COURSE SYLLABUS
BIOLOGY (Mycology) 135
THE THIRD KINGDOM: MUSHROOMS AND OTHER FUNGI
Fall 2004

INSTRUCTOR: Dr. Gary A. Laursen
            Phone: 474-7671/6295/5393
            305A Bunnell
            Office Hrs: By Appointment.

TEXT: Handouts as provided

SUPPLEMENTS: Kendrick, B. 1992. The Fifth Kingdom, 2nd Ed., paperback on reserve in
              Bunn. 316 for select readings; ISBN # 0-941051-28-5, Cost: $39
              Publ. Cost $24.00
              Cost $39.95

HANDOUTS: As distributed (at no cost)

LECTURE: M & W, 5:15-6:45 p.m., 409 Bunnell (Dinner is served to 7:30 pm in
         LTC; Sandwich bar is served from 7:30-8:30 pm)

LABORATORY: No formal labs: For a Mycology Lab. see Biol. 233 or 393.
             In Lieu Of Labs: 3 OPTIONAL Sat. morning (10-noon) field trips will
             be organized, weather pending. See Lecture Schedule.

COURSE DESCRIPTION:

Biology 135 is designed to provide an introduction, rather than an in-depth and lab-
oriented taxonomic review, to the fungi of Alaska and around the world in Arctic and Subarctic
environs. It is intended to whet your appetite for knowing more about the third Kingdom, the
Fungi (Mycetaceae). Substantial emphasis is placed on fungal ecology and the relationships
demonstrated by all fungi, and with a particular emphasis on the mushrooms, toadstools, and
other closely related organisms once considered as fungi; i.e., aquatic molds and slime molds.

Fungi are diverse, versatile, intriguing and opportunistic assemblages of organisms. We
are exposed to myriad forms daily and in many places (the kitchen sink, refrigerator, foods,
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 on 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 35mm slides, films, videos and video-discs. These should provide 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 of new and/or revolutionizing ideas. Go for it! We’re glad you’ve decided to embark upon this journey with us. Help us guide your learning about fungal life as we trek down provocative “garden paths” together.

4.) We have placed a copy of Reference Texts and lecture notes in the Mycology Lab, Rm. 316 Bunn. for those of you who “need” reading material available while studying on campus. PLEASE, DO NOT REMOVE any of the materials provided from the library, at the risk of being severely ridiculed by your fellow students who might also want the advantage of using these learning aids, too. We highly recommend that you consider purchasing a fungal field guide. However, readings noted can assist your understanding of some of the more technical/detailed information provided in concert WITH DISTRIBUTED NOTE SETS.

**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 27 Oct.; the paper is DUE on 1 Dec.

**Cell Phones and Beepers:**

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.

**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!

**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:

- **A ≥** = 90-100%
- **B ≥** = 80-89%
- **C ≥** = 70-79%
- **D ≥** = 65-69%
- **F ≤** = 64%

**PREREQUISITES:**

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

**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.
# FALL 2004 COURSE SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>Lect.#</th>
<th>DISCUSSION TOPICS WITH HANDOUT NOTES</th>
<th>SUGGESTED READINGS &amp; HANDOUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEP.</td>
<td>2</td>
<td><em>FIRST DAY OF INSTRUCTION, LAST DAY FOR STUDENT REGISTRATION, ADDING CLASSES AND PAYING FEES</em> Financial Aid Disbursements begin</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td><em>Labor Day: NO CLASSES</em></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>An Introduction to Mycology</td>
<td>Ch. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kingdom Myceteae</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fungal Lifecycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fungal Groups and Roles</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td><em>LATE REGISTRATION, ADDING CLASSES AND PAYING FEES</em></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td><strong>SATURDAY:</strong> Optional Field Trip 1; <em>Creammer’s Boreal Forest Walk</em>, 10-noon. Meet in BACK parking lot next to barn</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>History of Mycology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>VIDEO: The Rotten World</strong></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>Major Fungal Taxa: Fungal Families</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td><em>LAST DAY FOR STUDENT and FACULTY INITIATED DROPS and 50% tuition refunds</em></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td><strong>SATURDAY:</strong> Optional Field Trip 2; Backyard Mycology-10-noon</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>4</td>
<td>Major Fungal Taxa: Fungal Families</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>5</td>
<td>Fungal Taxa: White spored Agarics</td>
<td>Ch. 5</td>
</tr>
<tr>
<td>27</td>
<td>6</td>
<td>Fungal Taxa: Brown spored Agarics</td>
<td>Ch. 5</td>
</tr>
<tr>
<td>29</td>
<td>7</td>
<td>Fungal Taxa: Black spored Agarics</td>
<td>Ch. 5</td>
</tr>
<tr>
<td>OCT.</td>
<td>2</td>
<td><strong>SATURDAY:</strong> Optional Field Trip 3; <em>Freddies West-Supermarket Fungi</em>, 10-noon</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td><strong>EXAM 1:</strong> Lecture Notes 1-7</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>Collecting, Describing, Preserving and Publishing on Fungi with <strong>Field Trip</strong> to Bunnell 316</td>
<td>Ch. 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>FRESHMAN LOW GRADE REPORTS</strong></td>
<td>Ch. 11</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td><strong>SATURDAY:</strong> Optional Field Trip 4; TBD/TBA Wx permitting!</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Fungal Taxa: Coral, Tooth, Chanterelles</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td><strong>Return of Exam 1.</strong></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Fungal Taxa: Bracket &amp; traditional woodrotters</td>
<td>Ch. 5</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td><em>LAST DAY TO APPLY FOR FALL 2004 GRADUATION</em></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>10</td>
<td>Fungal Taxa: Stomach &amp; Stinkhorn Fungi</td>
<td>Ch. 5</td>
</tr>
</tbody>
</table>
20 11 Fungal Taxa: Rusts, Smuts & Jelly Fungi Ch. 5
25 12 Cold Dominated Ecosystems: Subarctic Fungi
Paper Project Idea & Brief Outline DUE
27 EXAM 2: Lecture Notes 8-12
31 LAST DAY FOR STUDENT and FACULTY INITIATED WITHDRAWALS w/"W"

NOV. 1 13 Fungal Taxa: Ascomycete (Sae or cup) Fungi Ch. 4
3 14 Fungal Taxa: Molds & Arthropod Fungi
   "Wine" & Cheese Reception follows lecture
8 15 Fungal Taxa: Water molds and Zygosporic fungi Ch. 3
10 16 Mycotoxins and Mushroom Poisoning Ch. 21
15 SPRING SEMESTER 2001 FEE PAYMENT BEGINS
17 Mycotoxins, Mushroom Poisoning and Antifungal Compounds Ch. 22
17 18 Medical Mycology and Infectious Mycoses Ch. 23
22 Return of Exam 3
EXAM 3: Lecture Notes 13-18
24 No class tonight, gang!
25-28 THANKSGIVING BREAK
29 19 Myriad Uses of Fungi: Art, Agriculture and Astrology Chs. 12, 17
   Ch. 19
DEC. 1 20 The Boreal Forest: Fire, Insects, Mammals, Mycophagy, & Mycorrhizae Chs. 9, 12
   Paper Due
6 21 Fungal Taxa: Cellular & Plasmodial Slime Molds Ch. 2
8 22 Asco and Basidio Lichens Ch. 7
10 23 Last Day of Instruction: SURVIVOR’S BANQUET Hutcheson Institute of Technology UAF And High School, Cafeteria
   A $10 charge will help to defray ca. 50% of total costs 5:30-7 pm
13 EXAM 4: Lecture Notes 19-23
15-18 Finals: Grades Posted by 17 Dec.