

## **Patient Care & Non-Patient Care Electives**

Syllabus  
May 2019

### **Course Instructional Team**

#### *Course Director – Patient Care Electives:*

Ann Philbrick, Pharm.D., FCCP, BCPS, BCACP  
Associate Professor  
7-176 WDH  
612-626-8053  
Email: [philb020@umn.edu](mailto:philb020@umn.edu)

#### Course Director – Non-Patient Care Electives

Stephanie Swanson, Pharm.D.  
Teaching Specialist  
1-130D WDH  
612-626-9107  
Email: [gibbs066@umn.edu](mailto:gibbs066@umn.edu)

#### Teaching Assistant:

Name: Arun Kumar  
Email: [kumar468@umn.edu](mailto:kumar468@umn.edu)

### **Overview of the Course**

The goal is to develop in each student the professional judgment and competencies needed to skillfully perform the functions and meet the responsibilities of a pharmacist in a wide range of practice environments. While each elective rotation possesses a variety of characteristics, students are expected to demonstrate an understanding of the practice functions required and the professional contribution provided by the environment/site.

#### *Patient Care Electives*

Patient care elective APPEs are structured to allow students to explore areas of direct patient care that align with their professional interest and/or expand their understanding of patient care opportunities as well as to mature professionally. Experiences are designed to build upon, or augment core APPEs.

#### *Non-Patient Care Electives*

A Non-Patient Care APPE is defined as one in which less than 50% of a practitioner's time is spent providing direct/supportive patient care. In order to build upon introductory pharmacy practice rotations/courses and other required rotations/courses, these experiences give the student the opportunity to gain insight and knowledge in different pharmacy areas. Students will be expected to utilize abilities learned previously in the curriculum in order to meet general course objectives and site-specific objectives developed by the preceptor.

#### *Course format:*

This course will be delivered through experiential education experiences in COP approved sites. Assignments and activities are to be determined by the site. Students will also participate in course curriculum delivered centrally through Moodle and directed by course faculty.

Students will participate in three, 5-week rotations during a 15-week semester. At least one of these 5 week experiences must be a patient care elective.

### Prerequisites

See combined syllabus

### Course Goals & Objectives

General EPAs are in the Combined syllabus  
See Appendices A (Non-Patient Care) and B (Patient Care)

### Attendance Policy

See combined syllabus

### Course Materials

The University of Minnesota technology requirements are:

- Moodle: This course will use Moodle to distribute resources/information and contain course activities. See Moodle setup requirements at <http://www1.umn.edu/moodle/start/technical.html>
- Email: Course Director will communicate through email about course administrative issues or any additional information as needed.
- E-mail is the official way to communicate with students; therefore, the students should check their U of MN e-mail daily.

### Assessments and Grading

See combined syllabus

### Detailed Course Outline & Schedule

The schedule shall be determined by preceptor of record at each elective APPE site. Time spent per week at the rotation should be no less than 40 hours/week.

### Reflection Paper

At the end of each APPE, students will be required to write a summative reflection paper regarding their experience. Due dates are listed below.

Reflection paper should include:

- Summary of the activities you completed during the APPE and your reflection regarding them.
- How the student's assumption about the practice did, or did not change.
- An assessment of the likelihood that the student will seek out employment in the area of the elective.

Journal entries should be between 500 and 750 words. All entries are due at 11:55pm on the day of the deadline.

<b>Block</b>	<b>Start Date</b>	<b>End Date</b>	<b>Date Assignment Dropbox Opens</b>	<b>Deadline</b>
Block 1	05/20/19	6/21/19	6/14/19	Friday 6/21/19
Block 2	6/24/19	7/26/19	7/19/19	Friday 7/26/19
Block 3	7/29/19	8/30/19	8/21/19	<b>Wednesday</b> 8/28/19
Block 4	9/3/19	10/4/19	9/27/19	Friday 10/4/19
Block 5	10/7/19	11/8/19	11/1/19	Friday 11/8/19
Block 6	11/11/19	12/20/19	12/4/19	<b>Wednesday</b> 12/18/19
Block 7	1/13/20	2/21/20	2/7/20	Friday 2/21/20
Block 8	2/24/20	3/27/20	3/20/20	Friday 3/27/20
Block 9	3/30/20	5/1/20	4/22/20	<b>Wednesday</b> 4/29/19

**Patient Tracking** *(for patient care electives only):*

- Description: Students will track all patient encounters weekly during their rotations. This will allow the sites, students, and course directors to ensure patient encounter experiences are being met.
- Using a form in E-value, students will enter basic information about patient encounters, without patient identifiers, during their rotation.

