Test Outline: Introductory Anatomy and Microscopy – Life Sciences 11

This test has two components. All students will start with the knowledge test. Small groups will be instructed to complete the practical test.

If you tend to finish tests early, please bring something ***non-electronic*** to work on (e.g. a book, assignment for another class).

Practical Test

You will be given a slide and a microscope and asked to focus on the specimen under high power. After the teacher has checked your work, you will be asked to demonstrate the proper way to put away a microscope.

During the test, you are permitted access to your "How to Use a Microscope" sheet. This notes page may include any of your own notes that *relate to microscope handling*. (If notes relating to the knowledge test are found, they will be confiscated and replaced with a plain print-out.)

If, during the test, you feel unsure about what to do next or need help, you are permitted to ask for it. If it is a microscope problem, you will not be penalized. If it is something you ought to know, you will be penalized.

The test is pass/fail. Dangerous actions (e.g. using coarse adjustment knob on high power, switching "through" oil objective to get to a different objective, causing damage to the microscope or slide) will result in an immediate fail. Redos for the test to achieve a passing score are available during PLT, but redos will not be eligible for full marks.

Skills Tested:

- Handling a microscope
- Focusing a microscope

Bring to the test:

- Notes Page: "How to Use a Microscope"

Knowledge Test

Topics:

- Introductory vocabulary:
    - Dorsal
    - Ventral
    - Anterior
    - Posterior
    - Distal
    - Proximal
- Microscope slide types:
    - Whole mount
    - Cross-section
    - Longitudinal section
- Microscope parts and functions
- Microscope types:
    - Simple microscope
    - Compound microscope
    - Confocal microscope
    - Electron microscope
- Microscope drawing:
    - Completing an accurate and complete microscope drawing (title, total magnification, drawing accuracy, labels)
- Microscope calculations:
    - Know the magnification of a standard eyepiece and low/medium/high/oil objective lenses.
    - Define field of view.
    - Calculate the field of view given information about field number and magnification.
    - Estimate the size of a specimen given a microscope image and information about field number, field of view and/or magnification.
    - Convert between metric units: m, cm, mm, μm, nm.

Bring to the test:

- Writing utensils (pencil and eraser)
- Ruler
- Calculator (non-programmable)