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Potential Damages Resulting from UNC-Greensboro Cuts

To the UNC-Greensboro Trustees, Greensboro Chamber of Commerce, and Guilford Civic & Education leaders:

The national image of UNC Greensboro as a high quality regional state university is being damaged by the proposed program cuts and the manner in which they were derived. Generations of the trustees of this institution have striven to build the reputation of UNCG up to its status as the strongest non-R1 institution in the UNC system. The civic leaders of Greensboro/Guilford should be just as concerned as the trustees: the presence of a high status university has greater economic benefits to a community than does the hosting of big sporting events. The education leaders of Greensboro/Guilford should be alarmed by the elimination of the masters degree in mathematics, which will shrink the pool of qualified candidates for filling teaching vacancies in Grades 11-14 at local high schools and community colleges.

The flavor of these reductions is reminiscent of the recent reductions at West Virginia University. Both appear to be part of a nationwide trend in which conservative business-oriented politicians are pre-occupied with detailed trainings for specific professions and who thereby fail to appreciate the subtle strengths of the broad offerings in American universities and the consequent economic benefits. Although the economic value of programs in the humanities, social sciences, and arts is not as immediately visible as the value of progress in the STEM fields, there can be no doubt that these disciplines have huge economic impact. Obvious examples are the American global domination in movies and music and the worldwide admiration for American culture in general.

A university that appears to be on the downswing will be less attractive when it comes to recruiting the most talented students and faculty. Some business leaders may fail to appreciate how much a vibrant and broad university community can attract even the geekiest of computer programmers to "hang out" on its periphery. Not only do the geeks want to enjoy local arts and intellectual activities, many of them have partners who will play a decisive role in where their families will relocate. (Plus many seek to find partners who are getting degrees in the humanities and social sciences!)

The most troubling aspect of these proposed changes for a public university is the refusal of the administration to fully disclose all of the financial factors at play. It is not possible for stakeholders to have confidence in the wisdom of any of these proposals given that factor, the discrepancies with the recommendations by the outside consultants, and the observations that some particular cuts might be more related to interpersonal factors than to valid quantitative

assessments.

Strong and broad programs in mathematics (including abstract mathematics) attract the students who are the most mathematically talented to apply to the university, and then these students tend to be among the overall most talented members of the general student body, even if they later change their major to more applied sciences. Surveys have shown that graduates with a BS in abstract mathematics have some of the highest average starting salaries. The recent advances in artificial intelligence would not have been possible without the participation of many people who began their careers in distant fields, such as theoretical mathematics and theoretical physics, and whose thought processes formed at ages 18 to 25 were not constrained by narrow training limited to only deep-in-the-weeds computer programming: One learns how to think both abstractly and deeply in theoretical mathematics programs. Consulting companies such as PWC, People Soft, and SAP love to recruit people with masters and doctoral degrees in abstract mathematics. They know these candidates can be quickly brought up to speed and have been trained to adeptly switch gears back and forth between the abstract big picture and the finer details as needed.

Another troubling aspect of the proposed elimination of the graduate programs in mathematics is the fact that these proposed cuts illustrate how poorly their proponents understand how large American state universities can feasibly operate. It is not economically feasible or wise to have the education of freshman and sophomores in the introductory mathematics courses entirely handled by the faculty. The faculty need to have the time available to develop courses, design the curriculum, and advise the majors. Young graduate students who are planning to become mathematics teachers are often the best suited to relate to the freshmen and sophomores taking these courses, and most of them do at least as good a job as faculty when it comes to meeting with students and conducting recitation sections. (Not to mention absorbing much of the burden for grading papers and thereby giving the students essential feedback.) High schools and community colleges in North Carolina have suffered for decades from the shortage of qualified mathematics teachers, especially at the level of advanced high school mathematics. Where will such schools in Guilford County find sufficiently qualified candidates once the Masters in mathematics at UNCG is eliminated as one of these short-sighted cuts? The proposed elimination of the Ph.D. program in computational mathematics, a field that is readily applicable in industry, is astonishing. One theory put forward is that this program is being cut to punish some faculty members in that discipline for having objected to some of the other cuts earlier.

Please consider looking into this matter. All NC taxpayers are entitled to participate in this discussion, and in your leadership positions you are obligated (Trustees) or have strong interests (Business & Education leaders) for exercising oversight on these decisions. As you begin to request details and justifications, the defensiveness of the UNCG administrators should reveal just how haphazard their planning has been.

Sincerely yours,

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