

Olympus Microscope and Digital Camera Operating Procedures

Purpose and Scope:

This document describes the procedures and policies for using the MSE Department Olympus Microscope and Digital Camera. The scope of the document is to establish user procedures. Instrument repair or maintenance is outside the scope of this document.

Responsibilities:

This document is maintained by the department lab manager. The lab manager is responsible for general maintenance and for arranging repair when necessary. If you feel that the instrument is in need of repair or is not operating correctly please notify the lab manager immediately. The lab manager will operate the instruments according to the procedures set down in this document and will provide instruction and training to users within the department. Users are responsible for using the instrument described according to these procedures. These procedures assume that the user has had at least one training session.

Prerequisites:

All users must read this document and obtain approval and training from the lab manager.

Procedures:

Before using the microscope, users must reserve it on the resource scheduler. The scheduler account will be set up during the training session. The login and password for the Olympus computer will also be given to users during the training session.

Below is a general step by step instruction for the most basic operation. More in-depth training will occur during the training session.

- Remove the plastic cover from the microscope and turn on the main switch. If it isn't already in place, move the 5X objective into the main viewing position.
- Adjust the light intensity to about 9 or 10. If necessary, it can be increased, but don't push it over 11.5 and don't leave it at that intensity for very long.
- Using the eyepiece, adjust until your specimen comes into focus. Please use GREAT CARE, when adjusting the focus so that your specimen is not driven into the objective.
- If necessary, adjust the light path selector knob to allow for both camera and eyepiece.
- Open STREAM Essentials.
- On the far right there should be an operations column with two or three tabs at the bottom. Select the 'camera' tab. Select the 'live' button and adjust focus until your specimen comes into view.
- Choose the magnification desired and focus again. Be sure to change the objective selector in the software so that the correct scale will be displayed.
- When you are satisfied with the screen view of your specimen, select 'snap' to take a picture.
- STREAM Essentials saves information regarding your picture that includes colors, time, magnification, etc., as a .tiff file and many computer platforms cannot open that file extension. In order to save your picture in a format you can open first, select 'image' and 'burn in info'. This will overlay the scale bar and any other information that is on your picture.
- Next, select 'save as' and name the picture. Be sure to include whatever file extension you want to use.

Figure 1 describes the main sections of the microscope. None of the elements of the instrument are controlled by the computer except the digital camera located on top of the scope.

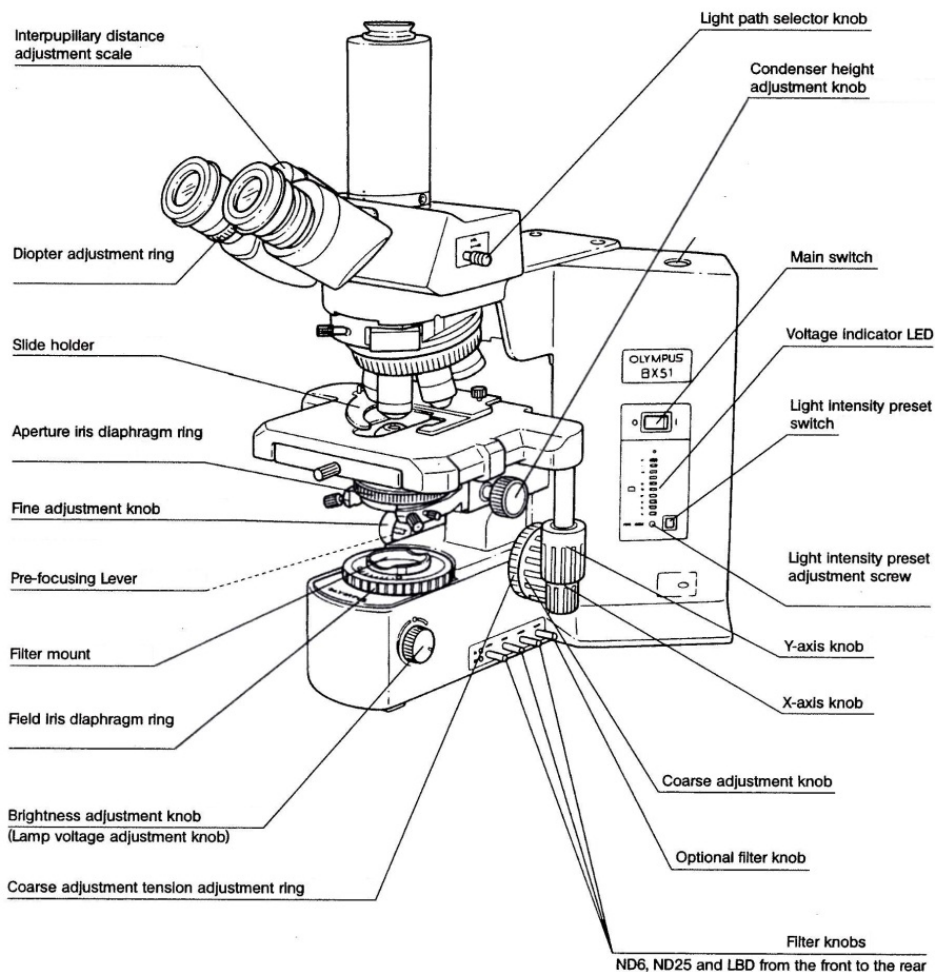


Fig. 1 Olympus BX51 microscope

When you have finished, please log out of the computer, turn off the main switch on the microscope, remove your sample and return the plastic cover over the microscope.

The length calibration was done using a 1 mm slide micrometer with 0.01mm spaced marks. While every effort is made to insure the accuracy of the calibration, it is possible that others can make adjustments to it that will give invalid information so please always check your scale. The slide micrometer is either on the computer or in the drawer directly behind the scope table.

**When you have completed your measurement please make sure to close out the CORAL session!
 Failure to do so may incur extra costs.**