University’s science programs booming

By Steve Browne

Valley City State University is attracting science students who might otherwise leave North Dakota for their studies by playing to the strengths of a smaller school.

“Our enrollment in science-related programs has been increasing due to both increases in student demand for these programs and the fact that we have been adding programs that allow us to respond to student demand,” said Doug Anderson, VCSU director of marketing and communications.

“For example, over the last decade, we have added programs in health science, fisheries and wildlife science, and both graduate and undergraduate programs in technology education. In science, we also attract students by offering opportunities to participate in scientific research that, in many universities, may only be available at the graduate level.”

According to VCSU President Steven Shirley, enrollment in the STEM fields – science, technology, engineering and math – has tripled over the last decade.

Hilde Van Gijssel, biology professor, said, “We do three things really well: life science, health science and education.”

One way the university expanded its science programs was to cooperate with another small school to pool resources.

“We have an agreement with the Dakota College at Bottineau for their third- and fourth-year students to come here,” said Don Hoff, geology professor. “Previously, they went to South Dakota.”

According to biology professor Andre DeLorme, this growth started back in 2001 when a grant program called BRIN, or biomedical research infrastructure network, provided funds to the state through the National Institutes of Health, part of the U.S. Department of Health and Human Services that supports medical research.

“That was given to North Dakota because we were underserved in research funding, through the NIH and overseen by the University of North Dakota and North Dakota State University,” DeLorme said.

“They asked us what we needed. Their thought was, ‘What big fancy piece of equipment do you need?’ Since neither of us (DeLorme and biology professor Bonnie Alexander) had a background in biomedical research, we said, ‘We don’t need equipment, we need a person.’ That’s how we got Hilde (Van Gijssel) and that’s what got the health sciences program started.”

DeLorme said he and Van Gijssel got five year grants to work on research.
“The grant requirements stated we both had to be at half-time teaching loads, so we thought, ‘Let’s hire someone who can start a Fisheries and Wildlife program,’” DeLorme said.

That’s how Bob Anderson came to be hired as assistant professor of fisheries and wildlife science.

According to Van Gijssel, the strength of the VCSU health science programs is that the university serves the needs of pre-professional students in health sciences who intend to go on to degrees in various medical fields.

Van Gijssel said the attractiveness of the health science program to students is its flexibility. If a student in one field changes his or her mind and wants to pursue another field, they can change the focus of their studies. They don’t have to change their major and start over again, since much of the core curriculum is the same across all fields in health science.

“When I started in 2002, I had 25 students in my general biology class,” Van Gijssel said. “For the past two years, I’ve had over 50 in that same class.”

Anderson said in the fifth year since beginning of the fisheries and wildlife science program, there are 35 undergraduates in the program. So far, 15 students have registered for the introduction to fisheries and wildlife course this fall, and the registration period is far from over.

“The (fisheries and wildlife) students in their third year at Bottineau are actually technically VCSU students,” Anderson said. “They take their lecture courses via IVAN (interactive video network) and their lab courses are taught by Bottineau faculty. Their fourth year, they physically transfer to VCSU.”

Anderson said among the advantages VCSU has over larger schools is that the faculty actually teach their own classes, not graduate students, and there is a strong emphasis on hands-on activities and field trips.

“Small classes make it logistically feasible to go out on a lot of field trips,” Anderson said.

Joe Stickler, chairman of the division of science and math, pointed out a not-so-obvious advantage of science instruction in a smaller university.

“Science is done better in a small school,” Stickler said. “In small classes, you get a lot of one-on-one instruction.”

According to Stickler, this is important because a lot of science involves tricks and techniques with the equipment that is passed on apprenticeship-fashion, not through textbooks. He also cited the cost factor of a small university versus larger, more expensive institutions.

The benefit of a science education kicks in before graduation, according to Hoff.

“Something that certainly isn’t hurting us, there’s a real demand for science teachers as teachers retire,” Hoff said. “The last three years, all our science graduates had contract offers before they had their degree.”