in placing students at such facilities or agencies. As a condition for enrollment and continued matriculation in academic programs involving external placements, clinical rotations, internships, or service learning experiences, students are required to participate in a criminal background prior to matriculation. Criminal background checks will be required annually and additional drug screening tests may be required during the professional curriculum. This will be at the discretion of the School of Pharmacy or the agency sponsoring the external placement.

Notre Dame of Maryland University, School of Pharmacy will assist students in understanding and complying with the requirements; however, the responsibility for providing such information and the associated costs rests with the student- not the School of Pharmacy. Failure to submit to such testing or to provide such information as required as a condition for admission and clinical placement by the designated due dates may result in inability to complete program requirements and/or delay in completion of the program. Similarly, results from the drug screening tests or criminal background check may result in denial of clinical placement and/or disciplinary action

on the part of the School of Pharmacy, including, but not limited to disqualification from further studies at the School.

Cardiopulmonary Resuscitation (CPR) Certification and First Aid

Students are required to obtain and maintain CPR certification and First Aid for the healthcare provider from the American Heart Association. The students must upload proof of a current CPR certification to e-value in order to participate in IPPE I and II. If the CPR certification expires before you complete your academic program, you must recertify and a copy of the certification card must be uploaded to e-value. Students will be responsible for the cost of the certification program and all renewals. Students will be required to maintain the CPR certification card and have it in their possession while on experiential learning experiences.

Health Information

As a condition of enrollment, all Doctor of Pharmacy students must maintain and upload to e-value proof of health insurance coverage that includes effective date and renewal date at the beginning of each academic year. If the student is no longer covered under their parents' plan, they may purchase a University-sponsored health insurance plan. Personal health insurance covers illness and injury in the classroom and lab situations as well as any off campus injuries/illnesses.

HIPAA and OSHA Training

Students are required to complete HIPAA and OSHA training and upload certifications to e-value before reporting to the rotation site. Training will be arranged through the OEE through the Pharmacist's Letter Preceptor Training and Resource Network (PTRN). Proof of HIPAA and OSHA training and examination records will be maintained in the OEE.

Immunizations

Students are required to have proof of immunization prior to the start of the Introductory Pharmacy Practice Experiences. Proof of immunization or certificate of waiver must be uploaded into e-value under *Immuns and Certs.* Required immunizations include tetanus DPT, polio, MMR, Tb test, meningococcal, completion of the hepatitis B vaccine series, Varicella (chicken pox) and influenza. In order to prevent the spread of influenza, <u>documentation of this immunization or proof of contraindication must be submitted seasonally by **October 31st.**</u> Vaccinations are at the student's

expense. Students who fail to submit documentation of the required immunizations will not be permitted to participate in the Introductory Pharmacy Practice Experiences.

Individual experiential sites may require additional exams and/or immunizations. Please refer to e-value for site specific immunization requirements at least **one month** prior to the start of your first rotation. These immunizations are at the student's expense.

Students failing to submit appropriate documentation will not be permitted to report to the practice site and thus may result in failure of the rotation.

Student Professional Liability Insurance

Students are required to carry student professional liability insurance through the group School policy. This insurance premium is included in student fees and is renewed on an annual basis. This policy covers students during all approved IPPE and APPE experiences while in the program. The policy also requires appropriate student supervision while in the experiential setting.

Transportation and Housing

It is the student's responsibility to assure that he/she has appropriate arrangements for transportation to and from rotation sites throughout the curriculum. Rotations begin in the first semester of the professional program. Transportation is not provided by the School. Students are not considered an agent or an employee of the University and are not insured for any accidents or mishaps that may occur during any traveling that is done as part of the student's professional program. The School does not guarantee that all required rotations will take place in the Maryland metropolitan area and students may be required to complete rotations in other cities in Maryland or states. Transportation, **parking**, and housing costs are the student's responsibility.

Section Five

Activities

Worksheet # 1

Orientation and Pharmacy Management Overview

Learning Objectives
1.   Identify the roles and responsibilities of pharmacists, interns, and technicians.
2.   List specific responsibilities that can legally only be performed by a pharmacist.
3.   Describe responsibilities that are shared by the entire pharmacy personnel.
4.   Discuss the administrative structure of the pharmacy.
5.   Identify key roles and duties for each member of the pharmacy team.
6.   Explain the components of a job description for each member of the pharmacy team.
7.   Describe the impact that pharmacy technicians have on the operation of the pharmacy.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Prior to first site visit:

1.   Access your facility's website to find the following information:

     i.   What is the institution's mission and vision?

     ii.   How many licensed beds are there at your institution?

     iii.   What services does the hospital provide?

     iv.   List the leadership positions of the hospital (e.g. CEO, CFO)?

During Site Visit
Discuss the following questions with your preceptor:

1.   During a tour of the facility, discuss with your preceptor and review the institutional policies and procedures, answer the following questions about your assigned institution:

About the Institution:

      i.   List and define the level of hospital care your hospital provides?

      ii.   List and define the level of trauma care your hospital provides?

      iii.   Is your hospital a teaching hospital or community hospital? What are the differences between the two types?

About the Pharmacy:

      i.   What is the organizational structure within the pharmacy?

      ii.   Describe how the pharmacy relates to the parent organization (for example, how does the pharmacy fit into the organizational structure of the hospital? Who do the different members of the pharmacy personnel report to in the hospital? – major roles of those members in the hospital).

8.   Using your Institutions Standard Operating Procedures (or job descriptions), observations, and talking with members of the pharmacy staff answer the following questions about your site:

      i.   How many pharmacists work at your assigned institution? Are there different levels of responsibility? If there is a career ladder, please describe each of these positions?

      ii.   How many pharmacy technicians work at your assigned institution? What are their primary roles and responsibilities?

      iii.   How many pharmacy interns work at your assigned institution? What are their primary roles and responsibilities?

iv.   Do the roles of the above team members overlap? If yes, how?

