COURSE TITLE AND NUMBER
Mushrooms, Molds, and Man. PLP 150 C1 sections 001, LECTURE, and 102/003, ONLINE

COURSE WEBSITE: D2L

DESCRIPTION OF COURSE
An overview of how organisms in the Kingdom Fungi (mushrooms, molds, yeasts, rusts, mildews) impact individuals and society. Content will include contemporary and historical contributions of fungi or fungal products as they relate to food, medicine, religion, famine, industry, and basic science, and how these contributions have changed the way we live, the quality of our lives, and cultural development.

LOCATIONS AND TIMES
Spring 2017 semester: Section 001, Marley 230, Tues. and Thurs. 8:00 a.m.- 9:15 p.m..
Sections 102/003, online-D2L

INSTRUCTOR INFORMATION
Dr. Barry Pryor, Professor of Plant Pathology and Microbiology
Office: Marley 341g, 626-5312, bmpryor@email.arizona.edu
Office Hours: Tues & Thurs 9:30 - 10:30
Instructor homepage: http://cals.arizona.edu/spls/node/136

TEACHING ASSISTANT
Aasiya Hamzazai, aasiyahamzazai@email.arizona.edu
Ashton Leo, abl2@email.arizona.edu
Office and Office Hours: Marley 822A
Aasiya: Tues 12-2
Ashton: Mon 11:30-12:30, Tues 2-3

PRECEPTOR
TBA:

COURSE OBJECTIVES AND EXPECTED LEARNING OUTCOMES
Upon completion of the course, students will be able to DESCRIBE common characteristics of fungi and EXPLAIN the role of fungi in the environment. Students will be able to DESCRIBE examples plant disease epidemics caused by fungi that have changed the course of history and to DISCUSS these events within an environmental and social context. Students will also be able to DESCRIBE the uses of fungi in food and beverages and DISCUSS the development of these products within a historical and geographical context. Students will also be able to DESCRIBE the uses of fungi in medicine and religion and DISCUSS the impact of these uses in terms of human health and social development. Students will be able to DESCRIBE the interaction of fungi with other organisms such as insects and DISCUSS the utility of these interactions in pest management. Students will also be able to DESCRIBE the beneficial interaction of fungi with plants and EXPLAIN how fungi help support a healthy, resilient, and sustainable ecosystem.
Students will also be able to **CREATE** a scientific essay with mycology as a subject, and **INTEGRATE** concepts and images of fungi into creative art.

**COURSE METHODOLOGY/TEACHING FORMAT**
Students will be presented lecture material, either in class or online (recorded in Panopto), read material from the assigned textbook and handouts, and review select internet links to prepare for the graded work, which will include exams, weekend assignments, quizzes, essays, and term projects.

**TOPICS**
The biology of fungi (what are fungi?)
- Fungi as food (shitake, truffles, vegemite, huitlacoche, and other strange things to eat)
- Fungal fermentative beverages (beers, wines, and unusual fermentations from native cultures)
- Fungal fermentative foods (salami, tempeh, soy sauce, etc)
- Fungi in breads and bread making (life without croissants!)
- Fungi in religion (portals to new dimensions)
- Fungal poisoning (the Salem witch-hunt and other travesties)
- Fungi in human disease (athlete’s foot, ringworm, and allergies)
- Fungi in plant disease (agricultural impacts and ecosystem changing epidemics)
- Fungi in major famines (Irish potato famine, Bengal famine, and other historical milestones)
- Fungi in plant health (symbiosis, mycorrhizal associations, all plants need fungi)
- Fungi in decomposition (recycling the forests, as well as our manufactured products)
- Fungi in medicine (antibiotics and the new age of senior living, population explosion)
- Fungi as models for scientific research (the nerdy side of fungi)

**REQUIRED TEXTS**
Reading assignments: see lecture schedule below.
Material from primary literature and the web will be assigned during the course and this will be available from online sources or from the course website.

**REQUIRED/RECOMMENDED KNOWLEDGE**
Some very fundamental knowledge about biology at the college level.

**GENERAL COURSE POLICIES AND REQUIREMENTS**
1. To participate in this course, students must have daily, reliable access to D2L.
2. Assignments must be turned in by the required date and time. Late assignments will be accepted but points will be deducted according to the metrics provided below.
3. **Students are expected to spend 6 to 9 hours per week on work related to this course.**
4. E-mails will be answered within 24 hours or 48 hrs on weekends.
5. Work turned in early will be held until the due date and graded with the rest of the submissions, unless the student asks for feedback prior to submitting a final draft.
6. Weekly announcements will be posted periodically over the course of the semester and you should check D2L announcements daily for new information related to the course.