**Education Rx** *(for patient care electives only)*

- Description: Questions arise through the course of clinical practice and teaching, but are not always answered due to clinical constraints and fatigue. Educational prescriptions (Education Rx) help us keep track of our questions so that we can answer them when an opportunity develops. Prescriptions help learners practice the important lifelong habit of using EBM on a daily basis to help answer clinical questions. Education Rx helps learners distill the key components from complex clinical problems. The elements of the PICO (patient/population, intervention, comparison, outcome) should guide the learner's search for information. By completing an Education Rx, the learner may become more effective and efficient at asking well-constructed questions, acquiring, appraising, and applying evidence to solve clinical problems.
- Students will complete ONE Education Rx per patient care elective and submit these to E-Value by the fourth Friday of the rotation at 11:59pm. Students should discuss these Education Rx's with their preceptor (as they will relate to patient care questions that arise during practice).

<b>Block</b>	<b>Start Date</b>	<b>End Date</b>	<b>Deadline</b>
Block 1	05/20/19	6/21/19	Friday 6/14/19
Block 2	6/24/19	7/26/19	Friday 7/19/19
Block 3	7/29/19	8/30/19	Friday 8/23/19
Block 4	9/3/19	10/4/19	Friday 9/20/19
Block 5	10/7/19	11/8/19	Friday 11/1/19
Block 6	11/11/19	12/20/19	Friday 12/6/19
Block 7	1/13/20	2/21/20	Friday 2/7/20
Block 8	2/24/20	3/27/20	Friday 3/20/20
Block 9	3/30/20	5/1/20	Friday 4/24/20

**Appendix A**  
**Outcomes per type of Experiences**  
**This is a list of potential Non-Patient Care rotations. Others can be added.**

**General Objectives for Non-Patient Care Electives/ as appropriate for the rotation type**

- Explain how the rotation area relates to pharmacy patient care and practice.
- Identify opportunities for improving the safety and quality of practice.
- Prepare and propose a workflow solution involving process and performance improvement.
- Identify and critically analyze emerging theories, information, and technologies that may impact pharmacy practice.
- Use effective written, visual, verbal, and nonverbal communication skills to educate others regarding a project or service.
- Perform pharmacy services within the applicable standards and regulations.
- Describe career options for a pharmacist in the related area, including professional/ organizational opportunities and involvement.
- Collaborate with interprofessional care team members, as appropriate.
- Incorporate pharmacy, health care and non-health care literature to provide evidence-based supported decisions.
- Exhibit professional behavior, including embracing ethical and moral standards.
- Cultural sensitivity—Recognize social determinants of health to diminish disparities and inequities in access to quality care

**General Activities for Non-Patient Care Electives**

- Formal case presentation to a professional audience
- Journal club discussion
- Presentation/ formal discussion with preceptor regarding rotation topic area (1-2 per week)
- Project deliverable related to rotation (examples: business plan, data analysis report, summary of review topic, educational materials)

*Objectives may be more specific as determined by the section coordinator.*

**Health Informatics APPE**

This rotation should focus on fundamentals of pharmacy informatics such as: information system and pharmacy automation technology in the hospital setting.

- Become familiar with the current standard of technology in pharmacy automation and information systems.
- Demonstrate an understanding of current available automated technology for order processing, safe and efficient distribution, dispensing, and administration of medications, documentation of medication administration, electronic surveillance systems for effects monitoring, and pharmacy inventory management systems.
- Explain how to assure that all patient-specific, medication-specific, and evidence-based pharmacotherapy information required to support effective medication-related decisions is readily available in a useful format to members of interdisciplinary, patient-centered teams.
- Integrate technology with pharmacy practice in order to provide clinically focused, safe, and efficient patient care.
- Identify opportunities for improving the safety and quality of the medication-use system through the application of informatics principles, standards, and best practices.
- Prepare and propose a workflow solution involving informatics to address a medication-use process identified as needing improvement.
- Describe career options for a pharmacist in the information technology field, and role of pharmacy in conducting and supporting information technology.

