

SYLLABUS
PHCL412
PHARMACOTHERAPY 1: CARDIOLOGY (2.0 CREDIT HRS)
1436-1437 (SP 2015)

KSU COLLEGE OF PHARMACY

CLASS MEETING TIMES AND LOCATIONS

Times: Sunday 10:00-11:50 am,

Monday 1:00-2:00 pm

Location: TBD

REQUIRED LEARNING RESOURCES

Required readings include practice guidelines, primary literature, and review articles will be posted on Blackboard in advance of the related lecture.

PREREQUISITES AND COURSE DESCRIPTION

Prerequisites: PHCL 327, PHL326, PHL315; co-requisites: PHCL 413, PHCL 414

The Cardiology Module of the Pharmacotherapy sequence integrates the pathophysiology of cardiovascular diseases and applied therapeutics. The course is designed to integrate information gained in previous or companion courses and/or presentations, e.g., physiology, biochemistry, medicinal chemistry, pharmaceuticals, pharmacokinetics and pharmacodynamics into a working knowledge of clinical pharmacology and pharmacotherapy that forms the basis of pharmacists' professional responsibility. The overall goals of this course sequence are to:

- Develop problem-solving and critical-thinking skills needed to prevent, analyze, and resolve pharmacotherapeutic problems related to cardiovascular disease.
- Integrate information from medicinal chemistry, physiology, pathology, pathophysiology, pharmaceuticals, pharmacokinetics/dynamics, literature analysis and previous pharmacotherapeutic presentations and/or course work in order to understand principles of applied pharmacotherapy related to cardiovascular disease.
- Apply the knowledge, skills, and evidence-based principles learned throughout the pharmacotherapeutic modules to solve pharmacotherapeutic problems for cardiovascular patient-specific scenarios.

DESIRED COURSE OUTCOMES

At the end of the course, students will be able to provide the following services to patients with cardiovascular diseases:

1. **Provide patient-centered care:** Design, implement, monitor, evaluate, adjust and accept professional responsibility for patient-specific, evidence-based care to promote safe and optimal pharmacotherapy outcomes.
2. **Provide population-based care:** Design, develop, implement, monitor, and evaluate population-specific, evidence-based pharmaceutical care services (disease management, medication therapy management and related policies and protocols).
3. **Manage drug and health information, informatics, and other technologies** to improve patient care and management of the practice.
4. **Promote public health:** Assure the availability of pharmacy-based services and contribute to the development of health policies that promote optimal health.
5. **Communicate and collaborate:** Demonstrate effective communication and interpersonal skills resulting in effective information exchange and team work with patients and caregivers and professional associates.
6. **Demonstrate professionalism:** Demonstrate the attributes of a professional, including a commitment to and accountability for carrying out professional responsibilities; maintaining professional competence; and adhering to legal and ethical principles.
7. **Demonstrate critical thinking and problem solving skills:** Demonstrate reasoned and reflective consideration of evidence in a particular context to make a judgment and apply critical thinking skills, including investigation, application, analysis, creativity, synthesis and evaluation, to clinical or other professional problem-solving and decision making.

LEARNING OBJECTIVES

Based upon the principles and concepts presented in lectures, case-based discussion in Pharmaceutical care lab and related reading, students should be able to complete the following objectives, when providing pharmaceutical care:

