TRIAL COURSE OR NEW COURSE PROPOSAL

1. ACTION DESIRED
(CHECK ONE):

Trial Course
New Course

2. COURSE IDENTIFICATION:

Dept
BIOL.
Course # 136
No. of Credits 1

Field Mycology is designed to provide an introduction, rather than an in-depth and lab-oriented taxonomic review, to the fungi of Alaska from 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.

3. PROPOSED COURSE TITLE:

AN INTRODUCTION TO MACRO & MICRO MUSHROOM IDENTIFICATION

4. CROSS LISTED? YES/NO

Y

If yes, Dept: NRM

Course # 136

(Rquires approval of both departments and deans involved. Add lines at end of form for such signatures.)

5. STACKED? YES/NO

N

If yes, Dept: 

Course # 

6. FREQUENCY OF OFFERING:

Annually (summer)

(Every or Alternate) Fall, Spring, Summer — or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (if approved)

Summer 2010

8. COURSE FORMAT:

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

COURSE FORMAT: (check one)

[ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6 weeks to full semester

OTHER FORMAT (specify)

6-9 p.m. Fri. & 9 a.m. to 5 p.m. Sat. & Sun. & Sat. Eve. 7-10 (Summer Sessions)

Mode of delivery (specify lecture, field trips, labs, etc)

Lecture, lab and 4 field trips.

9. CONTACT HOURS PER WEEK:

[ ] 7 LECTURE hours/weeks
[ ] 3 LAB hours/week
[ ] 16 PRACTICUM hours/week

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See http://www.uaaf.edu/uaafgov/faculty/cd/credits.html for more information on number of credits.

OTHER HOURS (specify type)

10. COMPLETE CATALOG DESCRIPTION including dept, number, title and credits (50 words or less, if possible):

The purpose is to bring interested persons together who wish to collect, identify, label, prepare and/or preserve wild mushrooms. Shared will be a wealth of information on Alaskan wild and/or edible mushrooms and associated laboratory activities directed toward
identification. The course will provide available resources to those within the vicinity of Fairbanks as an outreach program for continuing adult education on mushroom identification.

11. **COURSE CLASSIFICATIONS**: (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

<table>
<thead>
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<th>H = Humanities</th>
<th>N = Natural Science</th>
<th>S = Social Sciences</th>
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Will this course be used to fulfill a requirement for the baccalaureate core? YES X NO

IF YES, check which core requirements it could be used to fulfill:

- O = Oral Intensive, Format 6
- W = Writing Intensive, Format 7
- Natural Science, Format 8

12. **COURSE REPEATABILITY**: X YES NO

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).

How many times may the course be repeated for credit? 4 TIMES

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course? 3 CREDITS

13. **GRADING SYSTEM**:

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14. **PREREQUISITES**

Interest and enthusiasm for the fungi!

**RECOMMENDED**

None, but having a basic biology course is indeed helpful.

Classes, etc. that student is strongly encouraged to complete prior to this course.

15. **SPECIAL RESTRICTIONS, CONDITIONS**

This is a FIELD course and students must be prepared to participate in all aspects of the course.

16. **PROPOSED COURSE FEES**

Has a memo been submitted through your dean to the Provost & VCAS for fee approval? Yes/No N

17. **PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously? Yes/No Y, many times

If yes, give semester, year, course #, etc.: BIOL F195 - Many summers-200902 most recent, sometimes twice in Fairbanks, Homer and Bethel

18. **ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

none

19. **LIBRARY COLLECTIONS**

Have you contacted the library collection development officer (kkd@uaf.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

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I wrote the book for the course.

20. **IMPACTS ON PROGRAMS/DEPTS**

What programs/departments will be affected by this proposed action? Include information on the Programs/Departments contacted (e.g., email, memo)

Biology and Wildlife, School of Natural Resources and Agriculture Sciences

21. **POSITIVE AND NEGATIVE IMPACTS**

Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.

All aspects are only positive.
JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

There is serious interest throughout our Interior, South Central and South Eastern Alaskan communities for such a course as indicated by numbers having taken the course(s) each and every summer.

Fungi are diverse, versatile, intriguing and an opportunistic assemblage 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, affect all of us, some to a greater extent than we might want. Our course on fungi (Mycology) is designed to help 'students':

A. 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;

B. Become familiar with some literature sources available to. The preferred way of learning about the fungi is to actually work with fresh specimens in the field. We will do just that and provide a rich assortment of audiovisuals in 35mm slides. 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.