### **Research I (Basic Sciences)**

This rotation is designed to provide students with experience in research design and development, performance of experiments, data collection and analysis, the peer review process, and research regulations.

- Discuss basic research techniques and experimental procedures within an area of interest.
- Apply research methods to a specific problem associated with an ongoing research project of the preceptor or designed by the student in consultation with the preceptor.
- Analyze research data generated by his/her project or other data provided by the instructor and write a report concerning the project.
- Attend and participate in research seminars and conferences as assigned.
- Develop an informed consent document for their research project of a quality that would be approved by an appropriate IRB if a clinical study is involved.
- Critique existing protocols and/or new research ideas for future studies.
- Demonstrate understanding and be able to explain the need for research and scholarly activity as it pertains to professional growth.

### **Research II (Pharmacy Practice).**

This rotation is designed to provide students with experience in research at a Pharmacy Practice setting.

- Formulate clear, specific questions that address patient or other health care needs, concerns, or problems.
- Retrieve, analyze, and interpret scientific and other information to prepare responses or conclusions that address specific needs or problems.
- Integrate the best evidence from the scientific literature and other resources with clinical expertise and patient values to address specific needs, concerns, or problems.
  
- Keep abreast of significant new findings and use them in practice.
- Conduct Responsibilities in Accordance with Professional Guidelines and Laws
- Comply with federal, state, and local statutes and regulations and current practice standards.
- Demonstrate understanding and be able to explain the need for research and scholarly activity as it pertains to professional growth.

### **Managed Care APPE**

The student will gain experiential training in the application of managed care pharmacy principles within the health care system. This rotation may take place at (PBM) organizations as well as other organizations that provide formulary management and evaluation.

- Discuss the principles and practices of managed care pharmacy.
- Describe the process of Utilization Management and pharmacy benefit design.
- Participate in Drug Use Policy Initiatives (Quality Improvement, RDUR, Formulary/Pharmacy Benefit Design, Pre-Authorization/Step Therapy Programs)
- Assist in the research and development of patient and provider educational materials.
- Apply pharmacoeconomic concepts and outcomes research when discussing clinical programs.
- Retrieve and evaluate current drug therapy information from the literature and make recommendations utilizing evidence-based medicine.
- Describe concepts of PBM operations, including claims processing, pharmacy network development and -maintenance, formulary maintenance, rebate contracting, network auditing, mail order services, and clinical program offerings.
- Explain specific elements of Benefit Design, Utilization management, MTM, Quality measurements and providers and pharmacy networks as wells provider and member incentives
- Analyze new therapeutic agents based on efficacy, safety, unique properties, and cost.
- Demonstrate understanding of the disease management process and programs available.
- Participate in the development and update of clinical drug policies.

### **Intro to Academia APPE**

This rotation exposes students to the design and delivery of content to learners in a variety of settings,

and examines the diversity of learning strategies, and introduces students to the expectations for teaching, scholarship and service activities of faculty members.

- Create a teaching Philosophy
- Describe the diversity of learning strategies
- Describe the development of teaching and learning materials including objectives, handouts, assessment tools and audiovisual tools as appropriate to context and content and utilizing technology as appropriate to deliver educational content.
- Describe how teaching and learning are assessed.
- Demonstrate initiative and proactive attitude in completing assigned activities, taking on responsibilities and interacting with administrators, faculty, staff, and students.
- Outline the process of creating a manuscript for publication
- Describe the roles and responsibilities of a faculty member.

### **Community Pharmacy Management APPE**

The rotation provides experience in a retail pharmacy setting where students learn the different aspects involved with managing a chain or independent pharmacy. The focus of this experience is financial analysis: including third party issues, inventory control, and personnel management as well as the prescription processing.

