

# **PEI OVERSIGHT COMMITTEE**

## **FINAL REPORT**

**July, 2021**

**This report is supported by all faculty members on the PEI Oversight Committee:**

Ashley Barr (SOC)  
Denise Ferkey (BIO), Co-Chair  
Trina Hamilton (GEO)  
David Johnson, Associate Dean  
Eero Laine (THD), Co-Chair  
Harvey Palmer (PSC), Policy Committee Representative  
Miriam Thaggert (ENG)  
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**Note added by the graduate student representatives on the PEI Oversight Committee:**

(Ariana Nash, ENG; J. Coley, SOC; Morgan Redington, CHE)

“The three graduate members of the committee are not in support of this report because we believe the Dean should immediately (for AY 2022-2023) reinstate CAS-funded graduate TA lines to pre-Covid numbers, and that, further, the effects thus far of the committee, in concert with the dean's austerity measures, has not led to a better allocation of TA lines, though we do support the committee's original purpose of investing the faculty with greater governance.”

### **Committee overview**

The PhD Excellence Initiative Oversight Committee (hereafter “the Committee” or the “PEI Committee”) represents the third iteration of PEI committees. Prior to the PEI Committee, the PhD Excellence Initiative was overseen by the PEI Interim Committee, chaired by Dr. Rachel Ablow (Summer 2020 to December 2020), which was preceded by the PEI Bridge Committee, chaired by Dr. Stephen Tiffany, and the PEI Teaching and Curriculum Committee, chaired by Dr. David Castillo (both formed by the Dean’s Office in the fall of 2019). Additionally, the CAS Policy Committee formed a Subcommittee on the PhD Excellence Initiative, chaired by Dr. Damien Keane, in the fall of 2019. We understand future iterations of the Committee will follow similar structures, even as matters of membership and departmental representation are still under consideration within the Policy Committee.

The PEI Committee was officially formed in December 2020. Over the semester break, the Committee finalized the work of running the algorithm designed by the PEI Bridge Committee using the overall TA allocation for the 2021/2022 academic year provided by the Dean’s Office. The Committee then set its agenda, which included discussion of the following items: timing and schedule for reporting, outcomes rankings, diversity definitions and pre-requisites for the algorithm, AAU comparisons and data, small/average program size, the long-term impact of the algorithm, and the roles of the PEI Committee, the Dean’s office, and the Policy Committee. The PEI Co-Chairs, Drs. Denise Ferkey and Eero Laine, along with Policy Committee Representative to the PEI Committee, Dr. Harvey Palmer, also began setting meetings with individual departments.

### **Feedback from meetings with departments**

As part of the work of the Committee, the Co-Chairs and the Policy Committee Representative offered to meet with programs individually in an effort to both convey important information regarding the charge of the PEI Oversight Committee, the algorithm and its processes, as well as to discuss the particular data for each program (i.e. strengths and weaknesses as they impacted the metrics of the algorithm). In addition to a few minor corrections to the algorithm data, the meetings provided the Committee with a stronger and more comprehensive overview of the ways that PhD study varies across areas and disciplines. These conversations guided the work of the Committee in its meetings and decision-making processes. Many of these matters are discussed below in detail.

### **Timing and schedule for reporting**

One of the many challenges faced by the PEI Oversight Committee this year was the incredibly short timeframe it had for obtaining the necessary Outcomes data it needed from departments in order to run the algorithm in time to distribute lines for this year’s graduate recruitment cycle. To help streamline this process going forward, we felt that it was important to develop a timeline for proceeding each fall, so that department Chairs and DGSs will know what to expect and when. Establishing a predictable process, which allows for time to review the data, should also address the concern raised by Chairs and Directors about the reliability of the Outcomes data.

We suggest the following schedule, using **example dates for 2021** fall semester. (We note that this assumes that the algorithm would be run again this coming year. However, there are

outstanding issues that could alter this timing. See “*Algorithm frequency*” below. Thus, these serve as example dates only.)