**INFORMATION ON HOW TO USE D2L**
1. Go to [http://d2l.arizona.edu/](http://d2l.arizona.edu/) to access D2L
2. Enter your netID login and password
3. Go to “My Academic Courses” If your course does not appear:
   a. Click on the down arrow beside the current semester.
   b. Click on the down arrow beside the department name, and then
c. Click on your course name.
d. You should now be at your D2L Course Home Page.

Links to the Directions for all assignments are under the **CONTENT** heading in the course site found in the lower tool bar.

If you have difficulty with D2L, please read the D2L Tip Sheet at http://eebweb.arizona.edu/faculty/dornhaus/courses/d2l%20tip%20sheet%20students.pdf . Problems using D2L can also be reported using this Web link http://help.d2l.arizona.edu/node/153 . Additionally you can contact UITS 24/7 at: http://uits.arizona.edu/departments/the247 or directly at - (520) 626-TECH (8324)

**EXAMS AND GRADING POLICY**

Final numerical grades are calculated as a percentage of total points received by each student out of 800 possible points. There will be three exams and a final exam each worth 100 points. **All exams for all sections will be given online via the D2L course site.** On the day of each exam, the exam will open online on D2L at 8 am and will close promptly at 8 pm. The student will have 75 minutes to complete each midterm and 120 minutes to complete the final, and the student can take the exams anytime during the open period as long as they finish by 8 pm. There will be no class on the day of the exams. An investigative essay will be assigned and worth 100 pts, and this will be submitted online. A creative project will be assigned and worth 100 pts, and this will be submitted physically. For distance sections (003), this assignment will be submitted online. Weekend assignments will also be completed online. The assignments will be posted on Friday and will be due the following Tuesday at 8 am for a total of 140 pts (14 assignments at 10 pts each). There will be a post-course survey completed online after the last class but before the final exam worth 10 pts. Attendance for lecture section and the timely viewing of recorded lectures by online sections (like attendance) will be recorded and be worth 50 points (2 x 25 = 50, 6.25% of grade).

Letter grades will be determined as follows:

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>90-100% (720-800)</td>
<td>A</td>
</tr>
<tr>
<td>80-89% (640-719)</td>
<td>B</td>
</tr>
<tr>
<td>70-79% (560-639)</td>
<td>C</td>
</tr>
<tr>
<td>60-69% (480-559)</td>
<td>D</td>
</tr>
<tr>
<td>Below 480</td>
<td>E</td>
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**Grade definitions:**
A: Achievement that is outstanding relative to the level necessary to meet course requirements.
B: Achievement that is significantly above the level necessary to meet course requirements.
C: Achievement that meets the course requirements in every respect.
D: Achievement that is worthy of credit even though it fails to fully meet the course requirements.
E: Represents failure (no credit) and signifies that the work was not worthy of credit or was not completed.

**INVESTIGATIVE ESSAY**

An essay will be required from each student over the course of the semester and the subject matter must corresponding to one of the first three course sections: Fungi in our environment, Fungi in our food, or Fungi in medicine. The essay will be 5-6 pages in length and will require literature review and citation in the subject of the student’s choosing from a list of potential subjects.
developed by the instructor. Following submission of the essay, the instructor will provide editorial
comments and criticisms within two weeks, and the essay returned to the student for revision. The
student will then have one additional week to resubmit the revised essay.

CREATIVE PROJECT
This assignment will tap into the creative energies of each student that is specific to their major.
The format of the project is open, art, music, scientific, political, etc, and the only stipulation is that
it is directly relevant to fungi or mycology. The assignment will be worth 100 pts. We will discuss
more about this project as the semester progresses.

WEEKEND ASSIGNMENTS
Students will be required to complete 10 weekend assignments/quizzes designed to reinforce
classroom material. These will be posted before each weekend, and will be due by Tuesday, 8
am, before the following class meeting. Each assignment will be worth 10 points for a total of 100
points toward your final grade. Not all weeks will have weekend assignments

HONORS CREDIT
This course is available for Honors credit through Honors Contracts. Students enrolled for Honors
credit will meet as a group with the instructor or TA for 1 additional hour per week to discuss
contemporary topics in the general media or in scientific journals regarding fungi in society or in
science. This group will also explore how research on fungi impacts the quality of life for various
social groups. Each honors student will be expected to prepare a 5-6 page essay proposing
increased public support of fungal research in a specific area or on a specific subject as a means
for promoting social development. The students or the instructor will collectively review the essays
and provide critical comments on the effectiveness of the proposal. Each student will respond to
the review comments and incorporate them into a final draft of the assignment, due the final week
of class.

