TRMD 6340 Diagnostic Laboratory Methods in Microbiology

Professor: Margarita Silio

Credits: 2

Semester(s) Offered: Fall, Spring

Course Description:

This laboratory course parallels topics presented in TRMD 633. The course is designed to teach students how to perform basic laboratory tests using simple techniques applicable to developing countries. Most of these will be diagnostic tests for infectious diseases, although some clinically relevant non-diagnostic techniques will also be taught (e.g., complete blood counts). The bulk of the course consists of hands-on laboratory experience conducting laboratory tests with clinical specimens and analyzing prepared teaching specimens. Procedures for organism isolation and identification and rapid diagnostic kits will be covered.
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Learning Objectives:

1. Students will learn simple laboratory techniques applicable to developing countries
2. Describe, select and perform appropriate staining procedures for common microorganisms
3. Perform basic identification procedures and simple confirmatory tests for common microorganisms
4. Perform white blood cell counts, differentials, reticulocyte counts, copper sulfate test, hematocrits and erythrocyte sedimentation rates
5. Perform macro and micro evaluation of urine
6. Identify superficial and deep fungi. Perform KOH and India Ink stains.
7. Perform stool examinations for diagnosing parasitic infections and utilize Trichrome stain for making permanent slides of parasitic cysts and trophozoites.
8. Perform appropriate procedures for making thick and thin blood smears.
9. Examine blood films to identify and quantify parasitic infections.