

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: FOREST BIOLOGY
Code No.: BIO 126-3
Program: FOREST TECHNICIAN
Semester: II
Date: SEPTEMBER, 1987
Author: G.L. STONE

New: _____ Revision: X

APPROVED:


Chairperson

Sept 9/87
Date

CALENDAR DESCRIPTION

FOREST BIOLOGY

BIO 126-3

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS:

A study of the science of life essential to a career in resource management; the classification of living organisms, particularly those of algae, higher plants, freshwater, and terrestrial animals found in Ontario forests and freshwater ecosystems; plant and animal life cycles, and introductory animal anatomy.

METHOD OF ASSESSMENT:

Evaluation

4 Term Test	54%
Quizzes	12%
Labs	30%
Attendance	4%

100%

Grading

A = 80%
B = 70%
C = 60%

Rewrites

Students receiving a final grade of 60% based on term tests and lab results will pass the course. Students receiving a final grade between 55-59% will rewrite the unit test on which performance was poorest. Students receiving less than 55%, or failing a rewrite will write a final exam on the total course.

Successful completion of a rewrite will be given a C grade.
Successful completion of a final exam will be given a C grade.

TEXTBOOK(S) AND SUPPLIES

Needham & Needham, A GUIDE TO THE STUDY OF FRESHWATER BIOLOGY

Arms & Camp, BIOLOGY

Dissecting Kit
H pencil
eraser
plain bond paper

ATTENDANCE is absolutely necessary to keep on top of the course.

SCIENTIFIC WORDS must be spelled correctly. One-half mark will be taken off for incorrectly spelled words.

MANUAL - bring to each lab. Read textbook and lab manual prior to each lab period.

LAB DRAWINGS - use only plain bond paper, one side only. All drawings will be done with an H pencil. All lettering will be freehand. Staple pages together (see guide for lab drawings).

GUIDE FOR LAB DRAWINGS

General

Our purpose is not to produce artists. What is desired is a clear-cut delineation of material seen and studied in the lab. Showing its proper form and proportion. As you study the material and make the drawings, checking the specimens for various parts, you will realize that drawings are excellent aids to learning. Your powers of observation should develop quite quickly.

Draw the material as you see it! The drawings must show what you see, and what you know. Do not copy from the textbook or other students work! All work should be done in the lab.

Format

All lab drawings shall follow the format of the attached sample drawing.

Title (see illustration)

1. Scientific name - must be underlined.
2. Common name.
3. Condition of specimen
(is it living, preserved, wet mount, prepared slide?)
4. Portion of specimen
(is it a whole mount or a section; x-section, longitudinal section or a radial section?)
5. View
(What view are you looking at - dorsal, ventral or lateral?)
6. Sex
(male or female?)

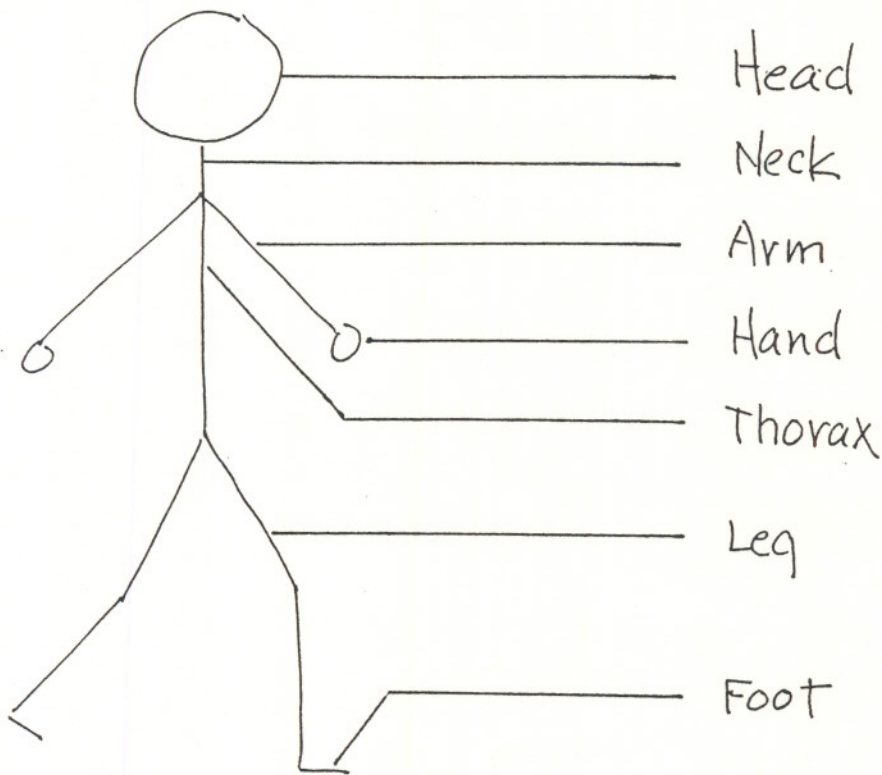
Shading (Stippling Style Only)

Keep drawings as simple as possible. Only stipple when necessary to show a difference in texture. Colour OD depth. Stipple deliberately holding pencil vertically. Placing the dots close together or further apart will give a variety of shading.

