

STUDY STIPEND CALCULATION METHOD

Principles:

- a) "Homogeneous" groups are required to be created. Let **N** be the headcount of such a group.
(**N** should be as large as possible.)
- b) The number of people to receive a stipend is required to be determined. Let this number be: $n \leq N$
(It is desirable that $n \cong \frac{N}{2}$.)
- c) The stipend allotment available to the group (**P**) is required to be distributed among such **n** number of people in proportion to their grade average.
No stipend amount may be higher than the maximum value (**M**) or lower than the minimum value (**m**) specified by law. (The best student in the group should receive the maximum amount.)

Implementation:

ad. a,

This is the duty of HÖK in regard to each Faculty, degree program, etc.

ad. b,

Groups should be arranged in an increasing **stipend index** order.

The best $\frac{N}{2}$ students (if **N** is an odd number, $\frac{N-1}{2}$) will receive a stipend for sure. (They have been included in **n**.)

It must be examined, however, whether the average of those coming next in the ranking (even all the rest of the students!) corresponds to the average figure of the weakest one included, and if so, all these students will receive a stipend. (They are also included in **n**!)

ad. c,

Figures specified:

P- stipend allotment of the group ,

n- number of those receiving a stipend share,

ai- the grade average of these students arranged as $a_i \leq a_{i+1}$, where $i=1,2,\dots,n$.

Let the stipend (**pi**) of student **i** be proportionate to their grade average:

$$p_i = Aa_i + B \quad \text{then} \quad (p_i \leq p_{i+1})$$

$$\text{Requirement: } m \leq p_i \leq M$$

$$\text{(Otherwise: } p_1 \geq m \quad \text{and} \quad p_n \leq M$$

Note:

Therefore the stipend allotment is:

$$P = \sum_{i=1}^n p_i = \sum_{i=1}^n (Aa_i + nB)$$

and the average stipend is:

$$\bar{p} = \frac{P}{n} = A\bar{a} + B, \text{ where}$$

$$\bar{a} = \frac{1}{n} \sum_{i=1}^n a_i$$

- is the grade average of those who receive a stipend.

Calculation of parameters (A and B):

Case 1: let it be $pn=M$, then

$$A_1 a_n + B_1 = M$$

by comparing this,

$$A_1 \bar{a} + B_1 = \bar{p}$$

will result:

$$A_1 = \frac{M - \bar{p}}{a_n - \bar{a}} \text{ and } B_1 = \bar{p} - A_1 \bar{a}$$

If these yield $p_1 = A_1 a_1 + B_1 < m$, then:

Case 2: let it be $p_1=m$, then $A_2 a_1 + B_2 = m$, by comparing this,

$$A_2 \bar{a} + B_2 = \bar{p}$$

will result:

$$A_2 = \frac{\bar{p} - m}{\bar{a} - a_1} \text{ and } B_2 = \bar{p} - A_2 \bar{a}$$

The group index:

- The group index – regardless of the minimum and maximum average of the given homogeneous group, and independent of the homogeneous group average – is an index with a scale of 0 to 2 where 2 is assigned to the highest stipend index of the group, 0 to the lowest, and 1 to the group average.
- The group index is a measure of study results allowing for the comparability of any two or more randomly selected students from the University.

Method to calculate the group index:

- c) The group index is calculated in several steps, and is based on the stipend index.

$$\text{stipend index} = \text{credit index} * M,$$

$$\text{where } M = \text{total credits earned} / \text{total credits required to date}$$

- d) The homogeneous group average is deducted from the stipend index.

$$\text{stipend index} - \text{group average}$$

- e) The group index of a student whose stipend index is higher than the group average is calculated by dividing the difference calculated from their stipend index with the largest difference within the group, and adding 1 to the result.

(This way students with the highest stipend index will have a group index of 2, and students with exactly the academic average will have a group index of 1.)

$$\left[\frac{(\text{stipend index} - \text{group average})}{\text{highest} (\text{stipend index} - \text{group average})} \right] + 1$$

- f) The group index of a student whose stipend index is lower than the group average is calculated by dividing the difference calculated from their stipend index with the smallest difference within the group, multiplying it by -1 and adding 1 to it.

(This way students with the lowest stipend index will have a group index of 0.)

$$\left[\frac{-1 * (\text{stipend index} - \text{group average})}{\text{smallest} (\text{stipend index} - \text{group average})} \right] + 1$$