Shadowing a pharmacy technician:

9.   Shadow and assist pharmacy technicians in performing some of the functions listed below.

- Filling medication orders
- IV preparations
- Inventory control
- Medication quality inspection (checking for outdates, appropriate storage, etc)
- Preparing medications for distribution to the floors
- Stocking nursing units or automated dispensing machines with 'floor stock'
- Emergency 'crash' cart duties

i.   Describe the role that pharmacy technicians play in the prevention of medication errors.

ii.   Describe how pharmacy technicians can positively impact the pharmacist's ability to perform their professional functions.

Worksheet # 2

Prescription Processing

Learning Objectives

1. List the components of a medication order.
2. List and describe each of the steps involved in processing a prescription (from prescriber order to patient administration).
3. Explain the role of pharmacy automation in the medication-use process.
4. Describe any drug control policies (e.g. automatic stop orders, therapeutic substitution, home medications) that are used at your site.
5. Discuss the processing and dispensing of controlled substances.
6. Create a list of commonly used sig codes and their definitions.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Medication Orders

1. List the components of a medication order.

2. Describe the journey of a medication order from prescriber to patient for each of the following types of medications. List the steps for processing the order including patient information review, calculations, and consequences if a step is missed.

     i. Standard oral medication

     ii. IV medication

     iii. Floor stock medication (i.e. obtained from floor stock or automated dispensing cabinet)

2.   Document three (3) medication orders that had drug related problems that required the pharmacist to resolve.   Describe how this error in the medication order changed the prescription process and also any decisions the pharmacist had to make while filling the medication order.

3.   Describe the record keeping procedure for medication orders at your facility.

4.   Describe how the record keeping procedure for medication orders differs for controlled substances at your facility.

Abbreviations

List **10** commonly used sig codes that appear on medication orders at your facility. List the appropriate translation for each of these sig codes.

Sig Code	Translation

Worksheet # 3

Medication List

Learning Objectives

1. List generic and brand names for commonly used medications.
2. List the therapeutic categories of commonly used medications.
3. List and discuss the most common and most serious adverse effects associated with commonly used medications.
4. List and discuss monitoring parameters for efficacy and toxicity for commonly used medications.

Preceptor: Discuss this activity with the student (focus on adverse effects and monitoring parameters) and please sign-off in E-value that it has been accurately completed.

Identify the Top 15 drugs prescribed in the hospital.   Complete the chart below with the correct information about the drugs.

Brand Name	Generic Name	Therapeutic Category	Common adverse Effects (include frequency)	Serious adverse effects (include frequency)	Monitoring Parameters (Efficacy/toxicity)

Worksheet # 4

Drug Information

Learning Objectives
1. List all of the reference materials that are available in your pharmacy, classify the type of reference, explain the primary function of the reference, and identify if the reference is available electronically and/or hard copy.
2. Use Watanabe's systematic approach to drug information in responding to drug information questions.
3. Utilize the most appropriate references in responding to drug information requests.
4. Utilize appropriate communication skills to respond to the drug information question verbally and in writing.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been completed.

Drug Information References

Create a table of drug information references available at your facility. Add additional space if necessary.

Reference Name	Primary use	Identify if it is Primary, Secondary, Tertiary	Available electronically or hard copy (include edition)

Drug Information Questions

During your experience you will need to respond to at least **2** drug information questions. These questions can be questions from the pharmacist, prescriber, or patient. Use the references available at your pharmacy first; and if you cannot find the information, use the information references available to you through the school library. Indicate whether the reference was available in the pharmacy or the library in your write-up.

In addition, use the <u>Drug Information Request and Response Form</u> to complete each of your drug information questions. Your preceptor must review your drug information response prior to reporting your answer to the requestor.

Drug Information Request and Response Form

Date of DI request:

Responder (name, title):

Demographics of requestor (3 points):

Name: Age: Sex:	Consumer: Health Professional: Pharmacist ☐Physician ☐Nurse ☐Other _____	Contact Information: Phone#: e-mail:
Initial question from the requestor (2 pts):		
Background information / questions (10 pts, information to ask or would like answered before searching):		
Ultimate question to answer (5 pts, if background questions cannot be asked or answered, use the initial question here)		

Question classification(s) (5 pts, circle the most appropriate)

Adverse drug reaction	Drug interaction	Compatibility	Dosage or regimen
Drugs in lactation	Formulation	Indication	Identification
Pediatrics	Pharmacology	Pharmaceutics	Pharmacokinetics
Stability	Teratogenicity	Therapeutics	Toxicology
Nonprescription drugs	Complementary and alternative medicine	Cost	Geriatrics
Other (must exclude any of the above categories):			

Search strategy (20 pts: List in the order of your search and type(s) of literature based on the classification above; mark its usefulness (+ = useful, - = not useful)):

Analysis & evaluation of the information (35 pts: Cite, analyze, and critically evaluate pertinent literature/reference found in the previous section):

Response: (20 points: Write an accurate response and draw appropriate conclusions from the literature evaluation, based on the patient, the requestor, or both).

Worksheet # 5

Pharmacy Operations

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Inventory Management

1. Describe the procedure for ordering medications at your assigned facility

      i.   How is this process different for controlled substances

2. Describe the procedure for returning medications including controlled substances.

3. How are expired medications handled at your facility?

4. What is the procedure for handling back orders or medication shortages?

5. How are recalls on medications handled at your facility?

Medication Storage

1. On the hospital formulary list **1** medication that is stored at each of the following temperatures. State the reason(s) why a particular medication must be stored at a particular temperature.

Temperature	Medication	Reason
Room Temperature:		
Refrigerator Temperature:		
Freezer Temperature:		

2. How is temperature regulated and monitored at your assigned facility? Who is responsible for taking care of alarms/alerts that go off during the day or night? (i.e. are there different alarms/alerts that are used to notify you when a temperature is out of range)

3. How long can the temperature be out of range before you have to discard certain drugs? Give examples.

4. Identify **1** example from the hospital formulary of light sensitive medications (medications stored in light sensitive containers) and then explain why it cannot be exposed to light from a pharmaceutics perspective.

Floor Stock

1. How are floor stock medications stocked, inventoried, and inspected at your facility?

2. What medications and supplies are stocked in a crash cart?

3. Who has access to crash carts and floor stock medications and how is access tracked/monitored?

4. Explain the rationale for how floor stock medications were selected (e.g. who decides, what medications should not be in floor stock. etc).

