



May 27, 2024

Vice Provost Oliver O'Reilly  
Chair Task Force on Math Preparedness  
*via electronic mail*

RE: Response to Report of the Task Force on Math Preparedness

Dear Oliver,

I write in response to the Report of the Task Force on Math Preparedness (hereafter, “The Report”), which you submitted on May 16, 2024 on behalf of the Task Force on Math Preparedness (hereafter, “The Task Force”), which you chaired. To begin, I wish to thank you and the members of the Task Force for their timely and thorough discharge of the duties with which I tasked the Task Force on March 4, 2024. I am very grateful for your and the Task Force’s work, which should lead to critical improvements that will benefit our students.

As you are aware, the impetus for the Task Force’s creation and charge was the very high rate of failure (including withdrawals) from Mathematics 1A in fall 2023, in which approximately 30% of the students either received a non-passing grade (~24%) or withdrew (~6%). Additionally, although not the Task Force’s focus, 28% of the students received an A+; overall, the distribution was highly bimodal.

Part of the charge to the Task Force was to see if the cause of this high failure rate could be explained.<sup>1</sup> The Task Force observes:

- The problem of poor performance in college-level mathematics does not seem unique to UC Berkeley.
- Anecdotal evidence (not cited) as well as detailed skill-specific assessments using the Math Diagnostic Testing Project exam reveal evidence of a significant reduction in the math preparedness of entering students relative to prior years.

The Task Force hypothesizes that those observations might be explained by “myriad issues arising from the COVID-19 pandemic such as curriculum compression and learning loss, mental[-]health challenges, and reduced development of social competencies.”

Although not expressly called out as a factor in the Report, it is suggested that a possible issue is that the current numbering of lower-division courses could be creating confusion among students, in particular that Math 1A might seem a more elementary course than the other univariate calculus courses (10A and 16A), when, in fact, it is likely the most challenging of the lower-division calculus offerings. The Task Force thus endorses the Mathematics Department’s intention to renumber Math 1A as Math 51 and Math 1B as Math 52. ***The administration also endorses this renumbering and asks the Mathematics Department to implement the new numbering by fall 2024, if at all possible, and no later than fall 2025.***

The Task Force makes ten recommendations to address the issues with Math 1A. The first three are recommended for immediate or near-term implementation, the last seven are broad ideas for further review and fine-tuning before possible implementation. The first three recommendations are, in summary:

---

<sup>1</sup> This rate is notably higher than in previous years: in fall 2021, approximately 11% of students did not receive a passing grade in Math 1A, and in fall 2022, approximately 14% did not. The percentage is also high relative to most of our sister UCs (all but UC Merced had lower failure rates for their versions of Math 1A—see Figure at the end of this letter).

1. Increase utilization of the Mathematics Department's diagnostic examination. ***The administration agrees that a goal should be to have all incoming students who plan to enroll in math courses take this exam.*** To that end, the administration will:
  - Write the Vice Chancellor for Student Affairs to ask that taking the diagnostic exam be emphasized as part of the Golden Bear Orientation program; and
  - Write the co-chairs of the Council on Advising and Student Success to ask that the Council determine ways to encourage advisors to emphasize the importance of the diagnostic exam to students and to help students understand the results of that exam with regard to their best placement and how to use the exam to determine what they need to be successful (*e.g.*, whether enrolling in Math 1 in conjunction with Math 1A would be helpful).

Additionally, the administration will write the Chair of the Berkeley Division of the Academic Senate to see if the Senate's Undergraduate Council might be willing to address issues such as making the diagnostic test mandatory and/or implementing a mandatory placement exam.

2. Create a mid-semester "off ramp" for students struggling in Math 1A, which would entail offering students the option to drop Math 1A mid-semester and enroll in Math 1 (Foundations of Lower Division Mathematics) to strengthen their math skills over the remainder of the term. ***Administration response:*** While it would be helpful to have a path for students who are struggling in Math 1A to such a degree that they cannot successfully complete the course, a path that would ideally position them to take Math 1A in the following semester (or some other calculus course), it is not evident that an "official off ramp" is necessarily going to work for all students. Moreover, as the Report notes, there are many hurdles that would need to be addressed to make this recommendation feasible. Last, but critically, while this recommendation might help students in trouble, it doesn't address the key issue of preventing them from struggling in the first place. The administration therefore believes that resources might better be deployed along other avenues so that students are able to successfully complete Math 1A.
3. Foster the use of study groups and other peer-to-peer learning tools. ***The administration agrees that this should be done.*** To that end, the administration will ask Dean Kahn to work with the Mathematics Department on ways that it might implement some of the specific recommendations that the Report makes concerning study groups and peer-to-peer learning.

With respect to the seven recommendations that are both longer term and will require further investigation, ***the administration will follow the Report's "meta-recommendation" that the Council of College Deans, working in conjunction with you, as the Vice Provost for Undergraduate Education, take those recommendations up in the coming academic year.***

Again, I wish to express my deep appreciation to the Task Force for its work and thoughtful Report.

Sincerely,



Benjamin E. Hermalin

Executive Vice Chancellor & Provost

and Schneider Distinguished Professor of Finance & Distinguished Professor of Economics

cc: Stephen C. Sutton, Vice Chancellor for Student Affairs  
 Lisa García Bedolla, Vice Provost for Graduate Studies & Dean of the Graduate Division  
 Maximilian Auffhammer, Chair, Berkeley Division of the Academic Senate  
 The Task Force on Math Preparedness

