BIOLOGY (Mycology) 135
THE THIRD KINGDOM: MUSHROOMS AND OTHER FUNGI
Fall 2002

COURSE SYLLABUS

INSTRUCTOR: Dr. Gary A. Laursen
305A Bunnell
Phone: 474-6295
Office Hrs: By Aptmt.

TEXT: Handouts as provided

Cost $39.95

HANDOUTS: As distributed (no cost)

LECTURE: M & W, 5:15-6:45 p.m., 409 Bunnell

LABORATORY: No formal labs: For a Mycology Lab. see Biol. 233 or 393. Informal class-time labs will be set up to demonstrate material.
In Lieu Of Labs: 3 OPTIONAL Sat. morning (10-noon) field trips will be organized. See Lecture Schedule

COURSE DESCRIPTION:

Biology 135 is designed to provide an introduction, rather than an in-depth taxonomic review, to the fungi, wood rotting fungi, lichenized fungi, lichenicolous fungi, and slime molds found in Alaska and around the world in Arctic and Subarctic environs. It is intended to whet your appetite for knowing more about the third and forth Kingdoms, Fungi (Mycetaceae) and Protists (Protoctista). Substantial emphasis is placed on fungal ecology and the relationships they demonstrated, but with particular emphasis on the mushrooms, toadstools, and other closely related organisms once considered as fungi.

Fungi and slime molds are diverse, versatile, intriguing and opportunistic assemblages of organisms. We are exposed to myriad forms daily and in many places (the kitchen sink, refrigerator, in or on our foods, the shower, lawns and the air we breathe). Their presence and utility, beneficial or destructive, effect all of us, some to a greater extent than we might want. Our course in fungi (Mycology) is designed to help you:

1.) Develop an increased appreciation for their many forms, diversity, life histories, ecological relationships, symbiotic associations, taxonomic and evolutionary position, industrial importance, physiological mechanisms important to their survival, as biological control mechanisms, their toxins (poisons), medical, and religious implications, and how they impact the boreal forest and man;

2.) Become familiar with literature sources available to us for information to be used in preparing your course term/research paper on any topic related to the fungi. The preferred way of learning about the fungi is to actually work with fresh specimens in the field. We will attempt to supplant the laboratory with a bit of fieldwork and a rich assortment of audiovisuals in 35-mm slides, films, videos and videodiscs. This should be an exciting and rewarding learning
experience for all of us. I hope you will gain a greater understanding of our biological and plant-like world this semester, such that we develop a working knowledge about science in general with an emphasis on some biological specifics in the study of fungi.

3.) Your **charge is** to become **understanding new and/or revolutionizing ideas.** Go for it! We’re glad you’ve decided to embark upon this journey. Help us guide your learning about life of fungi as we trek down provocative “garden paths” together.

We have placed a copy of the text and lecture notes on Reserve in Rm. 316 Bunnell for those of you who “need” a copy of our text while studying on campus. PLEASE, DO NOT REMOVE any of the materials provided from Rm. 316, at the risk of being severely ridiculed by your fellow students who might also want the advantage of using these learning aids. We highly recommend that you consider purchasing a fungal field guide. The readings noted will assist your understanding of some of the more technical/detailed information provided in concert with distributed note sets.

**Office Hours:**

The following will be the hours you can find me in my Office at 305A Bunnell: **3-4:30 M-W**. You are also encouraged to set up individual appointments with me whenever you determine that individual attention is needed. I am here to help you succeed! BE THERE TO GET ALL OF THE INFO!

**Missed Classes:**

**DON’T miss our lectures!** There is strong correlation between lectures missed, testing success, and final grades! All exams will be taken from lecture discussions, notes and slides.

**Grading Policy:**

Grades will be exam performance based with **FOUR in-class 90 minute EXAMS.** A non-comprehensive “final exam” is essentially our Exam 4. Exams will consist of Matching, true-false, multiple choice, short answer/fill-in-the-blank, short answer essay, and contemplative and/or synthesizing essay questions. They will examine your ability to recall ideas, terminology, knowledge of concepts, synthesis of new relationships between existing concepts, and to use your newfound knowledge in solving problems. **HOMEWORK** will consist of reading scientific articles and reports to construct a ‘**Topical Interest Paper**’ on any aspect/subject relevant to the fungi. **Ideas** with **brief outline** are **DUE 30 Oct.**; the **paper** is **DUE on 4 Dec.**

**Cell Phones and Beeplers:**

Out of courtesy to this instructor, you are requested to turn your cell phones and beepers **OFF at the start of each class.** Too me, these are very disruptive to transmitting thoughts.

**Grade Determination Synopsis:**

Approximately 450 total course points will be distributed as follows:

- **Hour exams:** 100, 100, 100, 100 400
- **Research Paper** 50

If you must miss an **EXAM,** please contact me **BEFORE** the exam. Make-up exams will be provided **ONLY** when the excuse is valid (documented, and/or a debilitating illness, university-
related travel, etc.) and we have been notified in advance of the exam. You will otherwise forfeit
the make-up of that exam; and no exams may be made-up once graded exams have been passed
back; generally within one week.

