PLANT PATHOLOGY 521 GENERAL MYCOLOGY 3 Credits

Johnson Hall 343 T TH 10:35-11:50

INSTRUCTOR: Dr. Lori Carris (329 Johnson Hall; carris@wsu.edu)
Dr. Kyryll Savchenko (326 Johnson Hall; kyryll.savchenko@wsu.edu)

COURSE OBJECTIVE: To provide a basic understanding of the biology, taxonomy and phylogeny of fungi.

RECOMMENDED TEXT: Moore et al. 2011. **21st Century Guidebook to fungi**. Cambridge University Press, Cambridge, UK (available at the Bookie)

COURSE WEBSITE: BLACKBOARD, accessed from MyWSU

Student Learning Outcomes At the end of this course, students should be able to:	Course Topics/Dates The following topic(s)/dates(s) will address this outcome:	Evaluation of Outcome: This outcome will be evaluated primarily by:
Demonstrate scientific literacy in major concepts and processes relative to the major groups of fungi and fungal-like organisms	Weeks 1-15	Midterm and final exams; case studies; team presentations
Locate and evaluate sources of scientific information on fungi and fungal-like organisms.	Weeks 3, 4 , 8, 12, 13, 15	Case studies and team presentations
Communicate and work effectively in groups in developing presentations	Weeks 4, 12, 15	Team presentations

REFERENCES (In Owen Science Library unless otherwise noted):

Arora, D. 1986. **Mushrooms Demystified**. Second Edition. Ten Speed Press, Berkeley, California.

Esser K., Lemke P.A., eds. 1994-2015. **The Mycota**. A Comprehensive Treatise on Fungi as Experimental Systems for Basic and Applied Research. Springer-Verlag, New York.

Farr D. F., Bills G.F., Chamuris G.P., Rossman A.Y. 1989**. Fungi on Plants and Plant Products in the United States.** APS Press, St. Paul, MN. (updated online at http://nt.ars-grin.gov/fungaldatabases/index.cfm)

Hawksworth D. L. 1974. **Mycologist's Handbook**. Commonwealth Mycological Institute. Kew

Kirk P.M., et al. 2011. **Dictionary of the Fungi**. 10th Edition. CABI Publishing

Margulis L., Corliss J.O., Melkonian M., Chapman D.J. 1990. **Handbook of Protoctista**. Jones and Bartlett Publishers, Boston

Mueller G. M., Bills G.F., Foster M. S., eds. 2004. **Biodiversity of Fungi. Inventory and Monitoring Methods**. Elsevier Academic Press, New York)

Stevens, R. B. 1974. **Mycology Guidebook**. University of Washington Press, Seattle.

Trudell, S. & Ammirati, J. 2009. **Mushrooms of the Pacific Northwest**. Timber Press Field Guide, Portland, Oregon.

Ulloa, M. and Hanlin, R. T. 2000. **Illustrated Dictionary of Mycology**. APS Press, St. Paul, MN

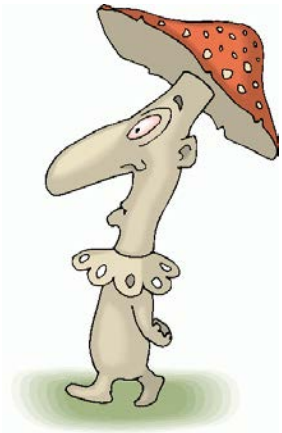
Webster J, Weber R.W.S. 2007. **Introduction to Fungi**. Cambridge University Press

COURSE OUTLINE

Recommended readings in parentheses refer to pages in Moore et al. (2011) unless otherwise noted; other than for the first class period, **students are expected to have viewed posted presentations (on BLACKBOARD class site) prior to coming to clas**s. Reading assignments will be posted on the course class site whenever possible. Refer to The Mycota, Vol. VII (2014-2015) for in-depth treatment of the different groups of fungi.

8/22	History of Mycology; Introduction to Kingdom Fungi and fungal-like organisms (Moore: 1-31)
8/24	Introduction to Ascomycota (Moore: 55-61)
8/29	Conidial ascomycetes—hyphomycetes & coelomycetes (Moore: 111-126)
8/31	Conidial ascomycetes as plant and animal pathogens—**Case Study #1**
9/05	Ascomycota: Saccharomycotina (Yeasts)
9/07	Ascomycota: Taphrinomycotina, Eurotiales
9/12	Ascomycota: Erysiphales, Meliolales, Laboulbeniales
9/14	Ascomycota: Sordariales (Pyrenomycetes)
9/19	Ascomycota: Dothideales (Loculoascomycetes)
9/21	Ascomycota: Pezizomycetes & Leotiomycetes (Cup Fungi)
9/26	Ascomycota: Lecanoromycetes (Lichens)
9/28	**Fungi as Food (Team Presentations)**
	EXAM 1 (take-home)
10/03	Introduction to Basidiomycota
10/05	Basidiomycota: Smuts