**Before classes start (by mid-August):**

Outcomes data is sent from Advancement to Dean’s office

**Beginning of the first week of classes (August 30):**

Email with Outcomes spreadsheet sent to Department Chairs to update, along with the weighting guidelines (see below)

**End of the second week of classes (September 10):**

Outcomes spreadsheet due back to Dean’s office

**Dean’s office has two weeks to review, clean and verify Outcomes data submitted by Chairs (September 13-24):**

Data is reviewed, cleaned and verified by Dean’s office

**Beginning of the fifth week of classes (September 27):**

Any discrepancies are sent to Department Chairs to review  
Chairs have one week to respond

**Sixth week of classes (October 4):**

Data is reviewed and aggregated for PEI Committee by Dean’s office

**Seventh week of classes (October 11):**

PEI Committee receives Outcomes data for the algorithm

**Eighth week of classes (October 18):**

PEI Committee meets over the next several weeks to run the algorithm, make corrections and adjustments where necessary, etc.

**Tenth week of classes (November 1):**

PEI Committee communicates finalized line distribution to Dean’s office

**Eleventh week of classes (November 8):**

Dean’s office communicates finalized line distribution to departments

**Diversity Metrics**

The Committee discussed the Diversity metric at length and over multiple meetings. One of the recurring questions from departments, faculty, and also raised throughout various iterations of the PEI Oversight Committee, regards the definition of diversity and what is included in the Diversity metric in the algorithm. After clarifying with various offices, the Committee came to understand that the definition is restricted to SUNY’s definition of underrepresented minority (Native Hawaiian or Other Pacific Islander, Black or African American, Hispanic/Latino, American Indian or Alaska Native, or Underrepresented Multiracial).

Another concern raised about the Diversity metric (particularly following the release of the Interim Oversight Committee's final report) was whether it would be more appropriate to use a measure that is not standardized by the AAU-public average in order to increase the overall diversity of the CAS graduate student cohort by favoring programs that have more diverse students. While the Committee ultimately decided in favor of the standardized measure, given that it incentivizes all programs to improve the diversity of their entering cohorts, even those in fields with less diverse applicant pools, it did consider how the TA distribution would differ if a non-standardized Diversity metric were used instead. This analysis revealed that this measurement change would not dramatically alter the TA distribution for academic year 2021/2022. In particular, Chemistry would still be placed in the best performing bin for Diversity, Africana and American Studies would receive the same number of TA lines, and the six largest departments would only "lose" two TA lines in aggregate to the smaller departments (most of the changes among these six departments were offsetting).

The PEI Bridge Committee previously recommended that the Diversity metric also include enrollment of female students for programs in STEM fields, but did not specify how STEM should be defined or how this should be done in terms of constructing a single Diversity metric for comparing all programs. For the initial run of the algorithm, the Committee decided to include female enrollment for two groups of STEM programs: 1) those that would be included in a strict definition of STEM; and 2) those that would be included in a broad definition of STEM and whose level of female enrollment (as determined by their AAU public counterparts) was lower than 55%, which was set based on the lowest rate among the programs in group 1. The programs in group 1 (with the percentage of female enrollment for their AAU public counterparts reported in parentheses) were: Biological Sciences (53.3), Chemistry (41.4), Geology (43.5), Mathematics (24.2), and Physics (17.4). The programs in group 2 were Economics (34.0), Geography (49.3), and Political Science (40.3). For these designated STEM programs, the Diversity metric weighted enrollment of underrepresented minorities three times more heavily than female enrollment (75% versus 25%). Thus, their Diversity metric was the weighted sum of the ratio of the UB URM % to the AAU-public URM % and the ratio of the UB female % to the AAU-public female %, while the metric for the other programs was simply the first of these two ratios. During the Committee's deliberations following the initial algorithm run (partly in response to departmental feedback), there was general support for dropping the STEM condition for the 2<sup>nd</sup> group of programs (in future runs of the algorithm) and simply including female enrollment in the Diversity metric for all programs with less than 55% female enrollment among their AAU public counterparts.

As was proposed by the Interim Committee, we returned to the idea of requiring prerequisites for the Diversity metric - that is, requiring that certain steps be taken before any credit is received for the Diversity metric. The goal of this approach is to help ensure that all departments and programs in the College are making continual efforts towards promoting and increasing diversity. Those programs that do not complete the prerequisite(s) would be ranked in the lowest bin in the algorithm for the Diversity metric. The Committee proposes that departments/programs fulfill the following two prerequisites before the algorithm is run again:

1) Departments and programs should have a diversity statement posted on their website, along with links to related resources on campus and in their discipline. (The Committee requests that the College provide guidance as to the appropriate campus links that all units should include.)

