Course:	Fungi in the Environment/ CLQ: Fungi-Ecology
Number:	11:770:402/11:015:423
Schedule:	Fall Semesters: Tuesdays and Fridays: Period 2 (10:55-12:15)

Primary instructors:

Jim White (848-732-6286; jwhite@aesop.rutgers.edu)
Natalie Howe (408-838-5242; nataliemhowe@gmail.com)

Course Texts: Hudler (Magical Mushrooms, Mischievous Molds); Kendrick (The Fifth Kingdom)

Learning Goals:

1. Develop a knowledge of fungal diversity and how fungi have evolved;
2. Develop an understanding of how fungi relate to other organisms and the environment;
3. Develop knowledge of the uses, applications, and other practical considerations of fungi.

List of topics and activities (target dates provided but may be adjusted; readings are indicated)

1. Introduction-background and context (White; Hudler chapter 1; Sept 2)
2. Ecosystems and fungi (Howe; Sept 5)
3. Fungal structure and properties (White; Sept 9)
4. Fungi and primary productivity: Soil formation and processes (Howe; Hudler chap. 12; Sept 12)
5. Non-fungi: Oomycetes and slime molds (White; Kendrick chapter 1; Sept 16)
6. Fungi and primary productivity-mycorrhizae (Howe; Hudler chap. 14; Sept19)
7. Lab-making media, culturing fungi, isolation from soil (Bergen; Sept 23)
8. Ecology of lichens (Howe; Kendrick Chap. 7; Sept. 26)
9. Lab-use of microscopes and identification of microscopic soil fungi (Bergen/White; Hudler chap.1; Kendrick chap. 1; Sept 30)
10. Pathogenic fungi (Howe; Oct 3)
11. Ascomycete identification: structures and literature (White; Kendrick chap. 4; Oct 7)
12. Exam 1 (Oct 10; 100 pts)
13. Ascomycete identification: structures and literature (White; Kendrick chap. 4; Oct 14)
14. Fungi and primary productivity – mycorrhizae Lab (Howe; Oct 17)
15. Mushrooms (White; Kendrick chap. 5; Oct 21)
16. Begin group projects (Oct 24)
17. Rusts, smuts and jelly fungi (White; Kendrick chap. 5; Oct 28)
18. Fungi as human food (Howe; Oct 31)
19. Fungi and human cultures (White; Nov 4)

20. Industrial mycology (Howe; Nov 7)
21. Exam 2 (Nov 11; 100 pts)
22. Fungi and Pollution (Howe; Nov 14)
23. Endophytes and other symbiotic fungi (White; Kendrick chapters 16 and 17; Nov 18)
24. Fungi in the built environment (Howe, Nov 21)
25. Group presentation research day at Chang Library (Friday classes meet Wed. Nov 26)
26. Class group oral presentations; every group must be ready to present (Dec 2)
27. Class group oral presentations (Dec 5)
28. Exam (comprehensive, including oral presentations; 100 pts); everything due including collections (Dec 9)

Point distribution:

Group project oral report (15 min. + 5 min. questions)	20 pts
Group project written report (10 – 20 pages double spaced)	50 pts
3 in-class exams (100 pts. each)	300 pts
Five pop quizzes @ 10 pts each	50 pts
Fungal Collection (20 specimens @ 1 pt each)	20 pts
Total	**490 pts**

Grading: Grades will be determined on a 10-point scale.