C. Accept the charge to become understanding of new and/or revolutionizing biological ideas, embark upon new journeys, help guide your learning about fungal life as one treks down provocative "garden paths".

APPROVALS:

Signature, Chair, Program/Department of: Biology & Wildlife

Date 10/9/09

Signature, Chair, College/School Curriculum Council for: CNSM

Date 10/12/09

Signature, Dean, College/School of: CNSM

Date 11/11/09

Signature of Provost (if applicable)

Offerings above the level of approved programs must be approved in advance by the Provost.

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

Signature, Chair, UAF Faculty Senate Curriculum Review Committee

Date
### ADDITIONAL SIGNATURES: (If required)

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ATTACH COMPLETE SYLLABUS (as part of this application).

Note: syllabus must follow the guidelines discussed in the Faculty Senate Guide http://www.uaf.edu/uafgov/faculty/csl/syllabus.html. The department and campus wide curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course change will be denied.

SYLLABUS CHECKLIST FOR ALL UAF COURSES
During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

1. Course information:
   - Title, number, credits, prerequisites, location, meeting time
   (make sure that contact hours are in line with credits).

2. Instructor (and if applicable, Teaching Assistant) information:
   - Name, office location, office hours, telephone, email address.

3. Course readings/materials:
   - Course textbook title, author, edition/publisher.
   - Supplementary readings (indicate whether required or recommended) and
   - any supplies required.

4. Course description:
   - Content of the course and how it fits into the broader curriculum;
   - Expected proficiencies required to undertake the course, if applicable.
   - Inclusion of catalog description is strongly recommended, and
   - Description in syllabus must be consistent with catalog course description.

5. Course Goals (general) and Student Learning Outcomes (more specific)

6. Instructional methods:
   - Describe the teaching techniques (e.g.: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

7. Course calendar:
   - A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

8. Course policies:
   - Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

9. Evaluation:
   - Specify how students will be evaluated, what factors will be included, their relative value, and
   - how they will be tabulated into grades (on a curve, absolute scores, etc.)

10. Support Services:
    - Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

11. Disabilities Services:
    The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials.
    - State that you will work with the Office of Disabilities Services (208 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.

BIOL 195 (1 credit hour)
AN INTRODUCTION TO MACRO-Field & MICRO-Lab MUSHROOM IDENTIFICATION:
Alaskan Mycology

Course Syllabus

INSTRUCTOR: Dr. Gary A. Laursen, Mycologist
Course Instructor
UAF, Department of Biology and Wildlife
Tele: (907) 474-6295
Fax: (907) 474-6185
E-mail: ffigal@uaf.edu / galaursen@alaska.edu

DATES:
Aug./Sept. 08-09/1st-2nd Friday 6-9 p.m.
08-09/1st-2nd Saturday 9 a.m. to 5 p.m.
08-09/1st-2nd Saturday Eve. 7 p.m. to 10 p.m.
08-09/1st-2nd Sunday 9 a.m. to 5 p.m.

PLACE: University of Alaska Fairbanks and/or Bethel and Anchorage Kuskokwim Campuses

TIME: 6-9 p.m. Fri. & 9 a.m. to 5 p.m. Sat. & Sun.

FEE: Optional hand lens ($15) and select handouts (Free)

ATTENDANCE:
MANDATORY at all field lectures and forays for full credit; evening laboratory activities are optional.

COURSE DESCRIPTION:

Field Mycology is designed to provide an introduction, rather than an in-depth and lab-oriented taxonomic review, to the fungi of Alaska from 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 an opportunistic assemblage 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, affect all of us, some to a greater extent than we might want. Our course on fungi (Mycology) is designed to help you:

D. 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;
E. Become familiar with some literature sources available to. The preferred way of learning about
the fungi is to actually work with fresh specimens in the field. We will do just that and provide a
rich assortment of audiovisuals in 35mm slides and PPT presentations. 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.

F. Your charge is to become understanding of new and/or revolutionizing biological ideas. Go for
it! I’m glad you’ve decided to embark upon this journey. Help guide your learning about fungal
life as you trek down provocative “garden paths”.