2) Each faculty member serving on a departmental or programmatic graduate admissions committee must have taken at least one related workshop through UB’s Center for Diversity Innovation. Suggestions include: Admissions Best Practices, Implicit Bias, and Recruitment for Diversity. Faculty should contact Dr. Maura Belliveau, director of CDI, for more information about scheduling such workshops.

Future iterations of the Committee will discuss appropriate prerequisites for upcoming years. One suggestion that was discussed was for departments/programs to develop an action plan with three to five concrete goals or initiatives for increasing diversity in their program. Any new prerequisites such as this would be communicated to programs from the PEI Oversight Committee well in advance of running the algorithm so that faculty and staff can prepare and plan accordingly.

**Outcomes weighting guidelines**

The PEI Bridge Committee originally proposed that a positive outcome for a graduate be defined as “PhD graduate is employed in a full-time position that requires a PhD”. In light of the current academic and professional job markets, the PEI Interim Oversight Committee (summer 2020) proposed the creation of an additional category reflective of a positive outcome to include positions where the PhD is preferred. They further recommended the following weighting:

- PhD Required: 1
- PhD Preferred: 0.5
- PhD Not Required or Preferred: 0

The Oversight Committee supported the use of these three categories to weight the Outcomes of PhD graduates. Upon reviewing the ranked Outcomes data provided by departments, the PEI Committee also felt that it was important to provide formal guidance as to the categories (PhD required, PhD preferred, and PhD not required or preferred) to ensure that the same job titles and positions are classified the same way by programs across the College. After extensively discussing each of the three categories and considering the goals of the PEI, we propose the weighting detailed below be used going forward. However, we realize that there may be unique job positions/titles not included below, or unique circumstances pertaining to individual graduates (e.g. *promotion* to a new job title within the company following the PhD-required position). For these, brief explanation and/or documentation (see table) may be provided to warrant weighting that would be different than the initial defaults given.

<b>Position</b>	<b>Default points assigned (1 = PhD Required, FT .5 = PhD Preferred, FT, 0 = PhD neither required nor preferred/not FT employment)</b>	<b>Exceptions* (requires documentation if coding as 1 and an explanatory note if coding as .5)</b>
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Adjunct instructor	0 as default	.5 if adjunct position is a minimum of 2/2 course load at the same institution
Assistant to full professor	1 (this position does not need to be updated annually—student can retain a 1 in subsequent years even if they change position)	
Post doc	1 if postdoc is external to graduate's department .5 if postdoc is internal to graduate's department	For internal post docs, code 1 if funded externally and/or graduate was hired amid national search
Lecturer and/or teaching and/or clinical faculty	1 (assuming a FT position)	0 or .5 if not a FT position (see Adjunct coding above)
Attorney/Lawyer	0	.5 if position is directly related to expertise gained from the PhD (e.g. patent lawyer)
Research scientist	1	
Data scientist/ analyst/engineer	0	.5 or 1 with convincing explanatory note/documentation
K-12 Teacher	0	.5 with convincing explanatory note/documentation (1 for exceptional circumstances with documentation)
Clinical psychologist	1	
Business owner	0	.5 or 1 if directly related to PhD with convincing explanatory note/documentation
Independent contractor/freelancer/entrepreneur	0	.5 if directly related to PhD with convincing explanatory note/documentation (1 for exceptional circumstances with documentation)
NGO/nonprofit jobs	0	.5 if directly related to PhD with convincing explanatory note/documentation (1 for exceptional circumstances with documentation)

\*Acceptable documentation/explanatory note should demonstrate **full-time (FT)** and **paid use** of PhD and may include the actual or representative job ad, proportion of employees in a given

position with a given employer with a PhD, etc. Departments should view this evidence as a petition to the PEI Oversight Committee to deviate from the default score.

Notes:

- Academic Analytics will mine data and offer departments current positions for their graduates. Departments will code these positions as 1 (PhD required, FT, Paid), .5 (PhD preferred, FT, Paid), or 0 (PhD neither required nor preferred/not FT/unpaid) using established guidelines and documentation, when necessary.
- Students who cannot be found by Academic Analytics will be excluded from the algorithm unless departments can locate these students and verify their current position.
- Outcomes will be updated annually, with the exception of ladder faculty positions (not clinical or post doc positions). Students/departments can retain a 1 code once this outcome is achieved (i.e. departments should code as 1 any student who is or has been in a tenure-track position).
- Any position not captured by these guidelines should include a convincing explanatory note (if assigning a .5) or documentation (if assigning a 1).
- If job title is the result of a promotion from a PhD-required job but does not require a PhD, departments should offer an explanatory note to retain a 1 code.

