Associate Provost's News

One of the more common questions I field from faculty goes something like this: “Compared to peer departments we are not competitive in the number of teaching assistantships (TA) we award, why can’t we award more TAs?”

In looking at this question, let us first test the assertion that we are not peer competitive in terms of the number of TAs we award. I reviewed nationally-reported data from 184 universities with engineering programs and developed a model for TA support based on a variety of programmatic factors (e.g., number of engineering TTT faculty, number of engineering degrees awarded, number of RAs awarded, etc.).

In Fall 2014, Mines awarded 154 TAs. Considering only institutions that are relatively small (i.e., total enrollment of 16,000 and less), we actually do pretty well in terms of the number of TAs awarded. The model predicts we should award about 141 TAs, close to actual number awarded. If, however, you consider all institutions with engineering programs, small and large, the model predicts that we should award around 223 TAs, confirming faculty perceptions that fewer TAs are awarded at Mines than at peer institutions. With regard to the number of TAs awarded, there appears to be a significant distinction between smaller and larger institutions. Why would this be?

I contend that larger institutions have the ability to shift tuition revenues from lower-cost, higher-enrollment programs to support higher-cost, lower-enrollment programs that is simply not an option for smaller institutions. This interpretation is supported by a CU cost center study that was reported in 2012 in the Daily Camera which demonstrates that at least at CU-Boulder the institution balances operating deficits in higher-cost programs, like engineering, by using operating surpluses from lower-cost programs. Such a balancing act is not possible for us.

While working toward providing peer-competitive graduate support and high-quality, cost-effective instructional support must continue to be top priorities for the institution, discussions must be firmly based within our institutional context. To be successful in competing with our comprehensive university peers will require us to explore and quite possibly embrace creative, non-traditional models of providing graduate student and classroom instructional support.
Facility Achievements

**Jenifer Blacklock** is a teaching faculty "extraordinaire!" Since coming to Mines in 2012 in Mechanical Engineering, Jenifer has taken on a significant role in leading the continuous improvement of the undergraduate curriculum for the department. She has taught Machine Design multiple times, developing in-class labs and a final project-based learning experience. She has revamped the now-required Manufacturing Processes course to include significant in-lab experiences to evaluate various fabrication processes.

Along with a team of three other colleagues, Jenifer created the new highly-popular Introduction to Mechanical Engineering course, which exposes students to design, programming, and mechatronics using Matlab, Arduinos, and other hardware. She has also been at the forefront of updating the content and approach to ME Field Session and with colleagues, has found creative students with flexible scheduling to accommodate the very large number of students in that class. Jenifer serves as Assistant DH for Undergraduate Affairs for ME and played a vital role in seeing the largest department on campus through the successful ABET assessment in 2013. She is also active in the recent effort on campus to grow our Innovation and Entrepreneurship programs, including development of student MakerSpaces.

**Chris Shorey** has been a pioneer in the use of technology and pedagogical advancements to better educate our students and to expand CSM’s footprint outside the university. Since taking over GEGN 101 in 2005, Chris has fundamentally changed the content, replaced the traditional stodgy laboratory exercises that had been used for decades with new and highly creative activities built on modern concepts and relevant technologies, and delivered the content in highly innovative and effective ways.

He has recorded scores of lectures as podcasts, and has also established CSM’s presence on iTunesU. A comment from one podcast listener shows the impact of his work: "I can’t say enough good things about this podcast series ... I just can’t do it justice. In a word, it is incredible."

**Chuck Vestal**, Teaching Associate Professor in the CBE Department. Chuck received both his BS and PhD degrees from Mines. During a fulfilling and diverse career in industry, he was granted 16 patents, published 16 technical papers, and published numerous internal reports. He returned to Mines in 1988 to teach and train future chemical engineers. He has taught sophomore students in CBEN210 and CBEN201, and has assisted with senior design.
What’s Happening

At the faculty conference, we hosted 13 breakout sessions that were focused on efforts to improve our campus. These efforts are listed below with links to a report on the effort so far, and also with links to the faculty feedback from the breakout sessions. Further comment on these efforts is welcome and can be given at the “List of Strategic Initiative Committees Page” by clicking here. (Links below also can be found here)

- Active Learning and Technology: Report Faculty Feedback
- Admissions Strategic Intent: Report Faculty Feedback
- Bachelor of Science Degree in Engineering (BSE Degree 2.0): Report Faculty Feedback
- Interdisciplinary Graduate Programs: Report Faculty Feedback
- Degree Programs of Distinction: Report Faculty Feedback
- Family Friendly Campus: Report Faculty Feedback
- First and Second Year Experience: Report
- Growing and Supporting the Research Enterprise: Report Faculty Feedback
- Revenue and Reputation Enhancements from Short Course and Certificate Program Activity: Report Faculty Feedback
- Strategic Intent for Biology Efforts: Report
- Teaching Assistant/Research Assistant Support: Report Faculty Feedback
- Building a Community: Mines as a University (Faculty Senate Sponsored): Report Faculty Feedback
- Expanding International Opportunities for CSM Students (Faculty Senate Sponsored): Report

Mines’ Values

A student-centered institution focused on education that promotes collaboration, integrity, perseverance, creativity, life-long learning, and a responsibility for developing a better world