

## **Growing Research and Graduate Education at UCCS: A Collaborative Proposal**

“Research” was added to the UCCS mission statement a few years ago to reflect our commitment to not only teaching, but critically, to generating new knowledge and using the research enterprise to enrich the learning environment for students. Prior to that, UCCS faculty were already research-active, but the explicit addition of a research component to our institutional mission brings the importance of this aspect of faculty (and student) work to the forefront.

Another turning point was recently marked by the fact that as of last year UCCS no longer qualifies as a predominantly undergraduate institution (RUI) for the National Science Foundation. This change has serious implications for many UCCS faculty who are funded or will apply to NSF for funding because although UCCS’ RUI designation has changed, the level of support for faculty research has not. Specifically, during the NSF review process, applications from PIs at institutions with an RUI designation are reviewed differently than those from PIs from top research Universities; NSF understands that RUI institutions cannot provide the same levels of institutional matching funds, laboratory resources, support of faculty research time and overall research support as what major research universities are able to provide, and so the productivity expectations of PIs from RUI institutions are not as high. Now that UCCS has lost its RUI designation, however (due to the number of graduate degrees awarded in NSF-related disciplines), UCCS PIs will be compared to PIs from major research universities during the grant review process. In general, due to the continued limited resources for faculty research and high teaching loads that exist for UCCS faculty, they will not fare well in such comparisons. This is an unfortunate consequence of success in graduate education which has placed numerous UCCS faculty in a very difficult position. As such, the institution and the faculty must work together to create changes which can grow and move research forward at UCCS in a sustainable way.

Clearly, improving the climate for faculty research benefits not only faculty, but directly supports the quality of graduate (and, to some extent, also undergraduate) education. On the one hand, successful graduate and particularly PhD programs must rely on heavily active research faculty who can teach dedicated (i.e., not cross-listed) graduate courses and advise students on frontline research projects. On the other hand, faculty members who can devote sufficient time and effort to research can also potentially attract stronger graduate students and produce graduates who are more competitive on the job market. This, in turn, increases the quality of our graduate programs, faculty productivity, program and university reputation, and ultimately will enrich the undergraduate learning environment through research opportunities as well as having the assistance of highly qualified graduate students in labs or in the classroom. **The key question is “how do we get to the next level of research capacity with a modest investment?”** There are many potential ways to create a richer research environment and grow graduate education at UCCS, but we believe an efficient and focused approach will yield the largest gains at this time.

*We recognize that the propositions below are not cost-neutral; investment is needed, but investment needs to occur at both the institutional and at the faculty level. As such, we propose that the Administration and the Faculty work together towards the following main goals:*

**Goal 1. Create more high-quality graduate programs.** Essential to a robust campus research environment are strong, high-quality graduate programs. UCCS has a limited number of graduate programs which have been thriving, but many other graduate programs are not. These programs are often based on courses which are cross-listed for undergraduate enrollment (to avoid cancellation among other things), which reduces the level of graduate training in the class. Ideally, cross-listed (undergraduate/graduate) courses should be drastically reduced across campus in all disciplines in order to achieve better quality in our graduate programs. We realize this might not be feasible all at once because of lack of faculty and resources. We propose that this could be accomplished in steps, as indicated below.

**Action Step ==> Improve our degree programs by eliminating cross listed (grad/undergrad) courses in 5 disciplines (to start)**

Method ==> Hire a part-time instructor for 2 undergrad courses/semester for each discipline. This releases 2 faculty to teach 2 grad courses per semester. With a two-year schedule one gets 8 stand-alone graduate courses, enough to create the basis for a stand-alone graduate core.

Cost ==> Approximately \$125,000 per year for the total of five disciplines

Benefits ==> Offering legitimate graduate programs will allow us to keep more of our own best students and attract better external students. This will lead to improved competitiveness in external grants and should also lead to improved instruction in undergraduate labs by having qualified graduate students supervising the activities. It will also move us closer to the 50% HLC standard assumed practice for graduate-only courses.