TENTATIVE ASSIGNMENT/TESTING SCHEDULE/DUE DATES
Date/Topic
Section 1. Fungi in our environment: what are they, where are they, and what do they do?
Week 1
Jan. 11 Chapter 1. Class introduction, introduction to fungi…petting zoo!
Week 2
Jan. 16 Chapter 1. Fungal biology, what is a fungus?
Jan. 18 Chapter 2. Fungal taxonomy and diversity, what’s in a name?
Week 3
Jan. 23 Chapter 2. Fungal ecology, Fungi and symbiosis, what do they do?
Jan. 25 Chapter 3. Fungal pathogen of crops, the Great Famines!!
Week 4
Jan. 30 Chapter 3. Fungal pathogens of crops, limiting food production around the world
Feb 1 Chapter 3. More fungal pathogens of crops,
Week 5
Feb 6 Chapter 4. Fungi in our landscapes, how they change plant communities
Feb 8 Chapter 9. Fungi in fermentation, those wonderful yeasts!!

Section 2. Fungi in our food and beverage: a world tour
Week 6
Feb. 13 First Midterm Exam (100 pts)
Feb. 15 Chapter 9. Fungi in fermentation, those wonderful yeasts!!
Week 7
Feb. 20 Chapter 9. Fungi in fermentation, wines, **Sign-up for essay topic due. 11:30 pm**
Feb. 22 Chapter 9. Fungi in fermentation, other fermented products

Week 8
Feb. 27 Chapter 9. Fungi in Food, cheeses, breads and other strange foods

**Mar 1** Chapter 10. Fungi as food, cultivated and wild mushrooms **Essay outline due. 11:30 pm**

Week 9
Mar. 6 Spring Break
Mar. 8 Spring Break

Week 10
Mar. 13 Chapter 10. Growing button mushrooms, commercial cultivation
**Mar. 15** Film, “Know your Mushrooms”

Week 11
Mar 20 Chapter 10. Growing specialty mushrooms. **1st essay submissions due. 11:30 pm**
**Mar 22** Chapter 5 and 11. Poisonous mushrooms and ergot poisoning, Fungi in Religion

**Section 3. Fungi in human health and a healthy environment**

Week 12
Mar 27 **Second Midterm Exam (100 pts)**
**Mar. 29** Chapter 6. Mycotoxins and sick building,

Week 13
Apr. 3 Chapter 8. Fungi and medicine.
**Apr. 5** Chapter 12. Mushrooms and our health **Sign-up for creative project due. 11:30 pm**

Week 14
Apr. 10 Chapter 7. Medical mycology
**Apr. 12** Chapter 7. Mycoses in animals. **1st essay submissions returned.**

Week 15
Apr. 17 Chapter 13. Fungal in insect pest management, close encounters of the third kind!
**Apr. 19** Chapter 12 and 14. Lichen, mycorhizal networks, wood decay, creating sustainable ecosystems **Final Essay due 11:30 pm. (100 pts)**

Week 16
Apr. 24 Class wrap-up. **Creative projects due 5:00 pm (100 pts)**
**April 26** Third Midterm Exam (100 pts)

Week 17
May 1 **7th Annual Fungapalooza!!! Time and place, TBD**
Honors essay due.
Final exam: Thursday, 5/10, online (100 pts)

POLICIES

STUDENT INTERACTION GUIDELINES
1) The Arizona Board of Regents’ Student Code of Conduct is outlined in ABOR policy 5-308, [https://public.azregents.edu/Policy%20Manual/5-308-Student%20Code%20of%20Conduct.pdf](https://public.azregents.edu/Policy%20Manual/5-308-Student%20Code%20of%20Conduct.pdf).
General questions regarding this Code of Conduct can be found at [http://deanofstudents.arizona.edu/student-code-conduct-student-faqs](http://deanofstudents.arizona.edu/student-code-conduct-student-faqs).

2) The University is committed to creating and maintaining an environment free of discrimination and harassment; see [http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy](http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy).
Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others. It is expected
that students may disagree with the research presented or the opinions of their fellow classmates. To disagree is fine but to disparage others views is unacceptable. All comments should be kept civil and thoughtful.

3) The University seeks to promote a teaching and learning environment free from material and substantial classroom disruptions. This Class runs under university policies regarding disruptive behavior. http://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting. Faculty members and teaching staff have the responsibility and authority to effectively manage their classroom environments.

4) The University seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare. The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. Threatening behavior can harm and disrupt the University, its community, and its families. Please see the following document for more information: http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

ELECTRONIC DEVICES
Please silence all cell phones. Absolutely no calls taken during class. Texting should wait until after class in most situations. The use of laptops and tablets is not allowed in this classroom. The reason for this is that over the last few years their use has increased to such an extent that students are not focused on the content being delivered in real time and are focused on content displayed on a screen. This detracts from the opportunity for in-class interaction and discussion. Moreover, screen displays are particularly disruptive to surrounding students not using such devices. If using electronic media is central to a student’s educational experience, the student is encouraged to enroll in either online section. The students are encouraged to take notes manually; it is a proven and complementary method of integrating information in addition to audio and visual content.