Emergency Response

1. What is the hospital's external disaster (tornado, flood) contingency plan? Be sure to include the pharmacy's plan as well.

2. How is the hospital prepared for a terrorist attack? (Be sure to discuss first responders/Abx prep, etc)

3. What are the different code systems in the hospital (code red, code blue, and how are people notified – overhead, pagers, etc)?

Worksheet # 6

Medication Safety

Learning Objectives
1. Document adverse drug reactions (ADR).
2. Participate in the process for reporting and managing medication errors.
3. List unapproved abbreviations according to regulatory agencies and explain why these abbreviations are not approved for use.
4. Discuss the role of regulatory agencies and how they impact institutional pharmacy practice.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Pre-Site Visit

1. Define ISMP. List 5 medication safety recommendations from ISMP.

2. Review the unapproved or *Do Not Use* abbreviations according to the Joint Commission for Accreditation of Health Care Organizations (JCAHO) at the following website: (http://www.jointcommission.org/topics/patient_safety.aspx). List 5 unapproved or *Do Not Use* abbreviations and why they should not be used.

3. What is the primary role and responsibility of the following agencies in terms of regulating the hospital and pharmacy?

   a. JCAHO

   b. Maryland Board of Pharmacy

   c. Maryland State Department of Health

During Site Visit

Medication Errors

1.   How is the hospital handling medication safety recommendations from ISMP?

2.   Identify 3 look alike/ sound alike medication pairs. What measures has the hospital taken to help prevent errors between these medications?

4.   Give an example of a time when workflow changed in the pharmacy due to a medication error that occurred.

5.   How are medication errors reported and to whom? Is there a medication safety committee, separate from the ADR committee, which reviews the errors? Are pharmacists on that committee?

Part 2: Adverse Drug Reactions

1.   Define ADR according to the ADR reporting program at your facility. Approximately how many ADRs are reported annually at your facility?

2.   How are ADRs reported at your site? What are some advantages and disadvantages of the reporting system?

3.   Give an example of an ADR that occurred at your site.

Worksheet # 7

Aseptic Compounding and IVs

Learning Objectives
1. List requirements for facility design, aseptic technique, cleaning, and monitoring in compliance with USP 797.
2. Describe and give examples of the types of sterile products used in your facility and the relative risk levels associated with each.
3. Discuss the storage requirements for sterile products.
4. Describe the training required at your facility for individuals preparing sterile products.
5. Describe the policy and procedures for the final check of a sterile compound.
6. Demonstrate how sterile products are prepared.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

1. Locate the sterile preparation policies and procedures in your assigned institution. How do these policies and procedures correlate with the USP 797/800 standards?

2. What type of laminar flow workbench(s) does your institution have on site?

3. Make a list of the 5 most commonly prepared sterile preparations at your facility.
    a. Label each with their appropriate risk level (must include examples of multiple types of risk levels).
    b. Indicate why the sterile preparations are placed in the respective risk level.

Sterile Preparation	Risk Level	Reasoning

4. Using the policies for your institution, describe a situation that would allow a nurse or other healthcare provider to mix a compounded sterile product (CSP) for immediate use.

5. Review your institution's beyond use date list. Are all of these dates in compliance with the USP 797/800 sterility limits?

6. Review your institution's policy for temperature ranges. What action would be taken if a temperature was found to be out of range?

7. Describe the policy and procedures for the final check of a sterile compound.

8. Observe the procedure for making and checking sterile compounds. Prepare at least three (3) sterile compounds. A pharmacist or IV certified technician must sign-off on each preparation.

Sterile Preparation	Signature of pharmacist or IV certified technician

9. Describe any types of unique compounding (e.g. chemotherapy, pediatrics, batch compounding) that are performed at your institution. How do the preparation procedures differ in these unique situations?

Worksheet # 8

Medication Administration

Learning Objectives

1. Explain dosing schedules and how they impact medication administration.
2. Compare and contrast paper and electronic pharmacy record keeping systems.
3. Explain the purpose and function of a Medication Administration Record (MAR).
4. Compare and contrast paper and electronic pharmacy record keeping systems.
5. List the information that is contained in the MAR.
6. Identify different routes of medication administration.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

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1. Dosing Schedules

   i. What are the standard medication administration times at your assigned site? In your opinion, what is the rationale for these standard administration times? (Find site policy on standard dosing times).

   ii. Can a nurse give medications at times other than the scheduled dosing time, if so explain the procedure.

   iii. How does the facility handle PRN medication orders?

2. Review a medication administration record (MAR)

   i. Is the MAR hand-written or electronic? Describe the pros and cons of each.

   ii. Describe how it is organized (include a de-identified copy if permitted).

   iii. What are the requirements for documentation in a MAR?

3. <u>Routes of Administration</u>

    i.   Shadow and observe a nurse administrating medications. List 5 different routes of administration used, provide an example of a medication administered via this route, provide the pros and cons for each route, and provide rationale on the preferred route for the example medication.

Route of Administration	Example Medication	Pros	Cons	Rationale

    ii.   What steps are taken by the nurse to ensure the correct medication is being administered?

    iii.   What is the procedure for holding a dose at your assigned site?

    iv.   How are PRN medications administered and documented?

    v.   Do nurses at your site have access to medications not in a patient's medication cart? If so what kind of medications are available to them and how do they access these medications?

    vi.   What are the high risk medications at your institution and what are the policies around administration of these medications?

Worksheet # 9

Automation and Informatics

Learning Objectives
1. Identify the types of automation used at your facility.
2. Discuss the advantages and potential disadvantages in using technology in your facility.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Instructions: Review the list below. Put a check in the box next to the type of automation that your hospital site utilizes. Discuss with your preceptor these various types of automation used by the pharmacy (type, unit, where, when, and how).

Automation
- ☐ Automated dispensing cabinets
- ☐ Robotics

Barcoding
- ☐ Bar-coding during distribution process
- ☐ Bar-coding during medication administration process

Infusion Pumps
- ☐ Smart Infusion Pumps
- ☐ Patient Controlled Analgesia

Informatics
- ☐ Computer physician order entry (CPOE)
- ☐ Clinical Decision Support

1. Discuss how decisions to increase automation in the hospital were made. Who was involved in the decision making process, how long did the planning process take, and what were some of the ultimate reasons why automated systems were purchased?