- Describe basic principles of personnel management with emphasis on hiring, dismissal, training, promotion, and salary structure.
- Describe how to manage the risks involved with insurance and financial control.
- Manage third party program issues within community site.
- Describe methods of inventory purchase and control.
- Utilize computerized prescription processing systems.
- Interpret and analyze monthly and yearly financial statements.

### **Long Term Care APPE**

In this rotation the student gains skills and competence in the distribution of medication, provision of medication therapy management and consulting services to the residents of nursing and assisted living facilities, as well as psychiatric hospitals, hospice, and home based care.

- Describe the etiology, pathophysiology and clinical presentation of common diseases and the therapeutic treatment recommended for each according to current standards of care.
- Gather, monitor and assess pertinent patient information and recommend changes if necessary to ensure safe, effective and economical drug therapy.
- Retrieve and evaluate current drug therapy information from the literature and make recommendations utilizing evidence-based medicine to health care professionals.
- Dispense medications consistent with patient needs and monitor proper medication administration and storage by facility staff.
- Dispense medications consistent with patient needs and monitor proper medication administration and storage by facility staff.
- Apply state and federal regulations pertaining to the provision of pharmacy services in long-term care and residential living environments.

### **Compounding APPE**

This rotation specializes in the compounding of extemporaneous drug products. It provides the opportunity to obtain skills in preparing and compounding patient-specific dosage for patients needing special compounded medications.

- Utilize the most appropriate reference to assist preceptor(s) in compounding.
- Identify various compounding references available for different age groups (i.e. pediatrics versus geriatrics)
- Apply pharmaceuticals principles to compound patient-specific dosage forms.

- Develop appropriate drug formulations and drug delivery systems based on information in patient records and individual patient needs.
- Consistently compound various dosage formulations including capsules, suppositories, and suspensions and others
- Comply with policies and procedures as well as statutes and regulations, at the state and federal level, which affect the practice of drug compounding services at the practice site

### **Mail Order APPE**

This rotation provides that student the opportunity to gain a better understanding and appreciation for the complexity of mail order pharmacy practice.

- Demonstrate effective use of the pharmacy's prescription filling software to fill prescriptions, check for drug interactions, retrieve patient profiles and retrieve drug information.
- Effectively fill prescriptions utilizing the pharmacy's workflow, including automation devices (if applicable).
- Effectively perform a final verification of the prescription to ensure appropriateness of drug selected.
- Effectively troubleshoot problems with patient at-home drug supply and resolve these issues to the satisfaction of patients and providers.
- Explain the method of inventory control used by the pharmacy staff and wholesalers that are used to ensure "in stock inventory".
- Effectively perform a DUR on a patient's profile to determine drug-drug, drug disease interactions, contraindications, overlapping side effects, non-adherence to drug therapy, appropriate therapeutic regimens for disease states present, appropriate frequency of dosing and strength of a medication.
- Collaborate with physicians and other health care providers to provide recommendations to drug therapy to enhance quality of care and the patient's quality of life.
- Describe techniques that a mail order pharmacist can use to effectively counsel patients and meet mandated patient counseling requirements.
- Effectively communicate with prescribers regarding necessary adjustments to a patient's drug regimen, utilizing the tools available in mail order pharmacy.
- Effectively communicate with patients counseling points and changes made to a drug regimen, utilizing the tools available in mail order pharmacy.

### **Drug Information APPE**

The expectation in this rotation is that the students demonstrate understanding of Evidence Based Medicine as well as systematic searching and critical analysis of the literature

- Employ the general search strategy
- Compare & contrast articles on peer review journals
- Evaluate educational material from different sources
- Produce educational materials that satisfy the needs of the community and the providers

### **Hospital and Health System Management APPE**

During the management/administrative rotation, the student will work closely with the director(s), manager(s) and others within the pharmacy department and other departments, to understand the unique and diverse practice of pharmacy in the institutional environment, and the management and leadership required to lead a department of pharmacy. The rotation provides insight on how to manage distributive and clinical functions within a hospital pharmacy environment.