1. Recognize medical problems, symptoms, and/or abnormal laboratory values that may require pharmacotherapy, that may alter the selection and/or dosing regimen of drugs, or that may be caused or worsened by pharmacotherapy.
2. Evaluate the risks vs. benefits of therapy for a particular medical problem by recognizing the prognosis if the problem is left untreated and the efficacy and toxicity of various pharmacotherapy strategies based upon the respective principles of pathophysiology, medicinal chemistry, and applied pharmacology.
3. Determine an overall therapeutic goal when a particular problem is to be treated; establish a therapeutic goal for each form of therapy; and list parameters that must be monitored to determine whether or not each goal is met.
4. List the class of drugs and other non-drug modes of therapy, such as diet, that may be used in the treatment of a problem; discuss efficacy and toxicity and/or advantages and disadvantages of each class of drug considering the severity of the disease; and select the most efficacious, least toxic and most appropriate agent within a drug class based on differences in pharmacokinetics, cost, etc.
5. Recognize whether the choice of drug or dose of drug will be affected by other patient diseases or problems. The student should list drugs which are contraindicated in a particular case, and predict the influence of the drug selected on the patients' other medical problems.
6. Determine whether any clinically significant drug interactions are likely to occur during therapy for multiple problems. If an interaction is likely, the student should select the next best alternative for the interacting drug(s).
7. Summarize a safe, effective dosing regimen for each of the drugs selected for therapy based on age, weight, liver and kidney function, etc.
8. Alter drug administration regimens (increase dose, give on empty stomach, etc.) or select the next best alternative if therapy fails based on the therapeutic goal.
9. Describe the common and/or significant adverse reactions for each drug selected and identify the parameters necessary to monitor for drug toxicity.
10. Evaluate outcomes of an implemented pharmacotherapeutic plan. Assess effectiveness, adverse effects, and benefits of drug therapy. Decide to conclude, continue, or revise the pharmacotherapeutic plan.

Learning objectives for individual topics will be provided in advance before the related class start.

EXPECTATIONS FOR CLASSROOM DECORUM

Students are expected to review topic objectives and complete all assignments (see homework below) **prior to class**. Student preparedness for class is a critical element for the active learning experience in the Pharmacotherapy modules. Students must come to class prepared to discuss case-based pharmacotherapy problems consistent with learning objectives and reading assignments. Students may be called upon randomly during class to discuss issues related to cases assigned for the day or to similar cases presented in class.

Students will be assigned readings include current primary literature or current guidelines, which will be accessible via Blackboard.

Further, students are expected to: ***come to class prepared to work, participate actively and fully in class discussion, communicate clearly, constructively, and respectfully with classmates as well as faculty, conduct themselves in a professional, responsible, ethical and respectful manner, and attend, arrive on time, and remain until completion of all discussions.***

ASSESSMENT AND GRADING

Exams

Three written, case-based, multiple-choice exams will cover the material in the required readings and the content discussed in class.

In-Class Quizzes and homework

Random Quizzes will assess your understanding of general concepts found in the recommended class homework. Homework will most commonly consist of 12-16 targeted questions requiring 30-60 minutes to complete. Answers to homework questions will come directly from guidelines, or other posted materials (e.g. drug tables). These questions will be available for each major disease topic (e.g., hypertension, hyperlipidemia) and the quiz may take place on the first day of the start of a major disease topic – approximately one per week (see asterisks on course schedule). **Homework will not be collected or graded; however, completion of such will assure an optimal quiz grade.** Each quiz will be approximately 8-12 questions and will be administered randomly in the class or through Blackboard.

Grade Calculation

Exam (20% each)

In-class Quizzes 10%

Lecture #	Topic
1	Introduction to Pharmacotherapy
2	Dyslipidemia*
3	Dyslipidemia
4	Dyslipidemia
5	Hypertension*
6	Hypertension
7	Hypertension
8	Hypertension
9	Thromboembolic Disorders*
10	Thromboembolic Disorders
11	Thromboembolic Disorders
12	Thromboembolic Disorders
13	Patho. of Ischemic Heart Disease
14	Patho. of Ischemic Heart Disease
15	Ischemic Heart Disease (Stable Angina)*
16	Ischemic Heart Disease (Stable Angina)
	EID Break (Sep 17 - 29)
17	Ischemic Heart Disease (ACS)*
18	Ischemic Heart Disease (ACS)
19	Ischemic Heart Disease (ACS)
20	Heart Failure*
21	Heart Failure
22	Heart Failure
23	Acute Heart Failure
24	Patho of Arrhythmia
25	Overview of Arrhythmia *
26	Atrial Fibrillation
27	Atrial Fibrillation
28	Atrial Fibrillation