2. Specifically discuss how automation affected space, dispensing, efficiency, and patient safety. Please include if there were obvious differences between before and after automation was instituted (positive or negative).

   Space
   How much space does an automated dispensing system use? Has this posed a problem in the pharmacy?

   Dispensing
   Where are pharmacists and technicians involved in the operation of the automation? Has automation reduced the number of medication errors?

   Efficiency
   Has automation improved efficiency in the pharmacy? Give an example of when automation can decrease efficiency.

   Patient safety
   Has automation improved patient safety? Please explain below.

3. Discuss whether the automated systems have the capacity to communicate with one another. In addition, discuss who is responsible for updating the technology and contingency plans for when a system breaks down or malfunctions.

4. Based on your findings/discussions above, identify 3 potential or real problems (barriers) with the use of automation.

Worksheet # 10

Formulary Management

Learning Objectives

1. Discuss the role of the Pharmacy and Therapeutics Committee in determining formulary decisions and medication use policies.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Instructions: Review the hospital formulary. For each of the classes of medication listed below find an example that is *included* on the hospital formulary and list an example of another medication from the same class that is *not* on the hospital formulary. List the reasons why one medication would be chosen over another for formulary inclusion. Discuss your ideas with a pharmacist. Do not always cite "cost" as the only reason.

Part 1: Formulary

Drug Class	Medication on Formulary	Example from same class NOT on Formulary	Reason(s)
Proton Pump Inhibitor (PPI)			
H$_2$ Antagonists			
HMGCoA Reductase Inhibitor ('statin')			
Insulin			
Low-molecular Weight Heparin			
ACE-Inhibitor			
Cephalosporin Antibiotic			

Part 2: Pharmacy and Therapeutics Committee

1. What is the main function of the P&T Committee?

2. Who serves on the P&T Committee?

3. What is the hospital's process for prescribing and obtaining non-formulary medications?

4. Define therapeutic interchange. Can the pharmacist make therapeutic interchanges without obtaining prior approval from the prescriber?

Worksheet # 11

Professionalism and Communication

Learning Objectives
1.   Discuss what professionalism means to you and your preceptor and how your preceptor instills professionalism in his/her students.
2.   Develop a plan for life-long learning.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been completed.

Professionalism

Prior to first site visit:

1.   Prior to going to your site, write a brief description on "What does professionalism mean to you?"

During Site Visit:

1.   Ask your preceptor "What does professionalism mean to you?"

2.   How does your preceptor instill professionalism in student pharmacists? What were your observations?

3.   Interview a member of the health care team that you have had the opportunity to either observe or work directly with that you feel "does his/her job well'. How did this individual get involved in their current position, how do they stay current, what is it about their position that they enjoy so much and why?

4.   Develop a brief plan for lifelong learning (e.g. how will you work to stay current after you graduate and continue to give back to the profession).

Communication

Part 1: During the course of your rotation observe and document interactions between the individuals noted below. Pay particular attention to verbal and nonverbal communication. Discuss your observations and your thoughts regarding how these interactions either support or hinder the development of teamwork.

- Pharmacist – technician
- Pharmacist –pharmacy manager/director of pharmacy

1.   Were there any barriers to the communication?

2.   How could the communication interaction have been improved?

Part 2: Discuss with your preceptor and provide written responses to the following questions:

1.   What challenges has the pharmacist encountered when he/she manages/supervises members of the pharmacy team who are from multiple generations? (Please include older and younger)

2.   Discuss with your preceptor a particularly challenging interaction between him or herself and another member of the health care team. What made it difficult? What strategies did your preceptor use to handle the difficult or challenging communication interaction?

Worksheet # 12

Institutional Pharmacy Calculations

Learning Objectives
1.   Perform calculations required to compound, dispense and administer medications.
2.   Perform calculations required to determine the appropriate dose for a patient based on weight, renal/liver function and other pharmacokinetic parameters of the drug and patient.
3.   Assess accuracy of the calculations based on patient and drug specific parameters.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

1.   During your experience you will need to find at least **2** examples of each of the following calculations that the pharmacist had to perform. Be sure to include all the necessary information pertaining to the calculation (may include a copy of a de-identified medication order if permitted) and solve the calculations in the space provided. Please show all of your work. Have your preceptor check each of the calculations for accuracy once you have completed your work.

      i.   Weight-based dosing:

      ii.   Ratio and proportion:

      iii.   Milliequivalents

      iv.   Percent strength

v.   Rate flow

vi.   Ideal body weight and/or adjusted body weight

vii.   Creatinine clearance for a man and woman

viii.   Unit conversions

2.   What steps does the pharmacist take to ensure the accuracy of the calculations (e.g. Does another pharmacist check their work)?

Worksheet # 13

Medication Reconciliation

Learning Objectives
1. Collect complete patient medication history to identify problems.
2. Identify generic names and dosage forms.
3. Identify actual and potential drug related problems.
4. Conduct patient interview in a professional manner.

Preceptor: Discuss this activity with the student and please sign-off in E-value that it has been accurately completed.

Instructions: As many as 50% of all medication errors and up to 20% of adverse drug events in the hospital can be attributed to patients transitioning among various units within the hospital.
How is medication reconciliation conducted at your facility?

Participate in the medication reconciliation process with appropriate hospital personnel
Part 1 (Verification): Use this form in combination with the Patient Interviewing Form to compare or reconcile the medications a patient is taking at home to the physician's admission, transfer or discharge medication orders, whichever is available to you at the time.

Part 2 (Clarification): When a home medication has **NOT** been reconciled, engage in a discussion with your preceptor or whomever you are conducting the medication reconciliation with, and develop a plan for correcting up to **2** medication discrepancies per patient.

Part 3 (Reconciliation): Document the discrepancy and how it was corrected.

Patient #1:

Medication Name	Strength	Directions	Indication (if known)	Physician order matches home meds* √

*When the physician's orders **DO NOT** match the home medications, please write what the physician ordered in place of the home medication in the space provided.

