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Dear Chancellor Dr. Franklin D. Gilliam, Jr. and Provost Dr. Debbie Storrs,

On behalf of the American Mathematical Society and its 30,000 members, I am writing to share deep concerns raised in the mathematics community with regards to potential cuts in the doctoral program at University of North Carolina at Greensboro (UNCG) and the implications for UNCG students.

Mathematics and the mathematical sciences play a critical role in all of the sciences, underpinning all modern advances in cryptographic systems, cybersecurity, medical imaging and manufacturing. Mathematics faculty are instrumental in educating all students, not just future engineers and scientists, but also educators, health professionals, finance professionals, data analysts, economists, and all humanists.

UNCG offers the only doctoral program in Computational Mathematics in North Carolina. This is a dynamic and growing field. Computational mathematics, particularly numerical analysis, has profound implications for neural network-based machine learning and artificial intelligence as well as financial technology (FinTech) and quantitative analysis. The department has awarded 28 PhDs since the creation of the doctoral program in 2008, and by this summer that number will rise to 36. By all measures, the program is flourishing, serving both the university and the state.

The Provost's rationale for proposed cuts point to a need to prioritize success of students in lower-division mathematics and statistics courses. The proposed cuts will not only deprive UNCG faculty and students of a vibrant cohort of experts in mathematics, it will hinder economic and advancement opportunities for UNCG graduates. According to the US Bureau of Labor and Statistics, overall employment of mathematicians and statisticians is projected to grow 30% from 2022 to 2032. Employment of computer and information research scientists is projected to grow 23% by 2032. Demand for AI and Machine Learning (ML) specialists is higher still and is expected to grow by 40% from 2023 to 2027. This has significant implications for UNCG students as DC, Virginia and North Carolina are the 1st, 2nd and 12th states respectively with the highest employment level of mathematicians.

UNCG has been ranked a top university for social mobility by U.S. News & World Report five years in a row. UNCG was also recognized by Money magazine as one of the best colleges in 2023 in part due to the success of alumni salaries. The average mean wage for

mathematicians in 2022 was $113,860 per the U.S. Bureau of Labor Statistics. Cuts in graduate mathematics programming will reduce socio-economic advancement opportunities and run counter to the university's historical commitment to promoting social mobility.

I urge you to reconsider this decision and hope that you will maintain the University's support for the mathematics department and its doctoral program. If the American Mathematical Society can provide any assistance, please let me know.

1. https://www.bls.gov/ooh/math/mathematicians-and-statisticians.htm?field_directory_admissions_couns_value=NY
2. https://365datascience.com/career-advice/machine-learning-engineer-job-outlook/#:~:text=The%20demand%20for%20AI%20and,engineer%20job%20offers%20require%20Python

Sincerely yours,

Bryna Kra
Sarah Rebecca Roland Professor of Mathematics, Northwestern University
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