Applied Pharmacokinetics and Pharmacogenomics I
SHENANDOAH UNIVERSITY
Bernard J. Dunn School of Pharmacy
REMEDIATION COURSE SYLLABUS

PHRN 632: Applied Pharmacokinetics and Pharmacogenomics I

COURSE DESCRIPTION:
Applied Pharmacokinetics and Pharmacogenomics I will focus on specific pharmacokinetic and pharmacogenomic issues of individual respiratory, renal and cardiovascular drugs and their clinical applications. This course is 1 credit hour for Shenandoah University visiting students.

COURSE FORMAT:
The course consists of lectures devoted to explaining theoretical and clinical principles, and analyzing and solving application problems. Two recitations will allow students to practice completing questions with calculations that will serve as preparation for the exams. Two exams will be given during the course, which are equally weighted to determine the course grade for Shenandoah University visiting students. Question types will vary, and include patient cases with calculations to assess application of the material. *Note: The number of exams may vary based on the academic year in which the course is offered.*

COURSE OBJECTIVES:
At the completion of this course, the student will be able to:

1. Apply basic pharmacokinetic principles to individual drugs and drug classes
2. Devise an initial dosage regimen and monitoring strategy using pharmacokinetic and pharmacogenomic principles and methods for drugs with a narrow therapeutic range or marked variability in their drug disposition.
3. Recommend modifications in drug therapy based on the changes in the patient's clinical condition that may alter drug pharmacokinetics.
4. Describe laboratory drug monitoring techniques used to measure drug concentrations and pharmacogenetic testing techniques.
5. Interpret the validity and utility of blood samples to aid in the assessment of a patient's therapeutic disposition of therapeutically monitored drugs.
6. Evaluate the clinical and pharmacokinetic and pharmacogenomic literature in terms of validity and clinical applications.
7. Apply pharmacokinetic and pharmacogenomic principles to therapeutic agents for which serum concentrations are not routinely monitored.

GRADING SCALE *(for students completing the course as a Shenandoah University visiting student)*

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	< 60%

TOPICS:

- Clearance Concepts
- Hepatic Clearance and First Pass Metabolism
- Theophylline Pharmacokinetics
- Renal Clearance
- Digoxin

Note: Topics may vary based on the academic year in which the course is offered.