Over the counter medications:

Herbal, vitamin supplements:

Documentation: For each discrepancy identified answer the questions below.

- Type of or reason for discrepancy:

- How was the discrepancy corrected:

Patient #2:

Medication Name	Strength	Directions	Indication (if known)	Physician order matches home meds* √

*When the physician's orders **DO NOT** match the home medications, please write what the physician ordered in place of the home medication in the space provided.

Over the counter medications:

Herbal, vitamin supplements:

Documentation: For each discrepancy identified answer the questions below.

- Type of or reason for discrepancy:

- How was the discrepancy corrected:

Patient #3:

Medication Name	Strength	Directions	Indication (if known)	Physician order matches home meds* √

*When the physician's orders **DO NOT** match the home medications, please write what the physician ordered in place of the home medication in the space provided.

Over the counter medications:

Herbal, vitamin supplements:

Documentation: For each discrepancy identified answer the questions below.

- Type of or reason for discrepancy:

- How was the discrepancy corrected:

Worksheet # 14

Discharge Counseling

Learning Objectives
1.   Educate a patient on a new prescription prior to discharge from the hospital.

Preceptor:. After discussing this activity with the student, please sign-off in E-value that it has been accurately completed.

Identify at least **3** new prescriptions to counsel a patient on prior to discharge from the hospital. Accurately prepare patient counseling information and appropriately counsel the patient on the new prescription utilizing the criteria below. Be sure to use the patient interview criteria at the end of this form when communicating with a patient.

Patient #1:

a) Identify the name, and state purpose of the medication.

b) State proper administration of medication regarding dosage, route, frequency, duration, technique, and what to do if missed doses.

c) Explain expected response to therapy (e.g. you should experience an improvement in symptoms within one day).

d) State potential adverse effects and pertinent drug interactions. Explain strategies for prevention, identification, and/or management.

Patient #2:

a) Identify the name, and state purpose of the medication.

b) State proper administration of medication regarding dosage, route, frequency, duration, technique, and what to do if missed doses.

c) Explain expected response to therapy (e.g. you should experience an improvement in symptoms within one day).

d) State potential adverse effects and pertinent drug interactions. Explain strategies for prevention, identification, and/or management.

Patient #3:

a) Identify the name, and state purpose of the medication.

b) State proper administration of medication regarding dosage, route, frequency, duration, technique, and what to do if missed doses.

c) Explain expected response to therapy (e.g. you should experience an improvement in symptoms within one day).

d) State potential adverse effects and pertinent drug interactions. Explain strategies for prevention, identification, and/or management.

PHRD 410 Health-System IPPE

Final Reflection Assessment Rubric

Final reflections are not graded, but instead reviewed by the Office of Experiential Education for continuous quality improvement.

Final Reflection Questions
Please reflect on your recent IPPE. In your reflection, please address the following:
1. Describe 3 aspects of health-system pharmacy that you were not aware of prior to rotation and how learning about them changed your view of health-system pharmacy.
2. How have your assessments improved since midpoint?
3. Identify 3 of your strengths and 3 areas for improvement in health-system pharmacy practice.
4. At this point in your career, what are your pharmacy career plans and how has your IPPE influenced these plans?

Submission Method: Upload to E-Value by 8:00 am on the last day of your IPPE rotation for review by the Office of Experiential Education.

Final Reflection Requirements and Formatting
- Reflection to be written in formal essay format with introduction, body, and conclusion. Correct spelling and grammar are necessary.
- Introductory paragraph should include the name of your IPPE site, location of the site, and the name of your primary preceptor.
- Reflection should directly and candidly address the stated questions.
- Provide examples to back up your opinions and reflections.
- Not more than 2 pages in length.
  o Double spaced, 11 point font, one inch margins
- Student name and date in upper right hand corner.

Section Six

Assessment Forms

Introductory Pharmacy Practice Experiences
Professionalism Assessment

Evaluate the student based on the Likert scale below. Comments are encouraged for all performance levels, but are REQUIRED for performance levels less than 3 (three). Please note that the student MUST earn a mean score of 2.5 or above (and no individual score below a 2.0) on this professionalism assessment in order to PASS the rotation

Unacceptable Performance	Needs Improvement	Acceptable Performance	Very Good Performance	Exceptional Performance	
1	**2**	**3**	**4**	**5**	**NA**
Student does not demonstrate this behavior despite preceptor prompting	Student inconsistently demonstrated this behavior, requires consistent preceptor prompting	Student demonstrated this behavior, minimal preceptor prompting	Student demonstrated this behavior, occasional to no preceptor prompting	Student consistently demonstrated this behavior, does not require preceptor prompting	Not able to assess; either not observed or insufficiently observed

Emotional intelligence (EQ) is a set of emotional and social skills that collectively establish how well we perceive and express ourselves, develop and maintain social relationships, cope with challenges, and use emotional information in an effective and meaningful way. *(EQ-i $^{2.0}$)*

Emotional Intelligence Elements per EQ-I 2.0	Professionalism Assessment Area	Midpoint Grade	Final Grade
Self-Actualization The ability and tendency to want to grow, to stretch and to strive—to see your full potential, set meaningful goals and work toward your betterment and fulfillment.	• **Student is self-motivated** (is an active learner – seeks knowledge; asks questions, searches for information, takes responsibility for own learning)		
	• **Student accepts constructive criticism and modifies behavior if necessary**		
	• **Student demonstrates a desire to exceed expectations** (goes "above and beyond the call of duty", attempts to exceed minimal standards and requirements for tasks/assignments/responsibilities)		
Self-Regard The ability and the tendency for you—in light of both your positive and negative	• **Student demonstrates confidence** (acts and communicates in a self-assured manner, yet with modesty and humility)		
	• **Student maintains good hygiene and grooming habits**		