### **Outstanding issues related to the algorithm**

Note: Of the issues detailed here, this Committee recommends the first two (*Starting numbers* and *Algorithm frequency*) as the most critical to be addressed by the new PEI Committee as it begins its work in the fall of 2021/2022.

*Starting numbers:* The number of TA lines allotted to CAS departments has historically been linked to each unit's undergraduate teaching load. However, the PEI aims to uncouple TA line numbers from teaching obligations. Instead, any teaching a student does should be inherently viewed as part of their training as a scholar, and not simply as service to their department. Thus, the number of lines a program/department has should be reflective of the scholarly mission and research needs of the unit. In January (2021) the PEI Committee requested that CAS obtain, from the Office of Institutional Analysis (OIA), the average department PhD student body size and average departmental faculty size of public AAUs that are of a similar overall size to UB. These numbers will provide an estimate of "relative resources" by program, and may reveal whether being particularly small (or large) compared to AAU counterparts negatively (or positively) affects a department's competitiveness in the algorithm. Multiple comparisons may ultimately be insightful going forward (e.g. comparing each UB department to its AAU peers in terms of size/resources, as well as comparing UB inequity of size/resources across departments to AAU inequity of size/resources across departments). Some on the Committee, as well as Chairs and DGs, raised the concern that historic underinvestment in some departments at UB may have left them at a disadvantage starting out in the algorithm – especially since two of the metrics now use AAU comparison data for binning purposes. Further, if the goal of UB is to be ranked as a Top 25 University, this data can help to identify programs where additional investment is necessary to be nationally competitive in its scholarly endeavors. While it was assumed by many on the Committee that our programs are likely all small compared to our counterparts, it seems likely

that some are disproportionately so. Unfortunately, as of the writing of this report, the AAU size comparison data has not been received, despite repeated requests to OIA.

*Algorithm frequency:* Given the large cuts in TA lines that departments already sustained this year, combined with the retrospective and slow changing nature of the algorithm metrics, a clear majority of the committee opposed running the algorithm a 2<sup>nd</sup> time to determine the 2022/2023 TA line distribution. There was difference of opinion, however, on what should be done instead. Many members supported switching to running the algorithm only every other year going forward. This would provide departments/programs with greater stability and the ability to plan incoming cohorts over a two-year window, as well as time to improve their metrics between runnings of the algorithm. This approach could be particularly helpful for small departments/programs, for whom losing even one line in each of two consecutive years would have significant negative consequences. Consistent with this recommendation, many favored “pausing” the algorithm beginning next year, such that it would not be run again this coming fall to determine the 2022/2023 TA line distribution. Instead, the only changes to a department’s fractional share of lines for 2022/2023 would be adjustments made due to corrections in the data and carry forward of “banked” lines. The Committee reviewed the TA line distribution that would result from applying this approach. However, it was also suggested by some members that instead of simply pausing in the fall, the Committee should return departments to the fractional share they had prior to the first running of the algorithm (i.e., in 2020/2021) to allow time to consider the appropriate starting numbers and guardrail constraints (see below). These members felt that the problems with the algorithm were serious enough that reverting to the pre-algorithm distribution (but using the smaller overall TA total for 2022/2023) would be a more appropriate and just approach to keep from further widening the resource gap between departments. The Committee did not reach consensus on the best way to proceed in the fall, for consideration of 2022/2023 TA line distribution.

*15% Cap:* The Committee did not have time to discuss the “guardrail” that restricts changes in PhD lines to no more than 15% total. However, this remains an important issue for the Oversight Committee to revisit in future years. Among the concerns raised is that this guardrail would keep small departments from ever being able to grow at all, or by much more than ~1 line. In addition, modeling of the algorithm revealed that almost all gains by departments are realized within the first 2-3 years. Since this projection is based on current departmental metrics that reflect past performance, this leaves little incentive for departments to continue improving going forward. Finally, while the Committee is sensitive to the desire to preserve resources for programs that are actively working to improve their metrics, this rigid constraint unnecessarily handicaps highly successful PhD programs that are positioned to be leaders in their disciplines. One proposed suggestion by the Interim PEI Committee to mitigate these concerns was that perhaps the 15% cap could be reset after a given number of years (e.g. every five years). Another suggestion raised this year was that once AAU size comparison data is received (see above), perhaps the guardrail should be scaled to the size of a department/program’s AAU counterparts. For example, an upper and lower limit relative to comparable public AAU programs could be defined. The lower limit could be viewed as the minimum number of TA lines that the program needs to be viable among AAU publics, while the upper limit could be viewed as the number of TA lines necessary to be fully competitive among the highest ranked AAU publics (with respect to the program’s field). This issue will require further discussion and consideration once the



AAU data is provided to help ensure that the intended outcome of “right sizing” departments is being realized.

