EEB504/EEB611: Advanced topics in fungal systematics and ecology (1 credit)
The University of Tennessee, Spring 2023

Class time: Th 2:30 pm-3:45 pm, Hesler 427

Instructor: Brandon Matheny, Professor (pmatheny@utk.edu)
Student hours by appointment

Course Description: This 1-credit course will present reviews and specific studies in classic and current research on the topic of fungal speciation.

Course Textbook: None. Readings will be posted on Canvas or emailed to the class.

Course Learning Objectives:

- Describe and know your species concept – this will influence the prism by which you understand the process of speciation.
- Explain how you distinguish fungal species.
- Describe three general key concepts of speciation generally informed by our understanding of plants and animals that sexually reproduce.
- Explain mechanisms of reproductive isolation in fungi and their pre- and post-zygotic barriers to successful reproduction.
- Describe common modes of speciation.
- Explain what a fungal niche is.
- Be able to characterize the biology of fungal speciation.

Course Assessment: Undergraduates enrolled in EEB504 will receive a satisfactory grade assuming they attend class and participate in discussion. Graduate students enrolled in EEB611 will receive a letter grade based on class attendance and participation. There are no exams. To ensure reading of material before-hand, a short quiz may be given at the start of class.

Course website: Go to “utk.instructure.com” to see the course website on Canvas. Any course materials will be posted here.

EEB504/611 Spring 2022 Course Schedule (note this is tentative and subject to change)

Session	Date	Topic
1	27 Jan	Overview of fungi, phylogeny
2	3 Feb	**Reading**: Angiosperm terrestrial revolution, New fungal fossil
3	10 Feb	**Reading**: Widespread endophytism and endolichenism
4	17 Feb	**Reading**: Molecular evolution of fungal rDNA, part 1
5	24 Feb	**Reading**: Molecular evolution of fungal rDNA, part 2
6	3 Mar	**Reading**: Diversification of secondary metabolites
7	10 Mar	**Reading**: Mycorrhizal traits of plants - audited
8	17 Mar	**Spring Break – no class**
9	24 Mar	**Reading**: Metabolism of a model pyrophilous fungus
10	31 Mar	**Reading**: Functional diversity in ectomycorrhizal fungi based on C and N flux dynamics
11	7 Apr	**Reading**: Ectomycorrhizal fungal decay traits along an N gradient
12	14 Apr	**Spring Recess – no class**
13	21 Apr	**Reading**: Ectomycorrhizal root tip associates along an N gradient
14	28 Apr	**Reading**: Phenological differences between ecological guilds
15	5 May	**Reading**: Climate change and niche space of a model invasive stink horn

Academic integrity: Academic dishonesty of any sort will not be tolerated. Plagiarism includes the copying of phrases, portions of sentences or the main ideas from anyone (including a classmate) on any work submitted for a grade (exams, assignments, quizzes, etc). Academic dishonesty also includes assisting other students on quizzes or exams. You are expected to abide by The University of Tennessee honor statement in Biology and in all of your university activities as pledged in the honor code. Depending on the offence, penalties for academic dishonesty range from a minimum of a zero for the assignment, to an F for the course, to the filing of formal academic dishonesty charges seeking dismissal from The University of Tennessee. These choices are at the discretion of the instructor and can occur in either the lecture or the lab portion of the class.

You should be familiar with the requisites of academic honesty and what constitutes academic dishonesty as outlined in the UT Undergraduate Catalog (http://catalog.utk.edu/).

Other information

Disability Services: If you need course adaptations or accommodations because of a documented disability, please contact me privately to discuss your needs. If you have questions or concerns about disabilities or emergency information to share, please contact Disability Services: 2227 Dunford Hall; 974-6807; Email: ods@utk.edu; Website: http://ods.utk.edu/).

Counseling Center: http://counselingcenter.utk.edu/

1800 Volunteer Boulevard, 865 974-2196, Email: counselingcenter@utk.edu