10/10	Basidiomycota: Rusts
10/12	Basidiomycota: Introduction to Agaricomycota
10/17	Basidiomycota: Gasteromycetes
10/19	Basidiomycota: Agaricomycotina (Mushrooms); **Case Study #2**
10/24	Basidiomycota: Agaricomycotina (Jelly Fungi)
10/26	Fungal Pathogens of Animals
	EXAM 2 (take-home)
10/31	Introduction to Zygomycota; Endogonales, Entomophtorales, Trichomycetes
11/02	Mucoromycotina
11/07	Introduction to Chytridiomycota **Case Study #3**
11/09	Fungal-like organisms; Hyphochytriomycota, Plasmodiophoromycota, Labyrinthulomycota
11/14	Introduction to Oomycota
11/16	Peronosporales.
11/20-24	**Thanksgiving break**
11/28	Introduction to Myxomycota; Slime molds I
11/30	Slime molds II.
12/05	**Fungi and plants** (**team presentations**)
12/07	Fungal Phylogeny and Evolution. Fossil Fungi.
	FINAL EXAM 10:10-12:10 pm December 15



ECOLOGICAL ROLES OF FUNGI: TEAM PRESENTATIONS

This is your opportunity to learn about the different types of fungi occurring in various ecological niches and share that information with an audience. You will be working in groups of 3-4 on team presentations focused on broad ecological roles of fungi—fungi and food, fungi and animals, or fungi and plants (see syllabus). Each team will select or be assigned a specific group or type of fungi within each of these broad groups, and will develop a 10 minute presentation. The presentations should be developed for a audience that does not necessarily have a mycological background, and should include images, videos or animations to illustrate salient points.

Abstract: A one-page (maximum length, not including references) abstract summarizing the presentation is required. The abstract will include a title, introduction, and key points about the fungi being presented. A minimum of five references (see information below) is required with the abstract.

References: A minimum of five references will be used—at least three references should come from the primary literature and/or reference books, and at least one reference should come from the popular press. Cite references in the text by author-date or by numbers. Arrange references alphabetically, and follow a recent issue of Mycologia, Phytopathology or Plant Disease for citation style. Use standard abbreviations for journal names, and if in doubt, spell it out.

Web page URLs must be current and citations are to include:

- Author's name (if known)
- Date of publication or last revision (in parenthesis)
- Title of document
- Title of complete work (if applicable)
- URL
- Date of access (in parenthesis)

Presentation:

Each team presentation should be 10 minutes in length, and all members of the team are to participate. Creativity and originality in presentation style are strongly encouraged. Images of fungi must be included—the source of the images must be identified. Think about your audience in putting together your presentation—how can you convey information in an informative yet engaging manner.

Evaluation: Grades for the project will be based on effort and creativity (40%); content (40%); quality of the abstract and oral presentations (20%), in particular how well you have conveyed information to the audience.

CASE STUDIES

Three case studies will be assigned during the semester. The case studies, which will be posted on the Blackboard site, will present a problem involving one or more fungi that will require information retrieval and critical thinking to resolve. Students may collaborate online to come up with a response, but each student must provide justification for his/her answer and indicate if this was the result of collaboration or independent effort. Each case study response is worth 25 points.

GRADING PROCEDURE:

Two midterm exams (100 points each) and one **final exam** (100 points) will be given during the semester according to the schedule listed above. The exams will cover material presented in lectures, discussions, and reading assignments, the format will be short answer and short essay. Other graded components of the course will include **team presentations** (50 points each) **and abstract (**25 points each**)**, **and three case studies** (25 points each).

Graded Component	**Points**
Midterm Exams	200
Final Exam	100
Team Presentations	100
Team Abstracts	50
Case Studies (3)	75
Total Points	525

Grade Assignment: The final course grade will be rounded up or down based on the following scale. For example, 89.1-89.4% will be rounded down to 89%, 89.5-89.9% will be rounded up to 90%.

95 – 100%	A
90 – 94	A-
87 – 89	B+
84 – 86	B
80 – 83	B-
77 – 79	C+
74 – 76	C
70 – 73	C-
60 – 69	D
< 59	F

Academic Integrity Statement

Academic integrity is a non-negotiable requirement for PlP 521. Any student caught violating the academic integrity policy will receive a failing grade and be referred to the Office of Student Conduct. We will be engaged in group activities this semester that may result in a report written by two or more students. The names listed on the report must reflect substantial input from all students involved in the project, and all students listed will be assigned the same grade. If individual students in a group project submit a separate report, that report will reflect the original work of each student. For more information on WSU's academic integrity policy, refer to: http://www.conduct.wsu.edu/AI and **http://www.wsulibs.wsu.edu/plagiarism/main.html**

Policy on Attendance, Participation and Late Assignments
Attendance and active participation in discussions are strongly encouraged. Exams will only be given on the designated dates without prior consent of the instructor and/or an excused absence. Assignments must be turned in by 5 pm on the due date; credit will not be given for late assignments except by prior consent of the instructor and/or an excused absence.

WSU Disability Statement
Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations MUST be approved through the DRC (Washington Building, Room 217). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

WSU Safety
Please familiarize yourself with information regarding campus emergencies/school closings by visiting: http://oem.wsu.edu/emergencies