Final grades shall be based on ca. 450 total points and determined by percentage values as
follows:

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90%</td>
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<td>B</td>
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<td>F</td>
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F. Prerequisites:

There are no prerequisites for this class; however, a course in General Biology (103, 104,
105, 106) is recommended.

G. Attendance:

Regular attendance is expected. Obviously, we cannot chain you to a desk. Indeed, we do
not want to! Any student desiring a passing grade in our class MUST make a reasonable effort. If
a “reasonable effort” is not realized, a student runs the risk of receiving a lower grade than might
be expected. We will adhere to UAF guidelines for the issuance of “Incomplete” grades.

LECTURE SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>Lect.</th>
<th>DISCUSSION TOPICS WITH HANDOUT NOTES</th>
<th>SUGGESTED READINGS &amp; HANDOUT</th>
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<tbody>
<tr>
<td>SEP. 5</td>
<td>9 1</td>
<td>An Introduction to Mycology VIDEO: The Rotten World</td>
<td>Ch. 1</td>
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<td>11 2</td>
<td>Kingdom Mycetidae: History of Mycology</td>
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<td>13 3</td>
<td>LAST DAY FOR STUDENT REGISTRATION, ADDING CLASSES 100% REFUNDS, AND PAYING FEES</td>
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<td>16 3</td>
<td>Major Fungal Taxa: Fungal groups by common name</td>
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<td>18 4</td>
<td>Major Fungal Taxa: Fungal groups by common name</td>
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<td>20 5</td>
<td>LAST DAY FOR STUDENT &amp; FACULTY INITIATED DROPS</td>
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<td>21 6</td>
<td>SATURDAY: Optional Field Trip 1: Creamer’s Boreal Forest Walk, 10-noon</td>
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<td>23 7</td>
<td>Fungal Taxa: White spored Agarics Ch. 5</td>
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<td>25 8</td>
<td>Fungal Taxa: Brown spored Agarics Ch. 5</td>
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<td>28 9</td>
<td>SATURDAY: Optional Field Trip 2: Backyard Mycology Location TBD, 10-noon</td>
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<td>30 10</td>
<td>Fungal Taxa: Black spored Agarics Ch. 5</td>
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<td>OCT. 2</td>
<td>1 2</td>
<td>EXAM 1: Lectures 1-7 notes &amp; Chpts. 1 &amp; 5 (in part)</td>
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<td>5 3</td>
<td>SATURDAY: Optional Field Trip 3: Frederics West-Supermarket Fungi, 10-noon</td>
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<td>7 4</td>
<td>The Mushroom Life Cycle Ch. 8</td>
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<td>9 5</td>
<td>Roles that Fungi Play in Nature Ch. 11</td>
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<td></td>
<td>11 6</td>
<td>Collecting, Describing, Preserving and Publishing on Fungi Field Trip to Bunnell 316</td>
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<td>12 7</td>
<td>Return of Exam 1.</td>
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FRESHMAN LOW GRADE REPORTS

Ch. 5

14 10 Fungal Taxa: Coral, Tooth, Chanterelles, Bracket & traditional woodrotters

15 LAST DAY TO APPLY FOR FALL 2000 GRADUATION

16 11 Fungal Taxa: Stomach & Stinkhorn Fungi

21 12 Fungal Taxa: Rusts, Smuts & Jelly Fungi

23 EXAM 2: Lectures 8-12 notes and Chpts. 5, 8, & 11

28 13 Cold Dominated Ecosystems: Subarctic Fungi

Paper Project Idea & Brief Outline DUE

30 14 Cold Dominated Ecosystems: Subantarctic Fungi

Return of Exam 2.

NOV. 1

Ch. 4

4 15 Fungal Taxa: Ascomycete (Sac or cup) Fungi

6 16 Fungal Taxa: Yeasts, Molds & Arthropod Fungi

Water molds and Zygosporic fungi

“Wine” & Cheese Reception follows lecture

11 17 Mycotoxins and Mushroom Poisoning

13 EXAM 3: Lectures 13-18 notes and Chpts. 3, 4, 6, 15, 21, 22

18 SPRING SEMESTER 2001 FEE PAYMENT BEGINS

18 Mycotoxins, Mushroom Poisoning and Antifungal Compounds

20 19 Medical Mycology and Infectious Mycoses

Return of Exam 3

25 20 Myriad Uses of Fungi: Art, Agriculture and Astrology

27 No class tonight, gang!

THANKSGIVING BREAK

DEC. 2 21 The Boreal Forest: Fire, Insects, Mammals, Mycophagy, & Mycorrhizae

4 22 Fungal Taxa: Cellular & Plasmodial Slime Molds

9 23 Asco and Basidio Lichens

11 EXAM 4: Lectures 19-23 notes & Chpts. 2, 7, 9, 12, & 16-19

13 FRIDAY: Last Day of Instruction:

SURVIVOR'S BANQUET

Hutchison Career Center Cafeteria

5-6:30 p.m.

There is a $10 charge to help defray costs.

16-19 Finals Week; Grades Posted By 20 Dec.

Paper Due