This is a document to compare the tentative agreement (TA) salary increase vs. before-negotiation agreement.

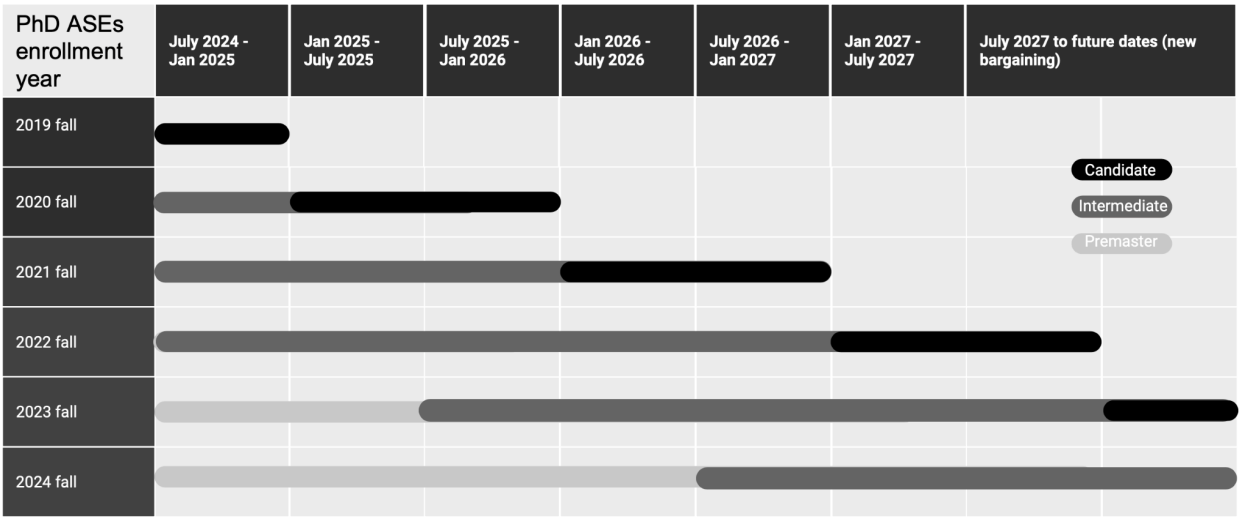
Facts:

1. The tentative agreement gives for base rate
    a. Premasters: 12%/10%/10% salary increases in 2024/25/26
    b. Intermediates: 9.5%/10%/10% in 2024/25/26
    c. Candidates: 7%/10%/10% in 2024/25/26
2. The school's current rate before TA is 3% per year.
3. ASEs:
    a. Pre-masters comprise about 21.9% of all PhD ASEs.
    b. Intermediates comprise about 32.4% of all PhD ASEs.
    c. Candidates comprise about 45.7% of all PhD ASEs.

Model assumptions:

1. PhDs graduate in 5.5 years on average.
2. All PhD ASEs are base rate (this is a conservative estimation, as the pay raise affects basically no variable rates department. For more details, see Appendix).
3. Without considering the people who came in with a master degrees, and departments who need to climb the tier ladder, the timeline approximately looks like:
    a. Year 1 and year 2: premasters
    b. Year 2 to year 4.5: intermediates
    c. Year 4.5 to year 5.5: candidates
4. Everyone comes in the fall quarter, and leaves at the end of fall quarter 5 years later, e.g. a PhD student who comes in and starts their PhD in 2020 fall will graduate at the end of 2024 fall (that is, 5.5 years in school). Everyone gets 12 months of salary.

Table 1. Graduate and Tier Timeline Based on the Model



Model projection:

