Renal Integrated Pharmaceutical Care and Science (ICARE)
SHENANDOAH UNIVERSITY
Bernard J. Dunn School of Pharmacy
REMEDIATION COURSE SYLLABUS

608: Renal Integrated Pharmaceutical Care and Science (ICARE)

COURSE DESCRIPTION:
Renal ICARE will present the students with the pathophysiology of common renal diseases, their complications, electrolyte and acid-base disorders as well as the pharmacodynamic and pharmacokinetic properties of the drugs used to treat these diseases, and the therapeutic management of patients. This course is 2 credit hours for Shenandoah University visiting students.

COURSE FORMAT:
The course consists of a series of lectures and case discussions to develop the students' skills to assess, evaluate and apply information in order to make better informed, rational, responsible and ethical therapeutic decisions. Three exams will be given during the course, which are equally weighted to determine the course grade for Shenandoah University visiting students. The question types will vary, and include patient cases to assess application of the material. Exam 3 will be cumulative. *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. Recognize and describe the pathophysiology of electrolyte disorders, acid-base disorders and the complications associated with kidney disease.
2. Recognize and describe the pharmacology of different classes of medications used to treat electrolyte disorders, acid-base disorders and the complications associated with kidney disease.
3. Evaluate and select education and treatment options for kidney disease and its associated complications.
4. Evaluate clinical outcomes of treatment and management plans for electrolyte disorders, acid-base disorders and the complications associated with kidney disease.
5. Apply an evidence-based approach to selective patient cases.

In addition to the global course objectives noted above, individual lecture objectives and outcomes will be provided prior to each lecture or lecture series.

REQUIRED TEXTS AND MATERIALS:
- DiPiro JT, Talbert RT, Yee GC, et al, eds. *Pharmacotherapy: A Pathophysiologic Approach*. McGraw Hill. (most recent edition)

Note: Editions may vary depending on availability. Required readings may also be drawn from other references as indicated by the lecturers, but are not required if they are not provided. Exam questions on required readings will primarily come from the DiPiro text above. 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:

- Anatomy and Function of the Kidneys
- Quantification of Renal Function
- Estimation of CrCl/GFR
- Drug Dosing in Renal Failure
- Fluid Balance and Replacement
- Sodium Electrolyte Disorders
- Potassium, Magnesium and Other Electrolyte Disorders
- Acid-Base Balance
- Acute Kidney Injury/Cases
- Drug-Induced Renal Disorders I: Pre- & Post-Renal/Interstitial Nephritis
- Drug-Induced Renal Disorders II: Acute Tubular Necrosis
- Pharmacology of Chronic Kidney Disease
- Chronic Kidney Disease (CKD) I/Cases
- Chronic Kidney Disease II: Secondary Hyperparathyroidism
- Chronic Kidney Disease III: Anemia of CKD
- Renal Replacement Therapy/Cases
- Pharmacokinetic Considerations of Renal Replacement Therapy
- Acute Dialysis

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