qualities—to both like and have confidence in yourself.			
Independence Your ability and tendency to be self-directed in your thinking, feeling, and actions—to go at it alone when needed.	• **Student utilizes time efficiently** (allocates and utilizes appropriate amounts of time to fulfill responsibilities; utilizes others' time wisely)		
	• **Student is punctual** (arrives to practice setting and meetings on time, meets deadlines)		
	• **Student takes responsibilities for one's own actions** (does not try to blame others for insufficient or untimely work)		
	• **Student is reliable, dependable and follows through with responsibilities** (can be counted on; if task is left incomplete or problem is left unresolved, student seeks aid)		
Interpersonal Relationships Your ability and tendency to give and receive trust and compassion, and to establish and maintain satisfying personal relationships.	• **Student is respectful** (demonstrates regard for patients, peers, superiors, other personnel and property)		
	• **Student is cooperative** (non-argumentative; willing and helpful)		
	• **Student displays honesty and integrity in all interactions with patients and other health care professionals** (truthful and straightforward; behaves in an ethical manner)		
Empathy Your ability and willingness to take notice of and be sensitive to other people's needs and feelings.	• **Student is non-judgmental** (demonstrates an attitude of open-mindedness towards others and situations; does not "stereotype" others or prejudge situations)		
	• **Student is compassionate and empathetic** (demonstrates appreciation of others' positions; attempts to identify with others' perspectives; demonstrates consideration towards patients and others)		
Social Responsibility Your ability and tendency to cooperate and contribute to the welfare of a larger social system, to have and act in accordance with a social	• **Social awareness and responsibility** (takes responsibility for adapting and providing quality patient care to diverse patient populations)		

conscience and to show concern for the greater community.			
Impulse Control The ability to resist or delay a drive or temptation to do or say something or to decide too quickly or rashly.	• **Student is diplomatic** (fair and tactful in all dealings with patients, superiors, peers, and other personnel; Avoids inappropriate comments and gestures)		
	• **Student displays self-control** (thinks through thoughts before speaking; control emotional responses)		
Stress Tolerance Your ability and tendency to live your life effectively in the face of stress.	• **Student appropriately handles stress** (remains calm, levelheaded, composed in critical or difficult situations)		
Optimism Your ability and tendency to look at the brighter side of life and to maintain a positive attitude even in the face of adversity. You are hope and are enabled to see the future as a positive, inviting place.	• **Student leads the profession to promote safe medication use and to improve health care; Student maintains professional competence** (advocates for the profession; promotes life-long learning)		

(adapted from Hammer D. from University of Washington, American Pharmacists Association, American Board of Internal Medicine; Taxonomy of Professionalism , Daniel Brown, AJPE, 2009; Multi-Health Systems Inc. Toronto, ON; 2011; EQ-i $^{2.0}$, MHS copyright 2011)

I attest that the student has been present at my site for the required amount of time.
Yes   No

Midpoint Final Mean Score: _____
Midpoint Final Comments (PROFESSIONALISM):
Final Mean Score: _____
Final Comments (PROFESSIONALISM) - If this box is highlighted in red and you are not able to submit this evaluation, this means that the student has received a score <3.0 and comments must be made before submission:

Students must PASS (> 2.5 mean score) a professionalism assessment in order to PASS the rotation

Introductory Pharmacy Practice Experience I and II
Competency Assessment

Evaluate the student utilizing the likert scale below. Comments are encouraged for all performance levels but are REQUIRED for performance levels less than 3 (three).

5	4	3	2	1	NA
Exceptional Performance	**Very Good Performance**	**Acceptable Performance**	**Needs Improvement**	**Unacceptable Performance**	**Not able to assess**
Student performed the competency exceptionally well and did not require preceptor assistance	Student performed the competency above average with occasional to no preceptor assistance	Student performed the competency at an acceptable level with minimal preceptor assistance	Student attempted but did not achieve competency in all areas. Student consistently needs frequent supervision	Student performance was below expectations and requires constant supervision. Needs significant improvement	Either not observed or insufficiently observed

	Midpoint	Final
Patient Care		
Identify, evaluate, and resolve medication therapy problems.		
Compare and contrast commonly used nonprescription products.		
Compare and contrast the commonly used alternative products.		
Identify, retrieve, and evaluate clinical literature to answer drug information questions.		
Counsel patients regarding drug therapy.		
Document patient care interventions.		
Demonstrate critical thinking skills to facilitate decision making.		
Comments:		
Practice Management and Pharmacy Operations		
Evaluate and fill a prescription in compliance with state and federal laws.		
Discuss the roles and responsibilities of personnel necessary to effectively manage and operate the pharmacy.		

Describe and evaluate the drug distribution process.		
Perform calculations required to compound, dispense and administer medications.		
Explain and participate in inventory management and purchasing including ordering, receiving, storing, and returning merchandise.		
Comments:		
Communication		
Communicates clearly and effectively when interacting with <u>health care professionals</u> using appropriate listening, verbal, and nonverbal communication skills.		
Communicates clearly and effectively when interacting with <u>patients, caregivers, and the public</u> using appropriate listening, verbal, and nonverbal communication skills.		
Communicates clearly and effectively when interacting with <u>health care professionals</u> using appropriate <u>written</u> communication skills.		
Communicates clearly and effectively when interacting with <u>patients, caregivers, and the public</u> using appropriate <u>written</u> communication skills.		
Demonstrates sensitivity to and adjustment of communication based on contextual or cultural factors *(shows respect for different backgrounds; treats each person with respect; utilizes tools to assist in communication when available and applicable)*		
Comments:		

Please note that the student MUST not earn an individual score below a 2.0 on this competency assessment in order to PASS the rotation.
Comments must be made for a final mean score of < 3.0 in order for the evaluation to be submitted.
<u>Document the activities that could not be completed and/or additional activities below.</u>

Date: _____

Student name: _____

Preceptor Name: _____

Assessment (please circle one):   Pass   Fail

Experiential Site and Preceptor Evaluation

(to be completed by the student)

Site _____   Phone Number _____

Preceptor_____   E-Mail _____

Title of Experience _____   Date of Evaluation _____

Experiential Site

Type of practice		
Hospital/Inpatient___ Hospital/Internal Medicine___ Hospital/Outpatient___ Community Pharmacy Chain ___	Community Pharmacy Independent ___ Ambulatory Care Clinic ___ Long-term Care/Extended Care Facility___	Drug Information/Poison Center___ Managed Care Organization___ Industry___ Other ___

