**Infectious Disease Integrated Pharmaceutical Care and Science (ICARE)**
**Shenandoah University**
**Bernard J. Dunn School of Pharmacy**
**REMEDIATION COURSE SYLLABUS**

**742: Infectious Disease Integrated Pharmaceutical Care and Science (ICARE)**

**COURSE DESCRIPTION:**
Infectious Disease ICARE will present the students with the pathophysiology of common diseases in infectious diseases as well as the chemical, pharmacodynamic and pharmacokinetic properties of the drugs used to treat the diseases, and the therapeutic management of patients. This course is 4 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 in patient care. Six 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 6 (final exam) 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. Identify and classify common microorganisms that cause infectious diseases.
2. Describe and apply common microbiological tests in the treatment of an infectious disease.
3. Apply knowledge of antimicrobial coverage to determine the most appropriate antimicrobial based on the specific infectious disease.
4. State the mechanism of action, antimicrobial spectrum, common adverse reactions, pharmacokinetics, drug interactions, and appropriate dosing of antimicrobial agents.
5. Recognize the mechanisms underlying and overall impact of antimicrobial resistance on treatment.
6. Describe the epidemiology, etiology, pathophysiology, diagnostic tests, and clinical presentation of common bacterial, parasitic, fungal and viral infections seen in clinical practice.
7. Determine a rational treatment approach to common bacterial, parasitic, fungal and viral infections and provide appropriate monitoring.

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 RL, Yee GC, Matzke GR, Wells BG and Posey LM, eds. *Pharmacotherapy: A Pathophysiologic Approach*. McGraw-Hill. (most recent edition)
- Brunton LL, Chabner BA, Knollmann BC, eds. *Goodman & Gilman's The Pharmacological Basis of Therapeutics*. McGraw-Hill. (most recent edition)

**RECOMMENDED TEXTS:**

- Gallagher JC, MacDougall C. *Antibiotics Simplified*. Jones & Bartlett Learning. (most recent edition)
- Gilbert DN, et al. *The Sanford Guide to Antimicrobial Therapy*. (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)*

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

**TOPICS:**

- Microbiology Review
- Principles of Antimicrobial Therapy/Lab Monitoring I & II/Cases
- Pharmacology of Antimicrobials I-III
- Pharmacology of Antimicrobials IV/Antifungals
- Therapeutics of Antibiotics I-IV/Cases
- Respiratory Tract Infections
- Tuberculosis
- Central Nervous System Infections
- Urinary Tract Infections
- Sexually Transmitted Diseases
- Surgical Prophylaxis
- Gastrointestinal Infections
- Fungal Infections
- Tick-Borne Infections
- Parasitic Infections
- Skin/Soft Tissue Infections
- Endocarditis
- Sepsis
- Principles of Antibiotic Stewardship Program
- Pharmacology of Antiretrovirals
- HIV Therapeutics
- Opportunistic Infections
- Pharmacology of Herpes Agents
- Other Viral Infections

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