

Virginia Western Community College

MDL 236

Parasitology and Virology

Prerequisites

BIO 101 and BIO 141 or equivalent

VWCC Course Description

This course provides comprehensive instruction in the proper handling, isolation, and identification of clinically significant parasites encountered in medical laboratory practice. Students will develop proficiency in essential clinical techniques, including specimen preparation, microscopic examination, and diagnostic methodology. Emphasis is placed on recognizing key morphological characteristics of protozoa, helminths, and arthropods, enabling accurate identification and understanding of their clinical relevance. Through laboratory exercises and case-based learning, students gain the foundational skills necessary for effective parasitological diagnostics in a healthcare setting.

Semester Credits: 2

Lecture Hours: 2

Laboratory Hours: 3

Required Materials

Textbook

Medical Microbiology by Murray, Rosenthal and Pfaller 9th edition.
ISBN-0323673228

VWCC COURSE OUTCOMES

- 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 parasite
- Understand fecal concentration techniques for parasite recovery
- Understand staining techniques of fecal material and body specimens

VWCC TOPICAL DESCRIPTIONS

- Parasitic Classification, Structure and Replication
 - Discuss hierarchy of classification
 - Describe different reproductive/replication cycles for parasites
- Pathogenesis of Parasitic Diseases
 - Describe the various modes of parasitic transmission
 - Evaluate the types of specimens for diagnosis
- Role of Parasites in Disease
 - Discuss parasites involved in highest incidence of parasitic disease
- 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
- Antiparasitic Agents
 - Discuss options for treatment of parasitic infection
- 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
- 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
- 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
- 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
- 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
- Arthropods
 - Discuss arthropod classifications
 - Define basic terms used to identify and distinguish arthropods
 - Discuss epidemiology and pathology of arthropods

[TITLE IX STATEMENT](#)

[ADA STATEMENT](#)