MISSED EXAM POLICY
Students will not be allowed to make-up exams except on rare occasions for justifiable, extenuating circumstances. Students need to submit a written request attaching supporting documentation (e.g. verification of illness, condition of family member, etc). Requests must be made at least one day in advance of the exam. Requests made the day of the exam will not be accepted. Students will not be allowed to make-up exams for non-academic reasons (e.g. family vacation, early holiday travel). If a student is allowed to make up an exam, it will most likely be in an essay format.

LATE POLICY FOR ASSIGNMENTS, PAPERS, PROJECTS, AND SURVEYS
Weekend assignments, term papers, creative projects, and surveys will be accepted after the due date/time. Assignment turned in late will be reduced by a percentage of its total graded value based on the following schedule. 2 min-2 hr: 5%, 2-12 hr: 10%, 12-24 hr: 15%, 1-2 d: 30%, 2-3 d: 40%, more than 3 d: no credit.

EXTRA CREDIT POLICY
There is no Extra Credit scheduled for this course, but some opportunities may arise.

ATTENDANCE POLICY
This course is offered as a lecture and online. For lecture sections, attendance is taken in class by answering select questions through Turning Technology clickers and students must have a
physical clicker. Phone apps are not acceptable. The correct answer for the clicker question will be discussed in class at the time the question is presented. For online sections, students will be expected to respond to the same questions via Turning Technologies within 24 hours of the posted lecture via phone apps (and in some cases physical clickers). For online sections, the students must answer the question correctly, as evidence that they have reviewed the lecture and reviewed the clicker question discussion. Students will not be allowed to make up attendance (lecture or online) without letting the instructor know in advance (via e-mail) that they will be missing class on a given day.

All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean designee) will be honored.

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at [http://catalog.arizona.edu/2015-16/policies/classatten.htm](http://catalog.arizona.edu/2015-16/policies/classatten.htm)

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: [http://policy.arizona.edu/human-resources/religious-accommodation-policy](http://policy.arizona.edu/human-resources/religious-accommodation-policy).

Absences preapproved by the UA Dean of Students (or dean’s designee) will be honored. See [http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02](http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02)

**INCOMPLETE GRADES**
Incomplete grades will be given only under special circumstances according to the university policy as stated on page 26 of "The University of Arizona Record 98-99 General Academic Manual".

**COURSE WITHDRAWAL**
Students withdrawing from this course must notify me prior to nonattendance in of online activities and must execute drop or withdrawal procedures in accordance with the UA General Catalog (see [http://catalog.arizona.edu/](http://catalog.arizona.edu/) for official dates).

**SPECIAL NEEDS AND ACCOMMODATIONS**
Students who need special accommodation or services should contact the Disability Resources Center, 1224 East Lowell Street, Tucson, AZ 85721, (520) 621-3268, FAX (520) 621-9423, email: uadrc@email.arizona.edu, [http://drc.arizona.edu/](http://drc.arizona.edu/). You must register and request that the Center or DRC send me official notification of your accommodations needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. The need for accommodations must be documented by the appropriate office.

**STUDENT CODE OF ACADEMIC INTEGRITY**
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog and according to the university policy on academic integrity as described on page 18 of "The University of Arizona Record 98-99 General Academic Manual". See: [http://deanofstudents.arizona.edu/codeofacademicintegrity](http://deanofstudents.arizona.edu/codeofacademicintegrity)

**STATEMENT OF COPYRIGHTED MATERIALS**
Students are advised that all lecture notes, lectures, study guides and other course materials disseminated by the instructor to the students, whether in class or online, are original materials and
as such reflect intellectual property of the instructor or author of those works. All readings, study guides, lecture notes and handouts are intended for individual use by the student. Students may not distribute or reproduce these materials for commercial purposes without the express written consent of the instructor. Students who sell or distribute these materials for any use other than their own are in violation of the University’s Intellectual Property Policy (available at http://techlaunch.arizona.edu/university-arizona-intellectual-property-policy. Violations of the instructors copyright may result in course sanctions and violate the Code of Academic Integrity.

CONFIDENTIALITY OF STUDENT RECORDS
http://www.registrar.arizona.edu/ferpa/default.htm. Students should have read and be aware of federal regulations regarding the privacy of their academic records

SUBJECT TO CHANGE STATEMENT
Information contained in the course syllabus may be subject to change with advance notice, as deemed appropriate by the instructor.

Maintained by College of Agriculture and Life Sciences, Office of Academic Programs, Forbes room 201, 621-3613.