# Sections of the Microscope

## Introduction

## Microscopy has a very important role in microbiology laboratories. A microscope is an essential tool for viewing microorganisms that are too small to be seen by the naked eye.

## To use your microscope effectively and efficiently in your daily routine, it is necessary that you become familiar with the major sections of the microscope.

## Image of a microscope showing the locations of the oculars, objective, stage, centering screws, condenser diaphragm, field diaphragm, light source, coarse adjustment control, fine adjustment control, and stage controls.

## Functions of the Microscope Sections

**Centering Screws** — two screws attached to the condenser diaphragm used to center the light in Kohler illumination.

**Coarse Adjustment Knob** — used for rapid or rough positioning of the specimen at the focal point of the objective lens.

**Condenser Diaphragm** — the lens system beneath the microscope stage, positioned to concentrate light correctly on the specimen and direct the light rays into the objective. It is either a rotating disc or an iris diaphragm on the condenser used to direct the appropriate wide/slender illumination cone to the specimen and entering the objective.

**Field Diaphragm** — an iris diaphragm, usually located on the base of the microscope, that controls the amount of light that enters the condenser diaphragm.

**Fine Adjustment Knob** — exactly positions the specimen at the focal point of the objective lens.

**Iris Diaphragm** — An iris diaphragm is an adjustable opening made of thin metal leaves. It controls the amount of light that passes through.

**Light Source** — Usually located in the base of the microscope. It is responsible for shining light on the specimen on the slide.

**Objectives** — The lens system nearest the specimen used to magnify and direct image-forming rays of the specimen to the oculars, where they are further directed and magnified. Objectives are most important for determining the quality of the image produced.

**Oculars** — Magnifying lens system of the microscope nearest to the eyes. Further enlarges the image produced by the objective.

**Stage Controls** — Controls under the stage of a microscope that move the stage back and forth for examination of a specimen slide.