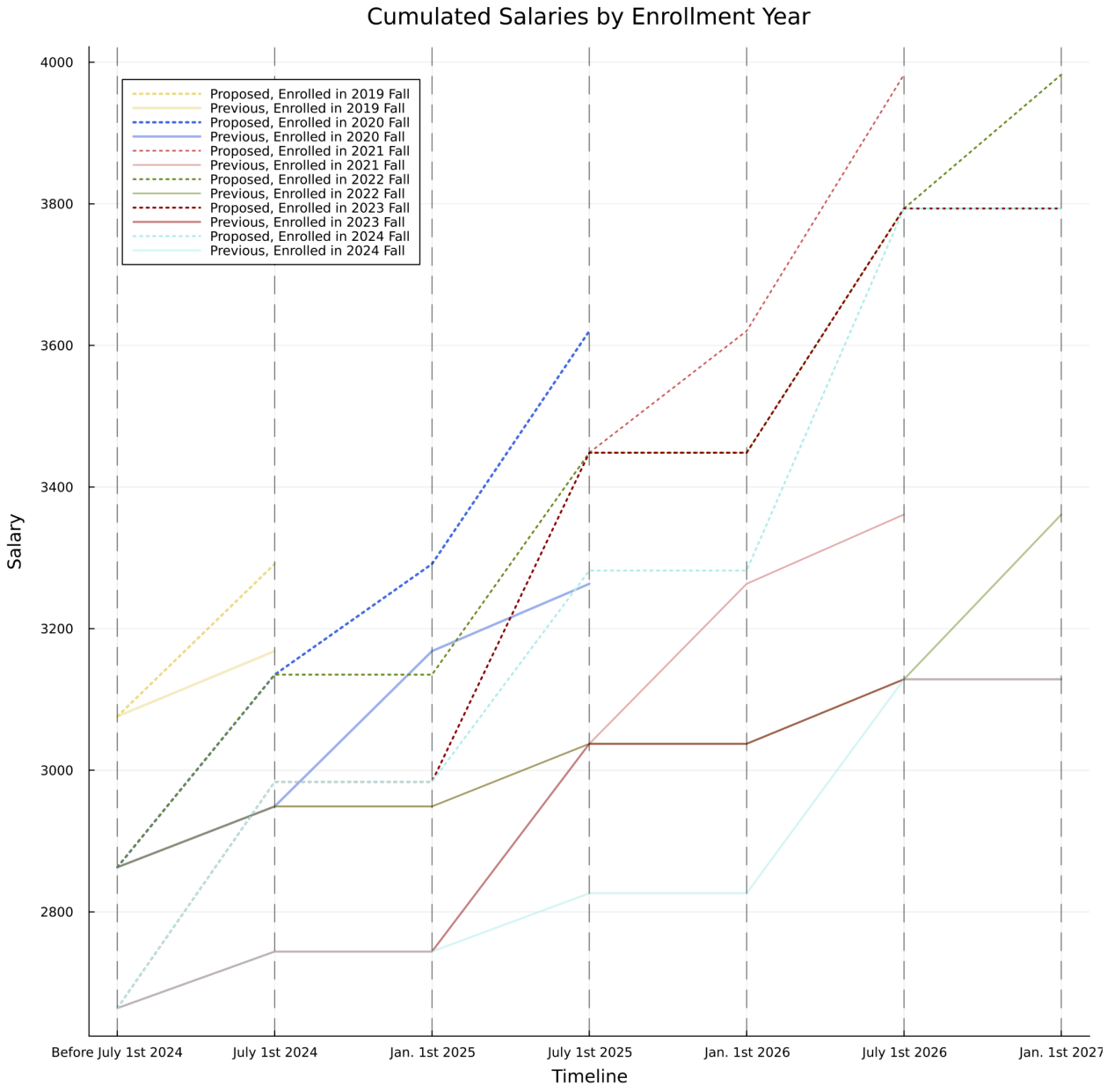


Figure 1. Current Proposed Salary (TA) and Previous Salary (3% Raise Each Year) vs. Timeline

