Science Phobic?: Professor Frank Fekete can fix that - and, perhaps, some global problems

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Colby College
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By Abukar Adan '17
Professor of Biology Frank Fekete knows that pressing microbial issues like antibiotic resistance are as much a social problem as a scientific one. And he's been devoted to raising awareness of the relationship between the two.

Fekete, who studies the effects of environmental mercury pollution on the evolution of antibiotic strains of bacteria, teaches advanced courses like Pathogenic Bacteriology. But for more than 30 years he's taught a course called Microorganisms and Society, an introductory microbiology course he created for non-science majors. It's one of the most popular classes at Colby. “This shouldn't be a surprise,” Fekete said. “Of any subdiscipline in biology, microbiology is the most relevant to my students’ lives because everyone is concerned about his or her health.”

It's not just the relevance to students' daily lives that makes Microorganisms and Society so appealing—it's also Fekete's approach to teaching, his students say. He takes student feedback seriously, and, as a result, the course has gone through a number of iterations. For instance, Microorganisms and Society began as a lecture course and later incorporated a lab component, as Colby's natural science requirement evolved. Fekete kicks off the course by asking his students about their majors and their reason for taking the class, information he uses to inform his teaching. He's also constantly revising the course material to include pressing microbial issues.

"Look at the Zika virus and how that has changed things, or Ebola,” he said. “Things change daily when it comes to infectious diseases.”

Underlying Microorganisms and Society is Fekete’s desire to make science less intimidating and more relevant. Because the class is geared toward non-science majors, many of whom want to fulfill the College’s natural science requirement, some of the students arrive with unfounded fears of the subject. Fekete realizes this. His job, he says, is to quell those fears. He sets out to give students a fuller understanding of the scientific method and, using its principles, teaches them to draw important connections. By the end of the semester, Fekete said, “students leave having a lot of science, within the context of the scientific method.”

It works. In fact, several students who have taken Microorganisms and Society have switched their majors to biology or have gone on to pursue a career in public health. Lake Seymour '17 took Fekete's class on a whim and loved it. “It brought together people with a wide range of different interests, perspectives, and majors,” she said. Seymour has since taken several of Fekete's courses and is now his research assistant.

Fekete hopes his course will lead to more than just making non-science majors comfortable in a science classroom. Bringing a variety of students to a science class will result in innovative ways of challenging some of the most pressing science and health issues, he said.

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—Frank Fekete, professor of biology

He said he loves seeing his students grasp the intersections of the microbial world with their daily lives and larger social problems. At the end of the semester, Fekete assigns a major writing assignment based on some aspect of microbiology, from infectious disease to foodborne illnesses and the controversy over vaccination.

"There is nothing like reading their papers and seeing a student, who might have had this complete fear of science, write a coherent piece that is completely comprehensible and scientifically accurate,” Fekete said. “I think that’s the most gratifying thing.”
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