

Environmental Applications of Fungi

Instructor: Aziz Turkoglu, Ph.D.

CRN: So - Sr (8): 30063

Fungi have essential and long-standing relationships with plants in ecosystems worldwide, serving as primary decomposers, mutualists and pathogens. Mushrooms, the fruiting bodies of fungi, have been valued as a food and medicine for centuries due to their high nutritional quality and important medicinal properties. This program explores the applications of fungi in agriculture and ecological restoration. Students will explore topics such as: mycorrhizae for ecological restoration, mycopesticides for the control of pests and weeds, identification of fungal plant pathogens and the role of fungal endophytes in nutrient uptake, as well as, drought and salinity tolerance. Guest lectures from local experts will introduce students to real-world examples of restoring degraded landscapes using fungi. Through hands-on field and lab experiences students will learn principles and practices of growing mushrooms, including outdoor and indoor cultivation methods. Finally, students will research and present on a topic of their choice relating to fungi in agriculture and/or ecological restoration.

The program is a hybrid offering. To be successful in this program, students will need access to reliable high-speed internet and a computer. Students can expect our teaching to be a blend of 3-6 hours a week of synchronous (scheduled) class (in-person and on Zoom) and an additional 16-20 hours a week of asynchronous work including completing assignments and research projects. This is one of four courses that can be taken in any order which comprise the Mycology Certificate.

This offering is connected to the Mycology Certificate at Evergreen. For more information visit: <https://www.evergreen.edu/certificates/mycology>

Prerequisites: 8 credits of college-level biology

Fees: \$50 required lab fee, plus \$50 student fee

Upper Division Science Credit: Upper-division science credit may be awarded with satisfactory completion of all program work.

Weekly Schedule:

Wednesdays	Saturdays
5:30-7:30pm (weeks 1,3,5,7,9) Zoom Lecture/Workshop and	1:30pm-3:30pm (weeks 1,9) Zoom Lecture/Workshop and
5:30-8:30pm (weeks 2,4,6,8) In-person Lab	1:30-4:30pm (Weeks 3,5,7) In-person Workshop

Required Books:

TT= Ian Hall, Gordon Brown, Alessandra Zambonelli. 2016. Taming the Truffle: The History, Lore, and Science of the Ultimate Mushroom. (PDF Is available)

TTB= Chris Maser, Andrew W. Claridge, James M. Trappe. 2008. Trees, Truffles, and Beasts: How Forests Function.