Students will:

- Describe the role of pharmacy in the hospital, its relationship to other departments and the total hospital organization.
- Describe the make-up, purpose and activities of committees in which pharmacy personnel participate. These may include but are not limited to: Pharmacy and Therapeutics committee,

Patient/ medication safety committee, Pharmacy/ nursing committee and Antibiotic use subcommittees.

- Describe programs related to medication use improvement and patient safety/ medication safety
  - Medication use review activities and requirements
  - Quality assurance programs and procedures
  - Patient safety and medication safety initiatives
  - Describe the steps for a new project development and the quality improvement process at the site.
- Explain the complementary role of accreditation, regulation, practice standards and health system policies and procedures on practice. Students will contribute to at least one area of practice oversight. Examples include policy review, data summary or protocol assessment.
  - Students must comply with policies and procedures as well as statutes and regulations affecting pharmacy operations.
  - Discuss the impact and requirements of regulatory agencies such as JCAHO, Health Department, and the Board of Pharmacy.
- Describe the evolution of pharmacy drug distribution systems (floor stock, unit dose, dispensing cabinets) and the impact on pharmacy services over time.
- Understand basic finance and management principles needed to effectively oversee hospital drug distribution systems and clinical services.
  - Identify methods of inventory control and purchasing.
  - Interpret monthly and yearly financial statements for budgeting, financial analysis, and control. Produce reports of data related to pharmacy services, and present the results to the appropriate audience (pharmacy leadership, pharmacy staff, hospital administration)
  - The process of formulary development and the problems related to its management and enforcement
- Demonstrate an understanding of the use of information systems and technology to support pharmacy services.
  - Describe operational, clinical and informational applications of informatics.
  - Identify major issues associated with the use of electronic data.
  - Describe the role of technology and automation on drug distribution systems and patient safety.
- Understand basic management and leadership principles needed to effectively supervise staff and oversee clinical systems
  - Review the department's organizational structure and the roles and responsibilities of the different positions within the department.
  - Explain basic principles of personnel management with emphasis on hiring, dismissal, training, promotion, salary structure, motivation, performance appraisals, conflict resolution, negotiations, etc.
  - Identify human resource issues and how to handle difficult situations
  - Explain the hiring/recruiting staff process
  - Participate, if appropriate, in a job interview

**Appendix B**  
**Outcomes per type of Experiences**  
**This is a list of current Patient Care rotations. Others can be added.**

**General Objectives for Patient Care Electives**

- Assess the pathophysiology of a patient's disease states/conditions.
- Assess past medical history, medications prior to admission (if applicable), medication experience, and allergy history.
- Assess a patient's current medication regimen to ensure medications are indicated, effective, safe, and convenient.
- Develop a patient-centered therapeutic plan.
- Provide follow-up of a patient's medications evaluating continued appropriateness of therapy and clinical outcomes.
- Provide therapeutic drug monitoring.
- Document a patient-centered therapeutic plan and/or provide medication information in a format consistent with the patient specific clinical information.
- Describe how population-based care influences patient-centered care and the development of practice guidelines and evidence-based best practices
- Collaborate with interprofessional care team members.
- Incorporate the medical literature to provide evidence-based supported best practice clinical care.
- Provide medical information as written documentation and as an oral presentation.
- Exhibit professional behavior, including embracing ethical and moral standards.
- Recognize social determinants of health to diminish disparities and inequities in access to quality care

**General Activities for Patient Care Electives**

- Formal case presentation to a professional audience
- Journal club discussion
- Patient presentation to preceptor (minimum of 1-2 per week)

