Formula for Calculating Step Merit Raise from Bin Assignment

Supported by 23 / 26 Faculty in March 7, 2023 Dept meeting

Although merit raise pools are allocated as percentage of salary pools, raise assignment to bins should be based on flat step amounts, rather than percentage steps since the latter rewards current pay, not meritorious performance in the merit period. This document does not contain guidance for assigning a faculty member to a merit bin. It only provides a formula for computing merit raise amount for each bin.

In this simple formula, the raise for each bin will be calculated entirely based on

- T, the total raise pot that year, and
- N, the number of merit-eligible faculty that year.

NOTE: Bin 1 is the "highest performing" bin according to Dept. Chair's allocation

Again, let T = total available raise $ amount
N = number of merit-eligible faculty in the raise pool according to CBA

We set Bin 1 to receive 2**T/N (i.e. twice** the average of the available raise)
Bin_i, with N_i faculty members, receives 2*T/N - (i-1)*x, or alternatively: x less than the assignment for Bin_(i-1)

Applying minor algebraic manipulation, x is determined as the unique, guaranteed to be non-negative solution to this simple linear EQUATION 1:

T = sum_i [N_i*(i-1)x]

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Example:

Let total raise pot T = $200,000
Let total number of merit eligible faculty N = 40
So T/N = $5000

By Chair's faculty population distribution into bins, we know
N_1 = 3,

N_2 = 4 (ceiling of 10% of 37)
N_3 = 8 (ceiling of next 20% of 37)
N_4 = 15 (ceiling of next 40% of 37)
N_5 = 10 (40 - the above)

Solving for x in EQUATION 1:

T = 200000 = 4x + 8*2x + 15*3x + 10*4x
x = 200000/105 = 1904.76
Round this to 1905.

Bin 1 receives $10000 = 2* T/N = 2*5000
Bin 2 receives 10000-1905 = $8095
Bin 3 receives 8095-1905 = $6190
Bin 4 recieves 6190-1905= $4285
Bin 5 receives 4285-1905= $2380

Let's check that 200000 covers all these raises:

10000*N1 + 8095*N2 + 6190*N3 + 4285*N4 + 2380*N5 must = 200000

Point your calculator to:
10000*3 + 8095*4 + 6190*8 + 4285*15 + 2380*10
you should get 1999975 (the $25 is rounding difference)

Support from Dept. Chair Juan Gilbert:
“This exactly what I was looking for. I can work with this model. Colleagues, it’s time to express your support for this proposal. Please let us know if you support this proposal. “