Evaluate the experiential site, preceptor, and overall rotation utilizing the following scale:

Agree 3	Partially Agree 2	Disagree 1	Not applicable to this experiential site N/A

Site Information

	Agree	Partially Agree	Disagree	N/A
Activities, projects, and assignments fulfilled learning objectives of experience	3	2	1	N/A
Expectations and responsibilities were clearly expressed to me at the beginning of the experience	3	2	1	N/A
I had access to necessary patient information (as pertinent for experience)	3	2	1	N/A
I had the opportunity to interact with other health care professionals (as pertinent for experience)	3	2	1	N/A
I had access to necessary reference materials, either hard copy or electronic	3	2	1	N/A
I had an adequate number of patient cases to facilitate my learning (as pertinent for experience)	3	2	1	N/A
I had adequate space to work	3	2	1	N/A
The site and the staff displayed a professional image	3	2	1	N/A
The staff (pharmacists, interns, and technicians) support student interactions and involvement	3	2	1	N/A
Patient-centered care philosophy was evident in practice	3	2	1	N/A
The site provided an environment that facilitated my learning	3	2	1	N/A
Comments:				

Preceptor Information

The Preceptor:

Leadership and Management				
Demonstrated effective managerial and leadership relationships with colleagues	3	2	1	N/A
Recognized his/her own limitations	3	2	1	N/A
Role Model Practitioner				
Served as a role model for me	3	2	1	N/A
Displayed patient care problem solving skills	3	2	1	N/A
Explained clinical reasoning process to me	3	2	1	N/A
Displayed appropriate interpersonal communication skills	3	2	1	N/A
Was approachable	3	2	1	N/A
Was readily available to answer questions and concerns	3	2	1	N/A
Demonstrated high ethical and personal character	3	2	1	N/A
Displayed interest /enthusiasm in teaching	3	2	1	N/A
Displayed strong drug therapy knowledge	3	2	1	N/A
Promotes Self-Directed Learning and Provides Constructive Feedback				
Provided regular and consistent feedback	3	2	1	N/A
Provided constructive feedback	3	2	1	N/A
Discussed written evaluation with me at the midpoint and end of the experience	3	2	1	N/A
Responded to students' specific learning needs	3	2	1	N/A
Made student teaching an important focus of practice	3	2	1	N/A
Treated students as colleagues in training	3	2	1	N/A
Comments:				

Rotation Information

My verbal communication skills were further developed on this rotation	3	2	1	N/A
My written communication skills were further developed on this rotation	3	2	1	N/A
My clinical skills were further developed on this rotation	3	2	1	N/A
I applied what I learned in my didactic coursework on this rotation	3	2	1	N/A
I believe this experience will help me be a better pharmacist	3	2	1	N/A
Comments:				

Rate the overall quality of this practice experience.   Excellent_____ Good_____ Fair_____ Poor_____

I would recommend this site to others.   Yes_____   No_____

How could this practice experience be improved?

Section Seven

Resources

Experiential Education Absence Request Form

Please submit the completed form to Preceptor for signed approval and upload with signatures to e-value for Experiential Education Director approval at least one week prior to a planned absence <u>OR</u> the day of an absence due to unforeseen circumstances.

Student _____   Date _____

Preceptor _____

Rotation/Site _____

Number of days of absence included in this request: _____

Approval is requested for absence from rotation activities from ___/___/___ through ___/___/___ for the reason indicated below:

REASON FOR ABSENCE:
_____ Illness
_____ Death in Family
_____ Residency Interview (must show copy of invitation to interview to preceptor and OEE)
_____ Attend Professional Meeting
_____ Other Explanation: (must be an acceptable reason to preceptor and OEE)

PLAN TO MAKE-UP TIME:

FURTHER REASON FOR ABSENCE CAN BE GIVEN HERE IF EXPLANATION IS REQUIRED.

_____ _____/_____/_____
(Student Signature)   (Date)

Approval _____ _____/_____/_____
(Preceptor Signature)   (Date)

Email Communication to Director of EE & Upload to E-value _____/_____/_____
(Date)

Pharmacist Care Lab - SOAP Criteria

PPCP	**Subjective:**
	• It includes descriptive information that cannot be confirmed by diagnostic tests or procedures • It includes information derived from the patient's perspective: Chief Complaint, History of Present Illness, Histories, Allergies, Medication, and Review of Systems

	Chief Complaint (CC)	1. Indicate the reason for the visit, as stated by the patient in his own words and may include the patient's symptoms and/or complaints ○ *Written as a patient quote or as a general reason, but is usually short, consisting of one to two sentences or short phrases*
	History of Present Illness (HPI)	1. Summarize the story of present illness accurately and chronologically ○ *The information is collected DURING the patient interview and is obtained from speaking with the patient* ○ *It includes pertinent story of the illness and is written as pros in full sentences and paragraph form summarized by the pharmacist in professional language related to chief complaint* ○ *Summary of the pertinent information varies based on setting:* ○ *Hospital (inpatient)/Long Term Care/Nursing Home: admission reason and major findings or treatments to date* ○ *Community/Ambulatory Care: major events prior to date of patient being seen in clinic, patient's story* ○ *E.g. 56 year old male referred to see a clinical pharmacist for diabetes counseling. Patient recently diagnosed with diabetes mellitus type II two weeks with an A1c of 11% and was given a prescription for insulin glargine 20 units SubQ once daily at night time that she was instructed to start today. During interview patient is overwhelmed and states she does not understand how to use her medication………*
	Histories	1. List past medical history 2. List social history 3. List family history 4. List surgical history
	Allergies	1. List medication allergies and reaction 2. List food allergies and reaction
	Medications *(derived from patient interview)*	1. List patient's current medication to include: Name, Indication, Dosage Strength, Dose, Frequency, Duration, Adherence ○ *This is usually the home medication list*
	Review of Systems (ROS)	1. Identify pertinent findings from the head to toe review of systems

PPCP	**Objective:**
	• It includes information that can be measured or verified objectively