*Scholarly activity:* Consistent feedback from department Chairs and DGSs highlighted the challenges associated with focusing on only the four metrics currently included in the algorithm. While it is generally agreed upon that all provide valuable feedback related to a department’s PhD program, in isolation they fall short of fully capturing the richness of a program in terms of PhD training and excellence. In particular, the current form of the algorithm does not incorporate any measure of faculty or graduate student scholarly work. This is quite troublesome, as scholarly excellence could be arguably *the* most significant measure of PhD excellence. While the Committee did not have time to discuss ways to account for scholarly work, and we appreciate that the vast differences between disciplines would make this very hard to quantify in a consistent manner, we highlight that its absence from consideration for TA line distribution seems inappropriate.

*The roles of the PEI Oversight Committee, the Dean’s Office, and the Policy Committee:* The PEI Bridge Committee was originally formed in part as a result of faculty demands for more say in the process of allocating TA funding. While the Oversight Committee supports a central role for the faculty in the process of allocating TA lines, treating this process as if the Oversight Committee can act unilaterally to change the distribution has contributed to confusion about where authority for specific decisions is held, thereby complicating the process (e.g. leading to departments directing complaints to the Committee that should have been directed to the Dean’s Office). For the Oversight Committee to be more effective in the future, the specific roles and responsibilities of the Dean’s Office and the Policy Committee need to be more clearly defined.

The PEI Oversight Committee does bear a special role as the duly elected faculty committee charged with understanding and implementing measures to improve PhD education at UB. It does so, however, within the financial and programmatic boundaries decided by others at the University. Through discussions with departments, the Dean’s Office, and various other meetings, the Committee realizes the importance of continued dialogue among the Dean’s Office, the CAS Policy Committee, and the PEI Oversight Committee. It is clear to the PEI Committee that input from all levels (administration, faculty, and students) is necessary for achieving any goal related to PhD excellence at UB. In particular, feedback from our meetings with departmental Chairs and DGSs highlighted the clear need and desire for the Dean’s Office to be more directly involved in discussions related to the number of lines a unit is allocated. Faculty felt that leaving the line distribution to an algorithm-based approach alone misses important considerations and circumstances unique to individual units. For example, the algorithm-based approach removes the space for discussions about a department’s goals for the future, related to programmatic changes, growth, or investment. Moreover, for the allocation of TA lines via the PEI process to be truly decoupled from the undergraduate teaching mission, more discussions are needed between the Dean’s Office and departments (especially those with large undergraduate teaching expectations), as to how to best replace the teaching services previously covered by CAS-funded teaching assistants. Discussions with individual departments revealed that there is significant confusion and anxiety surrounding this issue.

*Program viability and purpose of algorithm:* The Bridge Committee strongly recommended that decisions about the future existence of a program should not be determined by the algorithm.

This recommendation was part of the justification for the Oversight Committee’s proposal for critically small programs (see below). Due to the budget-induced decrease in the overall TA line total, all 21 departments with six or more TA lines in 2020/2021 lost at least one line for 2021/2022, even though only 9 of those departments lost a line due to the algorithm itself. Regardless of the actual cause, these cuts evoked consistent concerns across department Chairs and DGSs about how the algorithm could threaten program viability (especially following multiple runs of the algorithm). This led to larger discussions about the appropriateness of using the algorithm to adjust a department’s overall share of the TA total, since this can put lines that are needed for a program to remain viable “at risk”, which goes beyond the intended purpose of the algorithm. An alternative approach – if viable minimum and competitive maximum TA levels were established for each program (see above) – would be to apply the algorithm only to the share of the overall TA total above the aggregate amount needed to supply the viable minimum to every program.

