

September 29, 2025

To: John Schrader, President, UNL Faculty Senate

From: Walt Stroup, Founding Chair and Emeritus Professor of Statistics

Re: Chancellor's Proposal to Eliminate UNL Department of Statistics

The Chancellor's proposal for statistics is a reversion to what existed at UNL in the 1980s. It did not work then. There is no reason to believe it will work any better now.

In the 1990s, steps were taken by IANR and the College of Arts and Sciences to address the unacceptable state of statistics at UNL. In IANR, Department of Biometry was created with a stand-alone MS program. In Arts and Sciences, the Department of Mathematics created a semi-autonomous Division of Statistics with an MS and PhD program. Members of the Biometry faculty were able to participate in the Division's PhD program. This arrangement was at best a partial fix. By 2001 it was clear that something needed to be done. I became Biometry department chair that year. Jim Lewis was chair of the Math department at that time. The first question he asked me is "How are we going to make this work?" That same year, Richard Hoffmann arrived from Iowa State to become Dean of Arts and Sciences. His first comment when we were introduced was,

Why does UNL, a Land Grant, AAU, R1 research university, not have a statistics department?

His perspective was that of a scientist coming from Iowa State, which, like every other Land Grant university with AAU status has a stand-alone department and a substantial and comprehensive Statistics program. Hoffmann collaborated with Deans Nelson and Waller, Math department chair Jim Lewis, and me, to create a Department of Statistics that answered jointly to Arts and Sciences and IANR.

The new department worked through a period Hoffmann called, "A fragile experiment," and has flourished during the past 22 years, adding an undergraduate program, making important research contributions to the discipline and in allied disciplines with collaborating researchers, producing a large number of MS and PhD graduates who have gone on to make consequential contributions to the discipline in academia, government and industry.

Agricultural research, a major driver of Nebraska's economy, a major strength of UNL and one of Nebraska's top priorities, has especially benefited from its close ties with UNL's statistics program. Indeed, consequential agricultural research cannot happen without close collaboration with statistical science. The partial fixes to the ineffective distributive model in the 1990s and, especially, the creation of the department in 2003 dramatically improved the collaboration with statistics essential to the quality and impact of agricultural research.

Simply put, if UNL aspires to have its AAU status reinstated, eliminating the Statistics department is a sure way make that reinstatement highly unlikely. Furthermore, the statistics community at other Land Grant AAU universities and at the American Statistical Association will know what happened to UNL's statistics program. This can only do great harm to UNL's reputation as an academic institution.

The metrics used to assess the various departments clearly emphasize undergraduate education and research productivity and impact of current faculty. One item, what proportion of undergraduates have graduated, is clearly inappropriate for the Department of Statistics at this time, given that its undergraduate degree program was only recently implemented and the first students in the program are only now juniors and seniors. The metrics ignore the contributions of now retired faculty during the post-2014 period when they were still active, even though their contributions still have consequential impact. Finally, the one-size-fits-all cookie cutter nature of the metrics ignores important differences between the culture of various disciplines. Specifically, there are no metrics for graduate education, even though graduate programs are essential for quality research in statistical science. There are also no metrics for graduate service courses essential for preparing researchers in disciplines that are consumers of statistical methods.

Even for the metrics that are used, it is unclear how the Z-scores that were apparently used to rank departments were computed and used for decision making. That said, what has been computed and how it appears to have been used raises all kinds of red flags about inappropriate statistical methodology. Decisions of this gravity must be made on the basis of relevant metrics, appropriately computed, not possibly shoddy statistics. I suggest that the APC insist on a peer review of the metrics and statistical analyses that accompany them, conducted by competent statisticians – disinterested statisticians from outside UNL as recommended by the American Statistical Association, or AAAS.

Finally, it is clear that data science, machine learning and artificial intelligence will be major factors in scientific research, as well as any number of enterprises that are the purview of a Land-Grant, R1 university. This in addition to the crucial role of statistics in agricultural research. These are all areas of active research, with statistical science an essential player. The Chancellor's proposal would place UNL's statistical research at an insurmountable disadvantage. The distributed model guarantees that statistics at UNL would be limited to general ed and service courses, and statistical consulting using methods developed at other universities. The distributed model raises the possibility – probably guarantees – that general ed and service courses will often be taught by people whose primary expertise is not in statistics, further reducing the quality of UNL's programs. The experience of the 1980s and the Division of Statistics experience in the late 1990s and early 2000s suggest that it will be difficult, if not impossible, for UNL to recruit and retain quality statistics faculty. The most qualified candidates for faculty positions in statistics go to stand-alone departments. Or they look elsewhere.

To conclude, it cannot be said strongly enough that eliminating the Department of Statistics would be the death knell for any aspiration UNL has of AAU reinstatement.