

Virginia Western Community College

Course Outline -MDL236

Parasitology

Prerequisites:

N/A

Course Description:

Teaches handling, isolation, and identification of clinically significant parasites. Emphasizes clinical techniques and morphological characteristics for identification.

Course length: 8 weeks

Credit hours: 2

Lecture hours: 2

Laboratory hours: 3

Required Materials:

Textbook: Medical Microbiology by Murray, Rosenthal and Pfaller 8th edition

Course Outcomes:

At the completion of this course, the student should be able to:

- Recognize the scientific and common names of parasites covered during the course
- Recognize the body specimen of choice to be used for examination to help diagnose parasitic infection
- State the general geographic distribution of each parasite covered
- Recognize and Identify parasites by morphology of various stages of development
- Describe and discuss the life-cycle development of nematodes, trematodes and cestodes
- Identify parasites by morphology of various stages of development
- Recognize potential methods for successful epidemiology control of parasites
- Understand fecal concentration techniques for parasite recovery
- Understand staining techniques of fecal material and body specimens

Topics

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Revised: Spring 2021

- 1. Parasitic Classification, Structure and Replication**
 - Discuss hierarchy of classification
 - Describe different reproductive/replication cycles for parasites
- 2. Pathogenesis of Parasitic Diseases**
 - Describe the various mods of parasitic transmission
 - Evaluate the types of specimens for diagnosis
- 3. Role of Parasites in Disease**
 - Discuss parasites involved in highest incidence of parasitic disease
- 4. Laboratory Diagnosis of Parasitic Disease**
 - Describe methods for submitting stool specimens to the laboratory
 - Evaluate the preservatives used for stool specimen collection and stool collection kits
 - List interfering substances for parasite examination
 - Describe the procedure for gross examination of stool specimens
 - State purpose of wet mount vs. stained mount slides
 - Evaluate flotation vs. sedimentation concentration techniques
 - Discuss the use of other specimens in diagnosing specific parasitic infections
 - Describe the procedure for preparing thick and thin blood films; describe the procedure for staining slides
 - Evaluate other tests that are used to diagnose or evaluate for parasitic infection
- 5. Antiparasitic Agents**
 - Discuss options for treatment of parasitic infection
- 6. Intestinal and Urogenital Protozoa**
 - Discuss protozoan classifications
 - Define basic terms used to identify and distinguish protozoa
 - Discuss the life cycle of each protozoa
 - Discuss the diagnostic morphology of each protozoa
 - Discuss epidemiology and pathology of each protozoa
- 7. Blood and Tissue Protozoa**
 - Discuss protozoan classifications
 - Define basic terms used to identify and distinguish protozoa
 - Discuss the life cycle of each protozoa
 - Discuss the diagnostic morphology of each protozoa
 - Discuss epidemiology and pathology of each protozoa
- 8. Nematodes**
 - Discuss helminth classifications
 - Define basic terms used to identify and distinguish helminths
 - Discuss the life cycle and diagnostic morphology of each helminth

- Discuss epidemiology and pathology of each helminth

9. Trematodes

- Discuss helminth classifications
- Define basic terms used to identify and distinguish helminths
- Discuss the life cycle and diagnostic morphology of each helminth
- Discuss epidemiology and pathology of each helminth

10. Cestodes

- Discuss helminth classifications
- Define basic terms used to identify and distinguish helminths
- Discuss the life cycle and diagnostic morphology of each helminth
- Discuss epidemiology and pathology of each helminth

11. Arthropods

- Discuss arthropod classifications
- Define basic terms used to identify and distinguish arthropods
- Discuss epidemiology and pathology of arthropods