

Environmental Sciences Ph.D.

College of Interdisciplinary Studies – School of Environmental Studies

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The Environmental Sciences (EVS) doctoral program's mission is to advance the knowledge and promote the leadership necessary to understanding natural environments by incorporating perspectives from social sciences, humanities, and environmental sciences in the program's teaching and research in the fields of natural resources and the environment.

Concentrations: There are five concentrations available within the EVS Ph.D. program:

(1) Agriculture; (2) Biology; (3) Chemistry; (4) Geosciences; and (5) Integrated Research.

written by each member of the graduate advisory committee. The results of these exams are kept on file by the EVS Director.

representatives, discussed adding two new core courses, making the core flexible. The committee decided that standards for the core and a rubric for the comprehensive exams need to be developed. In addition, the committee decided that the logistics of the core course offerings need to be studied in order to allow students to know when courses will be offered and to be able to take the core courses early in their program of study.

In Spring 2022, the Executive Committee discussed at length two proposed courses to be added to the core, but could not reach a consensus. The committee decided requested that the EVS Curriculum Committee study the current and proposed core courses and submit suggested curriculum changes to the Executive Committee meeting in Fall 2022.

PG 2: EVS student research projects will be peer-reviewed and widely recognized for their innovation and relevance to environmental concerns.

During the 2021-2022 year, students were recognized for the quality of their work.

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The School of Environmental Studies recently created Microsoft Teams groups for each student's dissertation committee to facilitate interdisciplinary collaborations and collegiality among committee members. The Teams group is a location where the comprehensive exam questions, answers, and grades can be uploaded for easy access and viewing in a secure fashion.

SLO 2: Students will improve oral and written communication skills by giving technical presentations at symposia, conferences, and similar venues where abstracts are peer-reviewed for acceptance.

The School of Environmental Studies provides supplemental support for student travel to meetings for the purposes of making presentations. Although some conferences were still cancelled or switched to virtual, SOES continued to provide conference support for students as needed. The School will continue to place a priority on supporting student travel to scientific conferences.

SLO 3: Students will improve written communication skills by submitting manuscripts to peer-reviewed publications such as scholarly journals, conference proceedings, books, or similar outlets.

Student written and oral measures of productivity in 2021 were up in many areas as compared to 2020. Although some conferences were cancelled and others were virtual, conference attendance was almost back to pre-COVID levels. Although the number of poster presentations decreased

Scholarly activity related to oral and written communication skills shown by EVS Ph.D. students in the current (2021) and previous six calendar-year reporting periods. EVS enrollment has steadily increased since 2015, with the enrollment at 26 in 2021.

Type of scholarly activity

EVS student activities during the reporting period of January-December 2021 in the Agriculture,

17. In: Recent Advances in Freshwater Crustacean Biodiversity and Conservation. (Eds: T. Kawai & D. C. Rogers). CRC Press, Boca Raton

Walker, D., Murray, C., _____, and Romer, A. Understanding the impact of snake fungal disease on species of greatest conservation need in Tennessee. Technical Report for Tennessee Wildlife Resource Agency Geographic distribution *Chrysemys picta* (Painted Turtle)

Herpetological Review. _____ Plylar H. B.

_____, Walker, D. M., Romer, A. S., Grajal-Puche, A., Grisnik, M., Goessling, J. M., Perkin, J. S., and Murray, C. M. Testing the Febrile Response of Snakes Inoculated with *Ophidiomyces ophiodiicola*, The Causative Agent of Snake Fungal Disease. Journal of Thermal Biology 100 (2021) 103065.

_____, and Romer, A. S. Snake Fungal Disease (Ophidiomycosis) in Southeastern Snake Populations. SEPARC DTT Information Sheet 21.

_____, Doody, J. S., and Crother, B. I. The Impact of ATVs on Survival of Softshell Turtle (*Apalone* spp.) Nests. Journal of Herpetology 55(2): 201-207 Highway, C. J., A. G. Blake-Bradshaw, and _____. Putting duck folks' folklore to the test: Research to examine local beliefs of duck movements in West Tennessee. *Tennessee Wildlife Magazine Fall Edition*.

_____, A. G. Bradshaw, C. J. Highway, D. Combs, and B. Cohen. 2021. Mallard (*Anas platyrhynchos*) spatial ecology project: an update for Tennessee Wildlife Resources Agency and partners. 27 pp

_____, Buer, S. H., Sanders, J. R., & Arce, P. E. (2022). Photocatalytic degradation of acetaminophen in water via ultraviolet light and titanium dioxide thin films part II: chemical and kinetic aspects, *International Journal of Chemical Reactor Engineering*, 20(1), 113-127.

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PG 2: EVS student research projects will be peer-reviewed and widely recognized for their innovation and relevance to environmental concerns.

Students will continue to be encouraged (and financially supported) to participate in oral and poster presentations in appropriate professional conferences.

PG 3: Add new concentrations to the Environmental Sciences PhD program.

The number of existing EVS concentrations was successfully increased from two to five during the last monitoring period. The EVS Executive Committee has set a future goal of having a total of six concentrations. Discussions began in 2020-2021 and will continue in 2022-2023 to determine how to move forward with adding one or more new concentrations to support the growth and health of the EVS program. The committee will also continue to address the possible addition of a low-residency option to make the program available to those students living some distance away from Cookeville. The recent development or conversion of more courses to an online format (due to the Covid-19 pandemic) should

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post-test measures of writing skills that could be included within the course. Additionally, the school will begin tracking the ratio of manuscripts submitted to manuscripts published.