*Measurement of algorithm performance metrics:* In departmental feedback, concerns were raised about the validity and reliability of the performance metrics included in the algorithm and about potential negative consequences from departments seeking to maximize their metric values. With respect to validity, two general lessons from the departmental feedback were that 1) departments have differing conceptions of what the goals and priorities of the PEI should be, and 2) there is no broad acceptance of the current algorithm metrics as the best available measures for incentivizing the behaviors necessary for achieving the PEI goals (as the department sees them). Unfortunately, the Bridge and Interim Oversight Committees did not justify their algorithm metric recommendations based on the PEI goals to be achieved. Which measure is most valid (e.g., whether to standardize by the AAU-public average) depends upon whether the primary goal is improving UB’s summary statistics reported at the Graduate School level (perhaps to AAU), the experience of the average graduate student, or the academic reputations of our PhD programs.

Some departments also raised what were essentially validity concerns about how the algorithm could incentivize behaviors at the department level designed to “game the algorithm,” which would undermine collective goals for graduate education in the College, negatively impact students with unusual personal circumstances (who were otherwise worthy PhD candidates), and in some instances would be viewed by most professors as unethical.

Additionally, a few departments raised concerns about measurement reliability. In one program’s case, their 3-year average of time to degree (TTD) was incorrect because a graduate who earned two PhD degrees successively, without a break in registration status, had their TTD miscoded for the 2<sup>nd</sup> degree to include the years spent on the 1<sup>st</sup> degree. This had a very sizable impact their TTD metric because the program only had four graduates in total during the time period. This error is particularly noteworthy since investigating it revealed that OIA calculated the 3-year averages as the average of 3 annual averages, rather than as the overall average for all relevant cases during the 3-year time period. The OIA approach weights the cases differently based on cohort size. In the case of TTD, for instance, the OIA approach does not weight graduates equally unless a program’s total number of graduates is exactly the same in each of the three years. Similarly, another department, seeking to confirm the measure of attrition for their program, identified inconsistencies between the statistics provided to the Committee by OIA and those calculated by the department based on graduate student data available via the College/University.

*Binning*: Several Committee members raised measurement validity concerns about the use of binning to combine the four performance metrics into a single measure for the TA-distribution algorithm. Unfortunately, the Committee did not have the time to fully investigate alternative approaches because this issue was deemed to be a lower priority than those that were addressed. The quintile binning approach proposed by the Bridge Committee was adopted as easier to understand than a more direct statistical approach (e.g. using standard or Z-scores), with the expectation that it would also reduce departmental concerns about data reliability since small changes in a department’s score would not necessarily change the bin in which their performance was placed. The Interim Oversight Committee recognized that for the performance metrics that are measured relative to the AAU-public average (i.e. Diversity and TTD), the use of quintile binning lacks validity compared to a binning approach that takes into account this aspect of the measure (i.e. a ratio of greater than 1 indicates that the UB program is out-performing their AAU-public counterpart), as summarized in the table below.

<b>Delta value</b>	<b>Diversity</b>	<b>TTD</b>
+0.2	Top half of depts with ratio > 1	Ratio equals 0.90 or higher
+0.1	Bottom half of depts with ratio < 1	
0	Ratio equals 0.90-1.00	Top half of depts with ratio < 0.90
-0.1	Top half of depts with ratio < 0.90	
-0.2*	Bottom half of depts with ratio < 0.90	Bottom half of depts with ratio > 0.90

\*Departments failing to satisfy the diversity pre-requisites would be placed in this bin

The Interim Committee, though, was still dissatisfied with the default “equal split” approach to binning that was retained for expediency reasons until a more valid approach could be devised that categorized performance based on more meaningful distinctions among the preferred outcomes/behaviors that are sought by the PEI.

Feedback from departments suggested that the binning process did not reduce concerns about data reliability, perhaps in part because the potential to change bins increased the perceived importance of small differences in metric scores. While departments were generally not aware of where they ranked within their bin (for the metric at issue), this perception still persisted in cases where the department raised reliability concerns but were shown that small changes would not have changed how their performance was binned. Moreover, departments did not praise the binning process for its simplicity, and for some it heightened their concern about how slowly their metric score would change in response to efforts made to improve performance.

