Pathways Testimony, February 25, 2014—City Council Hearing

Good morning – my name is K. E. Saavik Ford, and I am an Associate Professor at Borough of Manhattan Community College. I am also a member of the CUNY Graduate Center doctoral faculty, a Research Associate at the American Museum of Natural History and a Kavli Scholar at the renowned Kavli Institute of Theoretical Physics, University of California, Santa Barbara and home to 3 Nobel laureates. I am a member of an instrument team on the successor to NASA's Hubble Space Telescope, JWST, and I have published in the most prestigious journals in astronomy and astrophysics. I have taught at public and private universities across the country and have collaborators at universities around the world.

So when I offer my professional opinion on teaching, astronomy, and physics, I know whereof I speak.

We are required by Pathways to include a lab in our science classes – an essential component of any rigorous science course – but are given only 3 hours (and 3 credits) per week with our students. Current national best practice is a 4-credit laboratory class, meeting for at least 5 hours per week, for non-science majors. We invite national ridicule—not to mention transfer problems—by shortening our courses at the expense of understanding. In our increasingly scientific and technical world, when people must be scientifically literate to participate in many of our political discussions – cutting time on science leaves our students disenfranchised as citizens of the future.

I can cite statistics: At BMCC, pre-Pathways, our liberal arts majors took 2 science courses, each with a rigorous lab, each for 5 hours per week. Now they take

2 science courses, only one with a lab, each meeting for only 3 hours per week. Our students deserve more than three-fifths of a science class.

But more important than the numbers are the students. I want to share a story with you from my first semester teaching at BMCC. I wanted to discuss magnetism with my astronomy students, and I began by asking them to recall an experiment they would have done in middle school. They would have made a magnet, using a battery, a bolt and some wire. I got a blank stare. I waited. Finally a brave student at the back of the room raised his hand and said, 'Ma'am, we went to New York City public schools. We didn't have fancy equipment like that.'

A battery. A bolt. And some wire. And now they get three hours of college science, plus maybe a 'scientific linguistics' class, and they're educated?

Many 'adjustments' have been made to Pathways to correct the worst absurdities – in my own field, we're asked to design co-requisite science courses, meeting for 6 hours per week, worth 6 credits. This is pure credit inflation, sure to embarrass CUNY on the national stage. Given CUNY's long, proud history as a leader in science, and the fact that this is the CUNY Decade of Science, I implore you to let the faculty fix the transfer situation—without diminishing the scientific rigor of a CUNY degree. No one can know yet whether Pathways will improve graduation rates, but we know now that it will devalue a CUNY degree for those who earn one.