

Z P v Teaching Excellence Award Nomination

Department of Microbiology University of Georgia



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centered curriculum and expanding

resources to prepare them for a career. In turn,

faculty prepared teaching

interaction with faculty, varied research opportunities, and excellent academic and career advising.

The faculty in the Department of Microbiology also have a history of earning teaching awards.

such as the Southeastern Branch American Society for Microbiology Green Award (5 awards to

Narrative Statement

Purpose and Philosophy

The Microbiology undergraduate program is designed to train and equip students for leadership roles in their careers through their ability to critically analyze scientific evidence, deploy basic microbiological procedures, and communicate proofs and evidence effectively. The Microbiology Department will strive to create authentic research and leadership experiences, display effective teaching practices, and offer outstanding mentorship for undergraduates.

Ø Goal 5:

turned into a career

Fact Profile

The Department of Microbiology at the University of Georgia offers B.S., M.S., and Ph.D. degrees as well as six different year-five combined Microbiology B.S. and M.P.H./M.S. programs. The B.S. program is offered to students at both the Athens and Griffin campuses. Microbiology represents the intersection of several disciplines including genetics, ecology, physiology, and infectious diseases. The department is vital to the mission of UGA in providing courses and research training for STEM majors, particularly those who are pursuing scientific or health-related careers.

The Microbiology Department has 6 tenure-track and 4 full-time teaching faculty. 13 of the 20 regular faculty teach undergraduate courses. The tenure-track faculty consists of 10 assistant professors, 1 associate professor, and 2 full professors. The teaching faculty is composed of 12 full-time lecturers and 2 full-time senior lecturers. Women constitute 52% of faculty, and people of color compose 15% of faculty.

Faculty are frequently honored for their contributions to student success and excellence in teaching with awards such as the Southeastern Branch American Society for Microbiology Green Award in teaching, UGA Franklin College Sandy Beaver Teaching Excellence Award, and the Sandy Beaver Teaching Professorship. Additionally, faculty earned positions in teaching initiatives such as the UGA Senior Teaching Fellows, Writing Fellows, Online Learning Fellow, Service Learning Fellows, and the National Academic Education Fellow in the Life Sciences programs. Gra(s)-4 ()- ET EMCOEMCOEMCOEMCOEMCn> 6.13 Td [(p)4 (r)-4 (3(f)

Evidence to Support Award Nomination

Programmatic Changes and Initiatives

The Microbiology Department takes significant measures to review and refine its undergraduate curriculum and program to provide students with the skills needed academically while developing leadership and career readiness skills within a supportive academic culture. Through the new mission statement of the department, courses are refined to train and equip students for critically analyzing scientific evidence, applying current microbiological procedures, and effectively communicating scientific evidence. The Microbiology Department also strives to create authentic research and leadership experiences, display effective teaching practices, and offer outstanding mentorship for undergraduates. An outcome of this revision was a programmatic map developed to highlight four key areas.

current ASM Curriculum Guidelines for Undergraduate Microbiology Undergraduate Affairs Committee identified four broad categories for student learning outcomes: 1) microbiology knowledge, 2) quantitative skills, 3) ability to convey scientific thought, and 4) research design, performance, and analysis skills. Key courses were identified that support the new SLOs and new courses were suggested for future creation. As courses are recreated, faculty will be purposeful about incorporating aspects of the new SLOs. An example of the previous SLO and the revised SLOs that refine the research and critical analysis is listed below in Table 1.



UGA Mentor

Sapelo Island campus and the University of Edinburgh Students are encouraged to seek out any microbiological project in any department and thus have been able to connect

required for every department to FOCs, microbiology faculty created a course where students were led through the discovery process for biomedical research and how to clinical applications. One faculty member, Dr. Anna Koval, developed a new service learning class for first-year students, *Water Quality and Human*

Microbiology faculty have a long history of earning teaching awards such as the Southeastern Branch American Society for Microbiology Green Award (5 awards to faculty since 1988) and the Sandy Beaver Excellence in Teaching award from Franklin College (4 faculty since 1996) along with a number of CURO Excellence in Undergraduate Mentoring awards and one Sandy Beaver Teaching Professorship. Two current faculty are members of UGA's prestigious Teaching Academy while others participated in the Teaching Academy Fellows program, Online Learning Fellows program, Public Service and Outreach Fellows program and Writing Fellows program. Two faculty were named National Academic Education Fellows in the Life Science 2013-2014. This extensive participation and recognition of teaching excellence is impressive as there have been only 20-24 faculty members in the Microbiology department over the last twenty years. In addition, graduate students consistently strive for teaching excellence as evidenced by the five graduate students who earned highly competitive Excellence in Teaching Award from the Graduate School over the last 50 years.

International Medical Relief of Children (IMR) GEM team presented a Health Education lesson on the spread of diseases at Oglethorpe Avenue Elementary School. The students also gave guest lectures at Clarke Middle School, put on science programs at East Athens Community Center, and guided Duluth High School of Gwinnett County in creating and running

awards were provided by the Microbiology Department, sponsoring conference organizers, and

The Microbiology Department secured NSF funding to provide a Research Experience for Undergraduates (REU) for the last 20 years to over 170 undergraduate students coming from institutions that may not offer research opportunities. Of these students, 10 have been either deaf or hard of hearing and at least 19 of all participating students came back to UGA as graduate students. This funding provided housing, food, and travel for undergraduates to stay on the UGA campus during the summer semester and work in a research lab mentored by a faculty member. Students who completed the REU program at UGA have been able to successfully enter graduate programs based on their research experience. In addition to hands-on research, additional enriching activities included in the summer experience including a responsible conduct of research discussion group; weekly research presentations by faculty, postdoctoral fellows, graduate students, and guest speakers providing alternative perspectives on careers in science; a closing poster session; and a tour of local industrial and governmental biomedical research facilities and social gatherings. Additional NSF funding secured by Dr. Vinny Stalaviv allowed the department to expand recruitment efforts targeting minority students and students from Puerto Rican universities. The funding also created a new collaboration with Sacramento State RISE School.



REU students with Dr. Barry Whitman

Since 2017, the Microbiology Department selects, trains, and implements its own cohort of volunteer peer learning assistants for both courses and labs. The Microbiology Peer Assistant program is designed to help participating students deepen their microbiological knowledge, connect with faculty, and develop leadership skills while providing enhanced instruction and guidance for students in the classroom. MIBO peer assistants (MPAs) assist the instructor of record with active learning in the form of small group activities that are implemented in MIBO 3500 and MIBO 2500 courses. MPAs facilitate discussion and guide student groups during a class activity involving critical analysis of data and evaluation of results from peer-reviewed sources or a case study. An anonymous survey of MPAs during Fall of 2021 indicated that all assistants agreed or strongly agreed that the program helped with their academic performance in other courses as well as helped them in their career objectives. A total of 87 students from various STEM majors, including microbiology, have participated in the MPA program thus far.

Emphasis on skillset development in the microbiology undergraduate program has been a key factor in graduating students who find jobs or enter advanced degree programs. Using data from the Institutional Research department, the department tracked the career progression of students graduating with a Microbiology B.S. from 2014-2022. A majority of graduates (91% or higher) indicated placement in a job or higher

degree program after graduation in a variety of disciplines that were not seeking a job . See Figure 2 below.

Figure 2 Surveys of graduating Microbiology majors over the las