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Football and Microbiology—A Winning Team

Microbiology classes kick off this time of year on college campuses all over the country. So does college football. Oregon State University senior Calvin Carlyle will be there—in the microbiology lab and on the football field.

Carlyle, 21, is a strong safety for the Oregon State Beavers, Fiesta Bowl champions in 2000 and contenders for the national championship this year. Attending Oregon State on a football scholarship, he hopes to play pro ball for a few years after college. Then he's thinking about teaching high school science.

"I always liked science," the broad-shouldered six-footer says. "I remember asking my father for a microscope kit when I was in elementary school."

But by the time Carlyle hit junior high, he'd been distracted by Pop Warner football, and science was not high-profile at Dorsey High School in West Los Angeles. "I pretty much forgot about science there," says Carlyle.

Eager to get out of L.A. "and see something green," Carlyle accepted Oregon State's offer of a football scholarship and moved up the Pacific coast to Corvallis, Oregon. He spent much of his freshman year honing his skills on the football field and trying to get used to being part of a much smaller minority on campus than he had been in his high school, which had just one white student.

A liberal studies major, Carlyle gets to sample a wide variety of fields. As he was entering his sophomore year, his academic advisor suggested he take Microbiology 390, *The World According to Microbes*. The class is for juniors and seniors, but Carlyle talked his way in.

The course is taught by Janine Trempy, a microbiologist who believes in rewarding lively class participation. It required a project analyzing a problem of microbial origin and presenting a defense of the analysis, which produced lots of classroom debate. "She expected us to ask questions and challenge conventional wisdom," says Carlyle. "I loved that." He asked so many that he won an award Trempy gives to the student who asks the most questions.

When the course ended, Carlyle did not want his reconnection to science to end, so he asked Trempy if he could pursue an independent research project in her lab. "I said yes, but I was thinking, no way," the professor recalls. "I'm a traditional, hard-core scientist. I had trouble imagining this football player patiently and meticulously performing lab work. Was I ever wrong. The skills that make him a gifted athlete contribute to his success in the research arena too."

Carlyle was so successful that he won an HHMI-supported summer undergraduate research fellowship at Oregon State. He quickly carved his niche in the microbiology lab. "They're not nerds," he says of his lab colleagues. "They're laid back, cool, and it's a team thing, like sports. Research is highly competitive like sports too, yet we clown around and we work together. It's like a family."

The football player is still in Trempy's lab and classroom. Not only is he continuing his research through another fellowship, he also is helping her teach the very class that reawakened his interest in science. He has been a co-author on a paper presented at a national meeting, raised his grade point average dramatically and lured at least 20 other football players into taking microbiology.

He knows that professional football scouts will be watching this fall as the Beavers try to surpass their record-making 2000 season of 11 wins, 1 loss. He hopes they'll be tapping him for a job in the pros next year. "But I'm not stressing on it too much," says Carlyle. Last year he spent a day with visiting elementary and middle school students from culturally diverse neighborhoods in Portland and Salem, Oregon. He emphasized the importance of doing well in school and of behaving. "They weren't acting bad, just thinking they were acting bad," he recalls. "I can relate to that. Hopefully they can see me as an example and know that attending college is a good thing."

Whether pro football comes knocking or not, Carlyle sees a science classroom in his future. "I feel like I can connect with kids and make a difference in their lives," he says.

Trempy sees more students like Carlyle in her future too. She wants to create additional research opportunities for nontraditional students, most of whom are nonscience majors. "Calvin is my extraordinarily successful prototype," she says.