This departmental feedback reinforced the Committee’s concerns, so it is recommended that parsimony be sacrificed to improve validity in designing an alternative approach to combining the performance metrics into a single measure for the algorithm. One alternative would be to retain the binning structure but to replace the equal-size cut-point criterion with one in which the cut-points divide programs into more homogeneous groups that are more distinct from each other with respect to the performance being measured. The challenge here is devising a systematic method for setting these cut-points based on the data distribution and *a priori* beliefs about how differences in the metric translate into meaningful differences in PEI-preferred outcomes/behaviors. Another alternative would be to convert the performance metrics into standard scores and then combine those into a single measure (perhaps with an adjustment to reduce the impact of outliers). This latter approach would not impose any measurement

equivalence on performance differences within bins, but would be more complex and depends more on the reliability of the data (particularly in terms of comparing programs on performance, so that if errors do exist, those errors are systematic across all programs rather than specific to a particular subgroup).

*PEI Committee support:* It is recommended that support be provided for the Committee through scheduling, minute taking, and other administrative functions. It is also requested that someone in the Dean's Office be trained in how to run the data through the algorithm, so that this enormous task does not fall to one individual on the PEI Committee (that may or may not have the appropriate background to manage the spreadsheets properly). This year the Policy Committee representative (Dr. Harvey Palmer) took on this task, but he is rotating off of the Committee and going forward there is no one left on the Committee with the background or knowledge to do this next year. Even if Harvey trains a member of the next iteration of the Committee to do this, it is computationally intense, and the Committee worries about consistent knowledge transfer from year to year.

*Formal proposals:* The Committee hopes that the number of CAS-funded TA lines will ultimately return to, if not exceed, the number funded in AY2019/2020, and also hopes that the Dean's Office will allocate as much as the budgetary situation allows in future academic years to increase TA funding as quickly as possible to this level. That said, recognizing the budgetary constraints currently being faced by the Dean's Office, the Committee submits the following two proposals as a means of managing the initial increases in TA funding such that they prioritize the PEI goals of improving the diversity and academic potential of entering graduate students while ensuring the viability of the smallest PhD programs. Please see the following pages for two proposals from the PEI Committee to Dean Schulze. The first outlines the Committee's Proposal for Critically Small Programs, and the second is the Committee's Proposal for Targeted Investment Going Forward. Both are supported by the faculty on the PEI Committee, follow extensive discussion within the Committee, and incorporate feedback received from departments and programs across the College.

# **Proposal for Critically Small Programs**

**(submitted to Dean Schulze 2/9/21)**

## **Proposal for Critically Small Programs**

Upon running the PEI algorithm for the first time this year, we found that departments having five or fewer TA lines were disproportionately affected. Due to the retrospective nature of the algorithm metrics, and the fact that some of these programs are too young to have data for each of the metrics within the algorithm, three out of the five programs at this size would have lost a line this year.

The PEI Committee is concerned that critically small PhD programs risk extinction, absent continual propping up with “saved” lines pulled out of the distribution pool by the Committee. As a result, and given the collective agreement and understanding that the algorithm itself should not result in the zeroing out of PhD programs, this year the Committee saved three lines to give to the three critically small programs that would have otherwise lost a line for next year, as follows:

**Communicative Disorders** (1 line, to maintain department at 4 lines)

**Geology** (1 line, to maintain department at 4 lines)

**Theatre and Dance** (1 line, to maintain department at 4 lines)

There are only two other programs within CAS with five or fewer TAs, and lines were not saved for them since their numbers did not change as a result of the algorithm this year:

**Environment and Sustainability** (stable at 2 lines)

**Global Gender Studies** (stable at 5 lines)

Following extensive discussion of how best to handle these critically small PhD programs going forward, the Committee agreed that it would be more appropriate to offer them the option of removing themselves from the algorithm, while growing to and then maintaining a stable size of 5 TA lines. This would allow each program to remain viable by recruiting one new student a year. Importantly, if one or more of these departments accepts the offer to be removed from the algorithm, their current CAS-funded TA lines would also be removed from the pool that is allocated to the PEI Committee for distribution by the algorithm; if all five departments choose to opt out, the currently held aggregate of 19 lines would be distributed directly by the Dean’s office and removed from the pool given to the PEI Committee going forward.

To accomplish the goal of raising/maintaining PhD programs within CAS at a minimum viability size of five TA lines, we respectfully request a phased CAS investment of six additional lines over three years, as illustrated in the following table. (It is the Committee’s understanding that Environment and Sustainability has already initiated negotiations with the Dean’s office for such phased growth. Thus, the net commitment for investment above those lines is only three.)