*Objectives may be more specific as determined by the section coordinator.*

**Objectives for APPE Patient Care Electives with a Section Coordinator**

<b>Rotation Type</b>	<b>Disease States Covered*</b>	<b>Medications or Therapies Covered</b>	<b>Activities Required</b>
Geriatrics	<ul style="list-style-type: none"> <li>● Dementia</li> <li>● Delirium</li> <li>● Falls</li> <li>● Constipation</li> <li>● Pain</li> <li>● Insomnia</li> <li>● Urinary Incontinence</li> <li>● Osteoporosis</li> <li>● CVA</li> <li>● Atrial Fibrillation</li> <li>● CHF</li> <li>● CKD</li> <li>● HTN</li> <li>● COPD</li> </ul>	<ul style="list-style-type: none"> <li>● Beers meds</li> <li>● Meds on STOPP criteria</li> <li>● The role of clinical practice guidelines in caring for patients with multiple comorbidities</li> </ul>	<ul style="list-style-type: none"> <li>● Interact with patients who are hard of hearing</li> <li>● Learn how to communicate with older adults</li> <li>● Face to face visit with geriatric patients</li> <li>● Review one journal article related to geriatrics</li> <li>● Participate in Transitions of Care (medication</li> </ul>

	<ul style="list-style-type: none"> <li>• Diabetes</li> <li>• dosing in the elderly</li> <li>• Polypharmacy and ADEs</li> <li>• Infectious Disease</li> <li>• Immunizations</li> </ul>		<p>management and coordination) issues as appropriate</p> <ul style="list-style-type: none"> <li>• Geriatric Case Conference (organized by Todd Johnson)</li> </ul>
Psychiatry	<ul style="list-style-type: none"> <li>• BPAD</li> <li>• Depression</li> <li>• Schizophrenia</li> <li>• Anxiety disorders</li> <li>• Sleep disorders</li> <li>• ADHD</li> <li>• Delirium</li> </ul>	<ul style="list-style-type: none"> <li>• Objective measures to assess therapy, such as GAD7, PHQ9, and MMSE</li> <li>• Antidepressants, including but not limited to SSRIs, SNRIs, TCAs, MAOIs</li> <li>• First and second generation antipsychotics</li> <li>• Anxiolytics</li> <li>• Group vs. Individual Counseling Sessions</li> <li>• Management of secondary conditions caused by psych medications (ie, metabolic syndrome)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide patient care in an objective, understanding manner.</li> <li>• Assist with continuity of care for a patient transitioning between settings</li> <li>• Demonstrate an understanding of appropriate choice of psychotropic drug therapy and be able to design an appropriate drug regimen and monitor therapy for toxicities and complications.</li> <li>• Attend a group therapy session with clinical psychologist and/or psychiatrist</li> </ul>
Oncology	<ul style="list-style-type: none"> <li>• Breast cancer</li> <li>• Lung cancer</li> <li>• Prostate cancer</li> <li>• Colorectal cancer</li> <li>• Hematological cancers</li> <li>• Melanoma</li> <li>• Osteosarcoma</li> <li>• Ovarian Cancer</li> <li>• Thyroid Cancer</li> <li>• Cervical Cancer</li> <li>• Pancreatic cancer</li> <li>• Hodgkin's/ Non-Hodgkin's Lymphoma</li> <li>• Endometrial Cancer</li> </ul>	<ul style="list-style-type: none"> <li>• Advantages/disadvantages of chemotherapy vs. other therapies (i.e., radiation, surgery)</li> <li>• Chemotherapy protocols</li> <li>• End of life care/palliative care/hospice care</li> <li>• Discuss role of advance directives and DNR/DNI</li> <li>• Pain management</li> <li>• Adjunctive/supportive therapy with oncology drugs</li> <li>• Therapies for prophylaxis of opportunistic infections</li> <li>• Treating</li> </ul>	<ul style="list-style-type: none"> <li>• Be able to discuss in depth each patient's disease state, current labs, clinical status, and the patient's current therapy. Be able to discuss not only their patient's cancer, but also any concurrent illnesses that require drug therapy or monitoring.</li> <li>• Determine appropriate therapy through application of pharmacotherapeutic principles to clinical situations and make rational, patient-specific drug therapy recommendations, including the appropriateness of medication dosing based on practical pharmacokinetic</li> </ul>

		metastatic cancer as a chronic disease <ul style="list-style-type: none"><li>• Understand the management of extravasation</li></ul>	principles. <ul style="list-style-type: none"><li>• Discuss rationale of different chemotherapy protocols for the same type of cancer</li><li>• Write your own advanced directive</li></ul>
--	--	---	---

\*At least half should be covered, unless otherwise noted. Some disease states and medications will be site specific.