
The role and forms of estimation in basic mathematical courses of the first semester

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Training in the first semester includes the period of adaptation of students to the University community. Content and procedure of control activities should not only be aware of this fact, but also play an active role in the process of adaptation. Both partners — student and teacher — operate in conditions of incomplete information, which implies an analysis of the relationship by the methods of the game theory. The learning process should be considered as a non-antagonist game with different matrices of interests. The negative trend, steadily emerging in this process, is the manifestations of Nash equilibrium.

Process control, considered separately from the process of training, is an antagonistic game. The possibility and usefulness of cooperation between the student and teacher can be taken into account, only considering the control in conjunction with a holistic learning process.

A way to the decision lies in a multistage system of control measures, i.e. the traditional scheme of «a model calculation — midterm control — exam/pass with theory. The student should be able to repeat learning the subject. The vector of changes of the requirements is as follows: «I know how — I know why — I understand how to learn».

Keywords: *education, adaptation, estimation of knowledge, game theory, Nash equilibrium, cooperation, Pareto efficiency.*

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