**Action Step) ==> Improve strength of graduate programs by establishing a significant number of teaching assistant positions and research assistant positions**

Method ==> Utilize a portion of both the F&A funds currently retained by campus administration and graduate school tuition to increase the number of teaching and research assistantships on the campus by 10 in each of the coming 5 years.

Cost ==> (at \$15,000/GTA or GRA) \$150,000/year of new base funding for 5 years

Benefits ==> Graduate students will be able to excel academically when they do not have to hold multiple off-campus jobs to make ends meet, and we

provide excellent training in teaching for these students which will make them more competitive for academic jobs.

It is important to stress that for departments/units that offer graduate programs not already at capacity, it may be cost effective to attract graduate students and in particular, PhD students with offers of teaching assistantships which include substantial coverage of tuition. The relevant analysis compares the cost of hiring a full-time instructor, teaching 12 hours per semester, with the cost of two teaching assistants, each teaching 6 hours per semester. If these added students are awarded tuition grants, they immediately use those funds to enroll in the existing graduate classes. In terms of the cost for teaching classes there is no additional cost, and it does not require additional classroom availability. Salary and office requirements also look favorable for the use of teaching assistants. A full-time instructor is paid roughly \$40,000, plus benefits, and requires a semiprivate office according to current campus policy. Graduate students teaching half time would be classified as lecturers, who are paid a fraction of the above with no benefits, and are only entitled to share a 6-person office.

**Goal 2. Increase resources available to faculty for research (money and time):** Although faculty are supposed to be spending 40% of their workweek engaged in research, due to teaching and student demands, many faculty are using weekends, holidays, and nights to “catch up” on even modest levels of research activity. The campus’ “standard” 5 course load for tenure-track faculty is a major impediment to faculty research productivity. It is worth noting that it is rare for a University with an explicit research mission and clear research productivity expectations of its faculty for annual performance evaluations, tenure, and promotions to maintain a default 5-course teaching load. This time crunch is compounded by the need for more institutional investment in the fundamentals of the research enterprise including supporting faculty time for grant-writing, student mentoring, and research activity, but also in directly growing research infrastructure and funding graduate assistantships.

Research competitiveness is of the utmost importance in PhD granting departments not only for recruiting students but for obtaining and sustaining funding for both faculty research and student support. For this reason, faculty members involved in PhD or research-intensive Master’s programs should have lower teaching loads. While this has already been achieved in some departments/units with various strategies, it is not the case for all PhD granting departments/units. We realize that this might have to be accomplished in steps, and this has been taken into account in the proposed action steps/methods below. We also recognize that there are research-active faculty other units, and it would be a mistake to omit these faculty from the benefits they would gain from a reduced teaching load. We have tried to balance the needs of all research active faculty in the proposed action steps below.

**Action Step) ==> Improve our research competitiveness by introducing lower teaching loads for research-active faculty**

Method ==> Have up to 50 off-loads per year available to research-active\* faculty, 20 of which are aimed at faculty members in departments/units that offer PhD programs or research intensive Master's programs.

*\*Of course we will need to establish metrics for "research-active" accountability for the faculty who receive off-loads (for example requirements of published papers, working with students, submitting proposals for external grants, etc). We will also need methods for picking which faculty get off-loads.*

Cost ==> (at \$4,000/offload) \$200,000

Benefits ==> We tangibly support faculty research and research work with students. The campus will also be more competitive in external grants.

### **Summary of Proposed Investments**

Eliminating cross-listed graduate courses	\$125,000	One-time increase in base budget
Off-loads for research active faculty	\$200,000	One-time increase in base budget
Creating graduate TA and RA positions	\$150,000	One-time increase in base budget

Continuing to increase TA and RA positions \$150,000/year increase in base budget for 4 years

*Although there is clearly institutional cost associated with these approaches, over time there will be substantial benefits to the institution, our students and faculty, the CU system, and the state in the form of strong graduate training programs which elevate the reputation of CU and Colorado, better retention of excellent students and research-active faculty, and, increased capacity for providing research opportunities to undergraduate students, which is one of the best predictors of college persistence and completion.*

Respectfully submitted by the Faculty Assembly Special Purpose Committee on Research,

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