Profile of the
Department of Biology and Microbiology
University of Wisconsin-Oshkosh
2005 Regents Teaching Excellence Award Recipient

Fostering Excellence in Teaching

- Through hiring faculty with strong interest in and demonstrated excellence in teaching.
- Through a strong emphasis on excellence in teaching as criteria for renewal, promotion, and tenure.
- Through faculty participation in pedagogical workshops, including the UW System's Women and Science Program and Faculty College.
- Through the use of state-of-the-art technology in laboratory classes.

Teaching as a Public, Collaborative Activity which Creates a Positive Climate for Student Learning

- The Department has a well-developed program for providing research opportunities to undergraduate students.
- The Department has an outstanding record of attracting external grant funding focused on research opportunities for students, including, in February 2005, a $250,000 grant from the National Science Foundation, which will allow Biology and Microbiology faculty to bring in under-represented groups to science by providing paid summer research experience and training at UW-Oshkosh.
    - NSF expressed particular interest in Oshkosh's ability to provide research opportunities for Native American students from Wisconsin and elsewhere.
- Other recent grants have been equally impressive, for example, the $380,000 grant from NSF to establish a Proteomics Facility that contains equipment (such as a DNA sequencer) equaled only by UW-Madison and UW-Milwaukee.
    - The facility is open to undergraduates who early in their lives as scientists gain invaluable experience normally reserved for graduate students.
- Research opportunities are provided in the laboratory and in the community:
    - Dr. Teri Schor has undertaken imaginative work with the students in her upper-division virology course, collaborating with faculty from psychology and anthropology to study the epidemiological and psychological impact of the 1918 flu epidemic in Oshkosh. This work was so acclaimed by students, the university, and community members alike that it is being followed up with studies of the polio epidemic in Oshkosh.
    - Professors Kleinheinz and McDermott led students in a project to monitor bacterial contamination of swimming beaches in Wisconsin, a project that has provided an enormous public health service to local communities and the tourism industry in recent summer months.
    - Professor Adler leads groups of students to Panama and other Central American countries to study rodent communities.

Curricula that Challenge and Prepare Students for the Future

- The Department's curriculum is structured so that subsequent course build upon the knowledge obtained in previous courses, including chemistry, math, and, in some cases, physics.
- Strong department-wide emphasis on communication skills, both oral and written, as vital components to student success as scientists.
- Faculty are trained to provide strong advising of majors. Dr. Dana Vaughan maintains an advising web site for pre-professional students used campus-wide and by students attending college in other states.
    - Dr. Vaughan has won state and national Advising awards.
- The opportunities provided to undergraduate students to conduct research and collaborate with faculty and with their peers prepares students for graduate school and for lives as working scientists in a broad range of sectors, private, public, and non-profit.

In the Words of the Department's Students

- "I can't possibly explain how important it was to have a group of individuals who were committed to not only helping the student to learn, but also in challenging them every step of the way . . . . I can say with total certainty that where I am today professionally is a direct result of the relationships I developed and continue to maintain with the staff in the Biology/Microbiology Department at UW-Oshkosh."
    - Scott E. Koehnke, B.S. 1992; M.S. 1996, Water Management Specialist, Wisconsin Department of Natural Resources

- "One of the critical components in any graduate science program is teaching scientific speaking skills. I think that anyone who has heard me present a lab meeting or seminar at the University of Michigan, would agree that this skill is well taught at U.W.-O."
    - Nicole Slawny, B.S. 1992, M.S. 1999, Ph.D. Candidate, University of Michigan

- "I walked through the doors of UW-Oshkosh as a transfer student, not knowing what I wanted to do with my life, nervous but hopeful that this would be where I found the answers. A few years later, confident in my knowledge and abilities, I graduated with a degree in Microbiology and was hired as a Microbiologist at Kimberly-Clark Corporation."
    - India Finke, Microbiologist at Kimberly-Clark

Department Facts, Activities, and Resources

- *Personnel*:
    - Twenty-five instructors, 22 of whom have Ph.D.s and 11 of whom are women.
    - Faculty expertise in ecology, cell biology, mycology, physiology, anatomy, genetics, developmental biology, microbial genetics, environmental microbiology, plant taxonomy, medical microbiology, parasitology, aquatic ecology, ichthyology, microbial physiology, virology, systems ecology, plant physiology, neurobiology.
    - Department faculty brought in more than $1.7 million in external research grants last year and $1.1 million in external teaching grants.
    - "The faculty members are the most valuable resources for the Department because they bring the subject matter to life for the students." – India Finke.

- *Students:*
    - 322 Biology majors and 58 Microbiology majors.
    - 20 Master's level students.
    - About half of the Department's students come from families in which neither parent has graduated from college, and many of the Department's students are female.
    - The Department has developed a senior assessment course which assesses graduating seniors on their quantitative and command of general biology/microbiology.
    - In the last three years, approximately 60 students have been supported by research dollars.

- *Departmental Resources:*
    - The Oshkosh Department is the only UW campus among the "comprehensives" to have purchased a DNA sequencer, which is regularly used in undergraduate classes.
    - The Oshkosh Department is the only UW campus among the "comprehensives" to have a state-of-the-art facility to study proteins (the Proteomics Facility), the newest sub-discipline in molecular biology.
    - The renovated Center for Aquatic Studies provides students and faculty with opportunities to conduct lake and stream research and also functions as a great resource for K-12 teachers and students, as well as others in the community.
    - The Department has partnered with the Oshkosh Public School District to found and direct the Environmental Charter School located at the Oakwood Elementary School.