PURPOSE:

The purpose of this course is to bring interested persons together who wish
to collect, identify, label, prepare and/or preserve wild mushrooms. Shared will be
a wealth of information on Interior, South-central or South-eastern Alaskan wild
and/or edible mushrooms and associated laboratory activities directed toward
identification. The course will provide available resources to those within the
vicinity of Homer as an outreach program for continuing adult education on
mushroom identification.

MISSED CLASSES:

DON’T miss our lecture and four field excursions! There is strong correlation between missed
presence and final grades! Grades will be P/F. No exams will be given; hence, the emphasis placed on
attending all activities.

GRADING POLICY:

Grades will be exam performance based and P/F.

COURSE SCHEDULE:

Friday: INTRODUCTIONS and ENROLLMENT

LECTURE ON MYCOPHAGY:
Responsibilities: Who has them?
Questions and Answers

MUSHROOMS AND TOADSTOOLS:
Taxa: phylogeny
Morphology: structure
Ecology: roles and a “typical” life cycle
Fungal Groups: common names
Use and applications of microscopes used in mycology
Material and slide preparations
Chemical tests used in species identification
Tools of The Trade For Mushroom Hunters
Super market mycology

Sat. 08/20: FIELD TRIP: 9-Noon. Place TBA. Foraging for edible fungi in the
field.
LUNCH: (If collecting is good, we stay out; otherwise to the lab)
LAB: QUESTIONS and ANSWERS & Discharged thoughts
LECTURE FORAY: Bring a bag of goodies to stump the professionals!
LABORATORY: 7-10 p.m.
Use of Field Guides
Use of scientific literature in mycology
Mushroom labeling, note taking, and photography

LUNCH: (If collecting is good, we stay out; otherwise to the lab)
LAB: QUESTIONS and ANSWERS & Discharged thoughts

LECTURE: Roles played by fungi
PUFFBALLS, The Stomach fungi (=Gasteromycetes)
   Calvatia and Lycoperdon
AGARICS, The Gilled Fungi
   Tricholomataceae
      Flavulina, Lentinus, Pleurotus, and Tricholoma
   Agaricaceae
      Agaricus
   Coprinaceae
      Coprinus
POLYPORES, The Poroid Bracket Wood Rotters
   Polyporaceae
      Polyporous, Laetiporus

WRAPUP & EVALUATION

SUPPORT SERVICES:

Students are afforded all support services available to all students including but not limited to: consortium library, computer lab, Learning Assistance Center, writing center (by appointment), financial aid and wellness counseling.

DISABILITIES SERVICES:

UAF has a Disabilities Services office that operates in conjunction with the College of Rural and Community development campuses. Disabilities Services, a part of UAF's Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services. If you believe you are eligible, please visit http://www.uaf.edu/chc/disability.html on the web or contact Student Affairs. You can also call (907) 474-7043 or email fydso@uaf.edu.
A. Pre-Class Preparation:


1. Recommend the purchase of: D. Arora’s, Mushrooms Demystified, $40, or $25 via the Kenai Peninsula Mycological Soc. Contact Janice Chumley, at 776-5277 or Steve Scott at 262-3541.

2. Each student will collect 40-50 species of fungi in any of two of three major Divisions within the Kingdom Mycetaceae (Fungi), excluding the Chromista, & Protozoa.

3. Specimens must be labeled as to Alaskan Region (i.e., Interior, South Central or South Eastern), date collected noted, habitat (general and specific with Lat. & Long.) given, substrate, photographs taken, notes made, determination, and collector noted.

4. Specimens need to be preserved (dried) and bug free.

B. Techniques used in Fungal Taxonomy-Kingdom distinctions

1. Taxonomy
   a. Taxonomic groups (use of common names for groups)
   b. Diagnosing Families
   c. Major collection repositories
   d. Color standards
   e. Literature-The personal library

2. The Literature
   a. Field Guides: Uses and limitations
   b. Keys
   c. Books
   d. Journals
   e. Newsletters
   f. Personal communications
   g. Your very own Kenai Peninsula Mycological Society

3. Sectioning material for micro-examination
   a. Re-wetting vs. fresh material use
   b. Structure morphology
      1. Spores: ornamentation, size, chemical reaction, and deposits
      2. Cystidia: caulo-, cheilo-, dermato-, gloeo-, pileo-, & pleuro-
      3. Hyphae: cylindric, physalomic, globose
      4. Trama: irregular, divergent, convergent, parallel
   c. Microtome: hand sections vs. histological preps.

