

47.

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

COURSE OUTLINE

Course Title: FOREST PATHOLOGY
Code No.: FOR 114-3
Program: FORESTRY
Semester: IV
Date: AUGUST 1983
Author: G. STONE

New: _____ Revision: X

APPROVED: *G. Stone*
Chairperson Date

FOREST PATHOLOGY OBJECTIVES

To have developed knowledge of:

1. The impact of forest diseases on the practice of forest management by using statistics on wood loss due to forest diseases and results of current research programs.
2. The resources available in the study of forest pathology - e.g. literature, resource persons, research facilities.
3. The important forest diseases of Canada with major emphasis on the economically important forest tree species of Ontario.
4. The various methods of control of forest diseases - Exclusion, Eradication, Protection, Resistance.
5. Recent advances in forest pathology research by visiting the Great Lakes Research Centre and attending a presentation by research officers.

To have developed understanding of:

1. The classification of fungi by demonstrating the differences between life cycles of Phycomycetes, Deuteromycetes, Ascomycetes and Basidiomycetes.
2. The disease process, its effects on the host and host reaction (susceptible, resistant, immune).
3. The succession of organisms on a host from a healthy state to decomposition.
4. The relationship between insects and disease organisms, e.g. Dutch Elm Disease and Beech Bark Disease.
5. The concept of stress factors.
6. The role of a forest technician in relation to the Forest Insect and Disease Survey.

To have developed skills in:

1. Recognizing signs and symptoms of forest diseases through the use of specimens, slides and field trips.
2. Distinguishing between infectious and non-infectious diseases.
3. Distinguishing between insect, fire and disease damage.

4. Collecting, drying and describing fungus diseases - by submitting a collection.
5. Designing dichotomous keys to separate specimens of forest diseases.
6. Identifying several fungus diseases to scientific and common name.
7. Researching and reporting on different aspects of forest diseases - assignments and technical reports.

Forest Pathology - FOR 114-3

COURSE OUTLINE

<u>Topic No.</u>	<u>Periods</u>	<u>Topic Description</u>
1	2	<u>Introduction</u> outline evaluation, grading, importance, lab manual, assignments, technical report, fungus collection.
2	1	<u>Infectious Diseases</u> fungi, bacteria, virus, parasitic seed plant, mycoplasma.
3	1	<u>Symptomatology</u> signs, symptoms, slides, specimens, drawings and descriptions.
4	4	<u>Non-Infectious Diseases</u> slides and specimens, key construction, design a key to separate.
5	2	<u>Classification and Reproduction</u> description and recognition, signs and symptom labelled drawings, slides, life cycles, design a key to separate four classes of fungi.
6	1	<u>Succession of Organisms</u> description, examples, assignment.
7	1	<u>Control of Forest Diseases</u> exclusion, eradication, protection, resistance assignment.
8	2	<u>Cankers</u> description, recognition, key, drawings, slide specimens, <u>Gremeniella</u> , <u>Hypoxylon</u> and <u>Strumella</u> , <u>Nectria</u> , <u>Eutypella</u> cankers.
9	2	<u>Decay</u> description, recognition, key, drawings, slide specimens, incipient, intermediate and advanced decay.
10	2	<u>Rootrots</u> signs, symptoms, description, drawings, life cycle, spread, importance, recent research, <u>Armillaria mellea</u> , <u>Fomes anosus</u> , <u>Polyporus</u> , <u>tomentosus</u>

- 11 1 Seedling Diseases
 damping off, postemergence, pre-emergence, Pythium
 and Phytophthora sp.
- 12 1 DUTCH Elm Disease
 fungus insect relationship, signs, symptoms, life
 cycles, control, recent research
- 13 1 Beech Bark Disease
 fungus/insect relationship
 fungus/parasite relationship
 insect/predator relationship
- 14 2 Blister Rusts
 specimens, slides, life cycle, keys, description,
 recognition, western rusts and white pine blister
 rust
- 15 2 Impact of Forest Tree Diseases on Forest
 Management in the Boreal Region
- 16 2 Review
- 17 2 Field Trip
- 18 2 Tests
 Slide test and Specimen Test

Evaluation:

Technical Report	25% of total mark
Assignments	35% of total mark
Slide Test	20% of total mark
Specimen Test	20% of total mark

Grading:

- A - 90% Exceptional
- B - 75% Consistently outstanding
- C - 60% Basic understanding of course material
- I - Incomplete

Each student must pass each item listed under evaluation. Marks will then be averaged to give the final mark. A student receiving an "I" in any aspect of the course will be given one opportunity to rewrite. The opportunity to rewrite is a privilege and not a right.

Textbook:

Tatter, T.A. 1978 "Diseases of Shade Trees"
Academic Press