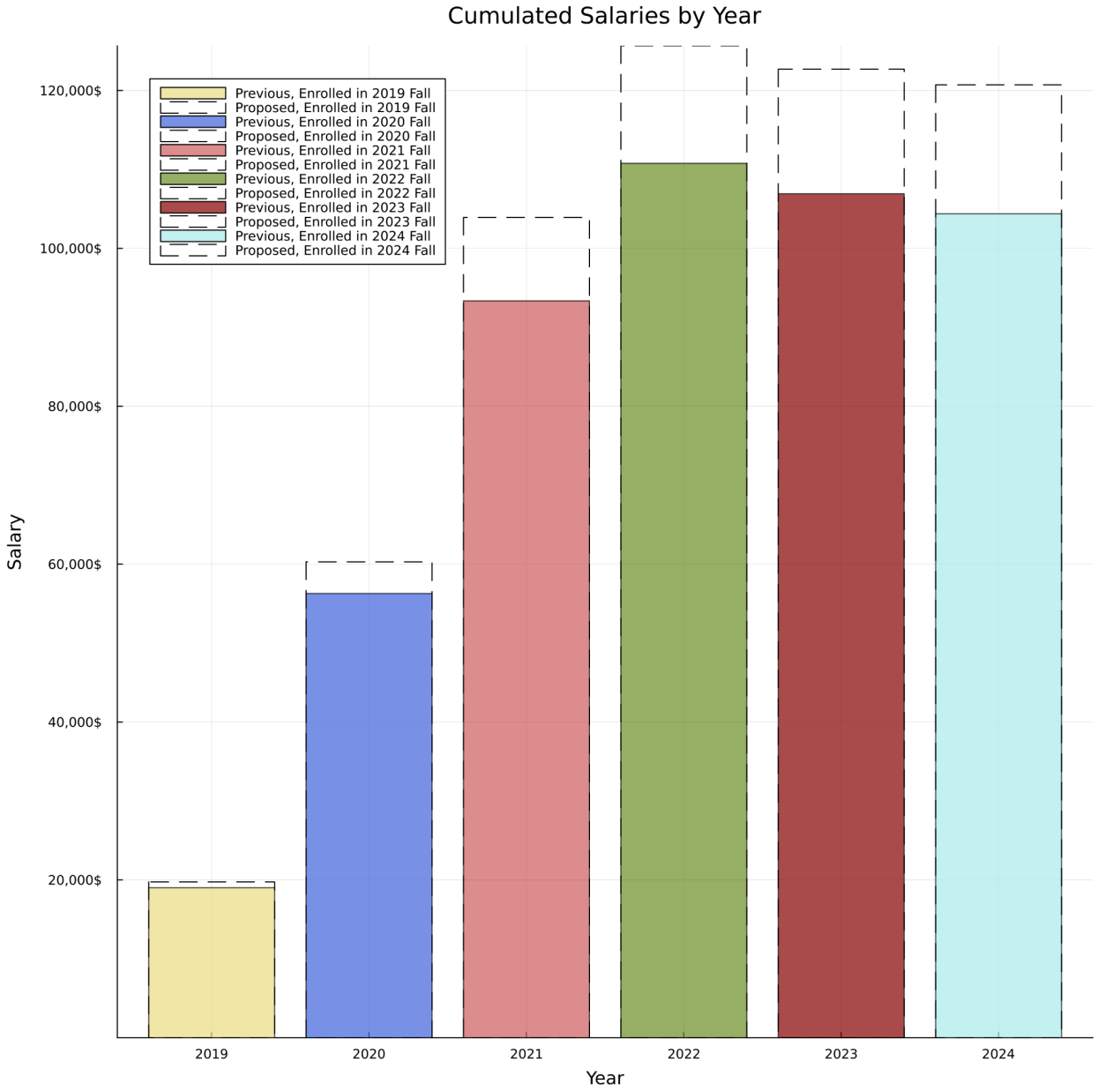


Figure 2. Bar Diagram of Cumulated Gain under TA and Previous Salary Raise Plan (3% Raise Each Year)

Table 2. Absolute and Percentage Difference in Salary, Cumulated until Graduation or July 2027

	Enrolled in July 2019	Enrolled in July 2020	Enrolled in July 2021	Enrolled in July 2022	Enrolled in July 2023	Enrolled in July 2024
Cumulated TA Salary ($)	19,747.92	60,280.54	103,928.42	125,656.60	122,705.94	120,708.72
Cumulated Previous Salary (3% Raise Each Year) ($)	19,009.68	56,282.9904	93,358.16	110,773.19	106,917.05	104,383.62
Absolute Difference ($)	738.24	3997.55	10570.26	14883.40	15788.89	16325.10
Percentage Difference (%)	3.88	7.10	11.32	13.44	14.77	15.64

Appendix

There are people who come in as intermediates, and departments which give candidacy the day people run in.

Comparing the above data to the real data, and do a system equation (I'm going to use LaTeX equation here because I'm a nerdy physicist):

$$\begin{cases} \left(\frac{2.0}{5.5}x + \frac{0}{5.5}y + \frac{0}{5.5}z\right) = 4147 \times 21.9\%, \\ \left(\frac{2.5}{5.5}x + \frac{4.5}{5.5}y + \frac{0}{5.5}z\right) = 4147 \times 32.4\%, \\ \left(\frac{1.0}{5.5}x + \frac{1.0}{5.5}y + \frac{5.5}{5.5}z\right) = 4147 \times 45.7\%. \end{cases}$$

$$\Rightarrow \begin{cases} x \approx 2498 \\ y \approx 255 \\ z \approx 1395 \end{cases}$$

We get that about 60.2% of all PhD students have to start from premaster, and climb the ladder to become intermediate and finally candidate.

We are focusing on these 60.2% students.