4. Fungal collection, preservation, and description (Table 1)
   a. Field gear-tools of the trade
   b. Spore prints and color
   c. Macroscopic descriptions
   d. Microscopic descriptions
   e. Labeling
   f. Drying/preservation
   g. Collection care and maintenance
   h. Field photography

5. Chemical tests: Macro- & microscopic uses
   a. KOH (3 & 5%) tissue reviving
   b. Melzer’s reagent amyloidity
   c. Ethyl alcohol (70% & 95%) rewetting, granulations
d. Lactophenol cotton blue  
   hyphae in plant tissues

e. FeSO₄ (10%)  
   tissue

f. Fe₂Cl₆ (10%)  
   tissue

g. Ferric alum (10%)  
   tissue

h. Ferric ammonium sulfate  
   granulations

i. Phloxine  
   hyphal wall

j. NH₄OH  
   tissue

k. Conc. H₂SO₄ acid  
   spore differentiation in two genera

l. Sulphovanillin  
   cystidial

m. Sulfuric benzaldehyde  
   gloeocystidia

n. Gum guaiac/Tannic acid  
   extracellular oxidases in culture

6. The Microscope (Optional)
   a. Purchase, maintenance, use and care
   b. Calibration (of ocular micrometer) and critical measurements
   c. Personal scope instruction
   d. Use and limitations of the handles
   e. Photomicroscopy
   f. Latin terminology
Table 1: THE FUNGAL DESCRIPTION
Dr. G. Laursen

Genus species Authority

Synonymy (if appropriate or useful)

MACROSCOPIC DESCRIPTION includes:

Pileus
- size, shape, color, texture, moisture, taste, odor and consistency
- disc - configuration, color
- margin - configuration, color
- cuticle - and pileus context color, texture, thickness

Lamellae
- size (height, thickness, breadth, and width), shape (attachment), color, texture

Stipe
- length, width, apex vs. base shape, texture, color, context, cuticle (caulopellis) feel

Color
- bruising reactions (chemical)

MICROSCOPIC DESCRIPTION includes:

Spores
- length, width range, shape, ornamentation, wall thickness, +/- apical pore, appendages, epikutis wall thickness, contents, chemical reactions

Basidia
- size, shape, sterigmata # and length, chemical reactions, wall, contents

Cystidia
- size, shape, type (origin), wall, contents, and/or their absence or presense of Cheilocystidia, Pleurocystidia, Pileocystidia, or Caulocystidia

Sub-Hymenium
- elements

Lamellar trama
- cell size, shape, arrangement, wall, contents

Pileus trama
- as subhymenium and lamellar trama

Cutis
- pilipellis type, thickness, element size, shape, arrangement, walls, contents (same for caulopellis)

Material Examined:
- Country: State/County/District (City/Village/Community), Collector and Number (Date)

Habit and Habitat:
- General shape, attachment to substrate, higher or lower plant associates, substrate characters (acid, peaty, woody, etc.), locality and environmental parameter measurements typifying the mycological environment.

Observations and Discussion:
- Synopsis of key descriptive and distinguishing taxonomic characters; differences between closely allied species; occurrence (whether new to locality, state, country); suspected importance to community (i.e., decomposer, mycorrhizal, etc.); phenology (time and relative abundance); and synonymy.
Curriculum Council CNSM

Date - 12 Oct 2009
From - Diane Wagner
Subject - New Course proposal for BIOL F1XX, An Introduction to Macro and Micro Mushroom Identification
Recommendation – accept with revisions

This course is a useful addition to the permanent course offerings. There is substantial interest throughout Alaska in learning more about native fungi and their uses, and this course serves the community by providing an introduction to local fungi. The course has been taught many times as special topics. CNSM recommends that the new course be adopted, but suggests the following changes to the proposal and syllabus:

- Clear up the discrepancy between course duration on the form (26 hours of instruction) and the syllabus (22 hours of instruction).
- Clear up contradiction on syllabus regarding grading policy. Under “missed classes”, the syllabus states that there will be no exams given; under “grading policy”, the syllabus states that grades are based on exam performance.
- Be sure that the syllabus contains all the information specified in the faculty senate syllabus guidelines (see the checklist attached to the format 1).