<b>Department</b>	<b>2021/2022 lines (already allocated)</b>	<b>2022/2023 investment</b>	<b>2023/2024 investment</b>	<b>2024/2025 investment</b>	<b>Final lines</b>
Global Gender Studies	5				5
Communicative Disorders	4	1			5
Theatre and Dance	4	1			5
Geology	4	1			5
Environment and Sustainability	2	1	1	1	5
<b>Total investment by year:</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>1</b>	

Because this would create the only exception to the process and an option to “opt out” of the algorithm, the Committee further recommends that, contingent to remaining at this minimum size of five lines following removal from the algorithm, programs will be reviewed on a bi-annual basis for demonstrable efforts to maintain and improve their PhD graduate programs. This review will be informed by the PEI Oversight Committee and evaluation of the same metrics currently employed by the PEI algorithm (Outcomes, Diversity, Attrition and Time to Degree), as well as direct discussions with the Dean as to the future prospects of their program, including possible diminution for sustained inadequate performance. Further, if any of these departments reaches a point where they wish to grow above five lines, they must re-enter the algorithm to compete for lines based on their performance metrics. Any department wishing to re-enter the algorithm would be required to commit to staying in the algorithm for a minimum of five years.

# **Proposal for Targeted Investment Going Forward**



**Proposal for Targeted Investment going Forward**

The effect of the algorithm on departments this year was not just a reflection of their performance in the four metrics, but was also compounded by the realities of this year’s budget situation. Our discussions with Chairs/DGSs across the College also made it clear that it is hard for many programs to see a viable future for themselves if the total number of CAS-supported lines remains ~450. The PEI Committee discussed ideas for how to grow the total number of lines in the College (as the budget allows) in a way that best supports and promotes the mission of the PEI. We propose specifically investing in the targeted recruitment of Schomburg and Presidential Fellows. While ensuring the recruitment of the best and most diverse candidates possible, this will also provide an incentivized means for departments/programs to increase the number of graduate students they can recruit in a given year, independent of the lines allocated by the algorithm. Importantly, under this scenario the “plus one” line that would be given for Schomburg/Presidential recruitment would stay as a “College line” and would not remain with the department/program following the student’s graduation.

If we consider that the College is usually able to support ~7 Schomburg Fellows each year, over five years 35 additional TA lines would be added to the College total. No further investment would be required after that point, as the assumption is that most students will graduate within five years. Thus, upon graduation the TA lines would return to the College to be distributed to new incoming Schomburg Fellows.

We further propose a similar phased investment for TA lines to support the recruitment of Presidential Fellows. In recent years the College has been able to support the recruitment of ~10 Presidential Fellows each year. Over five years, this would result in the addition of 50 TA lines in the College. Again, no further investment would be required after that point, and as students graduate the TA lines would be returned to the College for distribution to new incoming Presidential Fellows.

Scenario assuming Schomburg Fellow investment begins next year (2021/2022), while Presidential Fellow investment doesn’t begin until the following year (2022/2023):

	<b>2021/2022 investment</b>	<b>2022/2023 investment</b>	<b>2023/2024 investment</b>	<b>2024/2025 investment</b>	<b>2025/2026 investment</b>	<b>2026/2027 investment</b>
Schomburg Fellow lines	7	7	7	7	7	0
Presidential Fellow lines	0	10	10	10	10	10
<b>Total investment by year:</b>	<b>7</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>10</b>

**Summary of Combined Recommendations for  
College Investment of TA Lines**

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For illustrative purposes, the following presents the net effect of TA lines in the College if a phased approach were taken to have the College provide the TA lines required to recruit Schomburg and Presidential Fellows, as well as adoption of the Critically Small Program proposal. The total number of College-supported lines for each academic year is shown above each bar. Under this approach, only seven additional lines would be added to those already distributed for next academic year (2021/2022), and they would be targeted to Schomburg Fellow recruitment. Beginning in 2022/2023, lines for the Small Programs, Schomburg and Presidential Fellows would be added in a phased manner. Of note, the base (450) doesn't change; growth is from targeted investment in these three programs only. Further, by academic year 2025/2026, the total number of TA lines supported by the College would exceed the pre-pandemic level of support (which was 520 lines). The Committee sees a strength of this approach being that lines would no longer be distributed solely by the algorithm, and it also provides a predictable mechanism for growth in a targeted way that aligns with promoting excellence within the College's departments/programs.

- 20/21 base (450 lines)
- Critically Small Program Proposal lines (6 total)
- Schomburg lines (35 total)
- Presidential lines (50 total)