		1. Identify Vital signs 2. Identify pertinent Physical Exam findings 3. Identify Mental Status Exam findings (if available) 4. Identify pertinent labs and other tests (Laboratory tests, POCT, Imaging)
	Medications *(derived from medical record)*	• Identify patient's current medication to include: Name, Indication, Dosage Strength, Dose, Frequency, Duration, Adherence ○ *Hospital setting should have two medication lists: Home medications (entered under subjective) and Inpatient medications (entered under objective)*

PPCP		**Assessment:**
		• It includes the pharmacist's evaluation of the collected subjective and objective information
		• The assessment justifies and provides the framework for the pharmacist's plan of action and recommendation
		• It includes: Problem ID, Evaluation Summary, Goals of Therapy, Potential Treatment Options, Non-Pharmacologic Options

Problem ID and Prioritize
1. Identify the most important or acute disease state problem (e.g. Hypertension, Diabetes mellitus type II, and Urinary Tract Infection)
   o *Community/Ambulatory Care: can consider reason for pharmacist referral as the first problem*
2. List the patient's identified health related problems in order of decreasing priority

Evaluation and Summarize
Interpret, evaluate, and summarize pertinent information related to specific Problem ID identified above

Subjective	Objective	Risk Factors/Cause/Etiology	Severity of Problem ID	Disease state status	Appropriateness of current treatment
1. Identify and interpret pertinent CC/HPI/ROS related to specific problem ID being addressed	**2. Identify and interpret pertinent histories, medications, vitals, labs, imaging related to specific problem ID being addressed**	**3. Identify any risk factors/ /etiology/triggers specific to the patient that puts him/her at risk for problem ID/disease**	**4. Classify disease stage or severity based on guidelines (e.g. stage I, II, III) Mild/Moderate/Severe**	**5. Summarize the current status of the disease state:** e.g. Resolved/Worsening Subtherapeutic/Supratherapeutic Stable/Unstable Controlled/Uncontrolled Improved/Unimproved	**6. Assess the appropriateness of the current regimen** *Consider the following when assessing the appropriateness of the current treatment* • *Medication related Problem ID (No indication, Inappropriate: indication, dose, frequency, route, dosage form, Therapeutic duplication, Drug allergy or intolerance, Adverse drug event, Drug Interactions (Drug-Drug/Drug-Disease/Drug-Nutrition/Drug-Laboratory), Contraindication)* • *Patient related Problem ID (Patient understanding/knowledge of medication, Adherence, Cost barriers, Health literacy)*

Goals of therapy
1. Identify goals of therapy
   o *The goals of therapy should follow national guidelines and follow the principle of evidenced-based medicine*
   o *Document goals of therapy for continuity of care with progression toward achievement of that goal*
   o *Identify all goals objectively: E.g. According to AHA guidelines, goal A1c is ……….*

Potential treatment options
1. Identify all potential pharmacotherapy treatment options (can be identified by drug class) based on guidelines and include references when possible
   o *E.g. According to AHA guidelines, first line therapy for the treatment of x is drugs y and z*
2. Give rationale/justification on why you would make changes or recommend one regimen vs another or continue current therapy based on patient/medication/disease state factors
   o *E.g. Based on patient's CrCl, drug X would not be appropriate based on limited clearance and increased risk of toxicity. Instead, would consider drug y based on no need for renal dosage adjustment*
3. Answer any Pharmaceutical Science Questions (Appendix I) as designated by faculty

Non-pharmacologic options
1. Identify all potential non-pharmacologic treatment options based on guidelines and include references when possible
   o *Consider: diet restrictions, patient support programs, physical activity*
2. Give rationale/justification on why you would make changes, recommend one option vs another, or continue current non-pharmacologic therapy based on patient/medication/disease state factor

PPCP		**Plan:**
		• It will include a complete and specific documentation of all recommendations related to Problem ID
		• It will include: all pharmacological and non-pharmacological recommendations, monitoring, patient education, follow-up and referrals

Treatment plan
1. Create a patient-centered plan in regards to medication therapies
   o *Use the following action words: Initiate/Discontinue/Continue/Restart/Hold regarding the medication plan)*
   o *For medication recommendations, always include dosage strength, dose, route, frequency, and duration of therapy*
   o *List who you will contact to make recommendations if applicable* (patient/provider/case manager/caregiver ect.)
2. Create a patient-centered plan in regards to non-pharmacologic therapies

Monitor
1. Create a complete efficacy monitoring plan for each medication and/or the disease
   o *Efficacy: Include: all objective labs that are associated with helping assess goals of drug and disease state therapy are met; signs and symptoms associated with resolution or improvement of disease state*
2. Create a complete safety monitoring plan for each medication
   o *Safety: Include all objective labs, signs, and/or symptoms related to associated adverse effects of medication*

Counseling/Education
1. Summarize the key points of the interventions made during this encounter
   o *Highlight any new medications, medications that were changed, or medications that were discontinued*
2. Describe the following counseling points:
   a. Identify the name (generic and brand) of the medication
   b. State the purpose/indication of the medication in terms the patient can understand
   c. Describe the dose and frequency and how to take the medication
   d. State the expected duration of therapy
   e. Describe what to do if patients missed a dose
   f. List the common adverse effects
   g. Explain proper storage requirements
   h. If medication device, describe the specific steps for device use education
   i. Explain the important monitoring parameters for efficacy for the disease/medication
       i. *Explain to patient what symptoms and signs will improve by adhering to the plan and when to follow up if the plan is not effective*
   j. Explain the important monitoring parameters for safety for medications
       i. *Explain the potential adverse effects and any drug interactions, discuss the strategies for prevention/identification/management*
**If counseling already occurred, also document information related to patient understanding of counseling

Follow-up
Create a complete plan for follow-up for the problems addressed:
1. List when, what, and who you will follow-up with based on your plan
   o *Choose follow-up timelines based on guidelines and/or acuity*
   o *E.g. Community/Ambulatory setting: 2-4 weeks vs Hospital setting: daily if hospitalized or within 1 week of hospital discharge*
   o *Examples of "who" to follow up with may include: provider, case manager, patient, or caregiver of patient based on plan*
2. Describe if referral to another provider is required and provide the rationale