

Applied Pharmacokinetics and Pharmacogenomics III
SHENANDOAH UNIVERSITY
Bernard J. Dunn School of Pharmacy
REMIEDIATION COURSE SYLLABUS

PHRN 734: Applied Pharmacokinetics and Pharmacogenomics III

COURSE DESCRIPTION:

Applied Pharmacokinetics and Pharmacogenomics III will focus on specific pharmacokinetic and pharmacogenomic issues of individual gastrointestinal, nutritional, musculoskeletal, neurosensory, and psychiatric 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.
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. Apply pharmacokinetic and pharmacogenomic principles to therapeutic agents for which serum concentrations are not routinely monitored.

REQUIRED TEXTS AND MATERIALS:

- Bauer LA. Applied Clinical Pharmacokinetics. McGraw-Hill Education. (*most recent edition*)

Note: Editions may vary depending on availability. Course content may be subject to copyright.

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:

- Pseudo-linear Pharmacokinetics
- Michaelis-Menten Pharmacokinetics
- Phenytoin
- Lithium Pharmacokinetics
- Drug Transporter Pharmacogenomics and Pharmacokinetics
- Drug Interactions
- Pharmacokinetic Consults

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