N.B. - FOLLOW THESE INSTRUCTIONS CAREFULLY UNTIL YOU ARE ABLE TO PUT THEM INTO EFFECT AUTOMATICALLY.

- K- Animalia
- P- Chordata
- C- Mammalia
- O- Primates
- F- Hominidae
- G- Homo
- S- sapiens

Joe Student
(Wednesday)



Homo sapiens, man, preserved specimen,
lateral view, ♂, 1/10 x actual size,
Purpose - to observe a typical college student.

Bio 126 - Illustration of a complete title.

1. Genus species

2. Common name

3. Living specimen
Preserved specimen
Wet mount
Prepared slide

4. Whole mount
X-section
long. section
radial section

5. Dorsal view
Ventral view
Lateral view

6. male (♂)
female (♀)

7. 100 X
100 X actual size
100:1

8. Purpose - to study the external features of...

A title will usually have items 1, 2, 3, 4, 7, & 8

If you have more than 1 diagram on the page, include scale under each diagram.

SUBMISSION OF BIOLOGY LABS

1. All lab drawings must be completed before the end of the lab period.
2. Drawings may be requested at any time:
 - at the end of a lab
 - next week or at any later lab
 - keep all completed labs in your notebook, and bring to each class
3. Any labs requested to be handed in will be marked out of 10. Labs not received when requested will receive a 0.
4. Lab drawings are part of the course material and could be on a test.
5. Not all labs will be requested for marking. Labs not requested, will be discussed in class to allow students to correct and complete drawings.
6. Some labs will be marked using other procedures; eg., a quiz may be inspected and checked as completed.
7. All missed labs must be completed within one week.
8. All labs must be completed before a grade can be given.

BIOLOGY 126-3

COURSE OUTLINE

WEEK	TOPIC
1	Introduction Origin of Life Classification - five Kingdoms
2	Mitosis and Meiosis
3	Primitive life forms - Monera - Protista
4	Protista Plantae - Algae
	TEST
5	Plantae - Mosses and Ferns
6	Plantae - Gymnosperms
7	Plantae - Angiosperms
8	Fungi
	TEST
9	Animalia - flatworms - animal systems Protista - protozoans
10	Animalia - round worms, earth worms - molluscs
11	Animalia - Anthropods
12	Animalia - Insects
	TEST

Course Outline cont...8

WEEK	TOPIC
13	Animalia - Chordata, Vertebrata, Fish
14	Animalia - Amphibians - Reptiles - Birds
15	Animalia - Mammals
16	Animalia - Dissection of amphibian or mammal

TEST

NOTE: Schedule subject to change.

be able to:

1. Compare the process of mitosis and meiosis in both plants and animals.
2. Illustrate spermatogenesis and oogenesis.

UNIT III: Primitive Life Forms - Monera and Protista

To successfully complete this unit, the student must satisfactorily be able to:

1. Compare major characteristics of Monera and Protista.
2. Identify three types of bacteria.
3. Compare major characteristics of bacteria and blue-green algae.
4. Distinguish between blue-green algae and true algae.
5. Compare characteristics of different Phyla of true algae:
 - Chlorophyta - green algae
 - Charophyta - stoneworts
 - Euglenophyta - green-line algae
 - Chrysophyta - golden-brown algae

4. Differentiate between class Arichnida, Crustacea, and Insecta.
5. Distinguish between three groups of insects: Ametabola, Hemimetabola, and Holometabola.
6. Identify the following orders, using three characteristics and one example: Coleoptera, Lepidoptera, Diptera, Hymenoptera and Homoptera.
7. Identify external features of an insect.
8. Identify external features of a crayfish and give a function for each.

UNIT VIII: Vertebrates: Animalia

- Agnatha
- Chondrichthyes
- Osteichthyes
- Amphibia
- Reptilia
- Aves
- Mammalia

To successfully complete this unit, the student should satisfactorily be able to:

1. Complete the major characteristics of the three classes of fish.
2. Dissect and identify internal and external parts of a fish.
3. Contrast soft and spiny rayed fish using a labelled diagram.

4. Contrast Amphibia, Reptilia, Aves, and Mammalia using five different traits.
5. Dissect and identify internal and external parts of a frog.