THE ROLE OF PRACTICAL CLASSES AND METHODS TO IMPLEMENT THEM WHEN PROMOTING MATHEMATICAL PROBLEMS IN A TECHNICAL UNIVERSITY

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ABSTRACT

Analysis of the leading pedagogical experience shows that without practical classes, issues of deepening scientific and theoretical knowledge and mastery of certain working methods of a discipline curriculum cannot be solved. In most cases, the methodology of solving applied tasks using the theory of ordinary differential equations is reduced to the detailed parsing task conditions. Particularly, it should be noted that when forming the skills of solving applied tasks in the process of studying differential equations, attention should be directed to the knowledge needed to build a mathematical model in the form of differential equation, given adequate condition challenging the reality of the situation. Mathematical modeling methods are used in the teaching of mathematics in two forms: models which do not fit into any of the known schemes and models of known species, which applies mainly to consolidate the material or to solve problems with professional content. Mathematical modeling typically goes through several stages of formalization (wording) of methods of the mathematical interpretation of obtained solution. Each stage formed by certain elements of the mathematical culture. With the formalization of the associated skills: identify the source of the concept of mathematical equivalents; use a variety of mathematical languages for describing models; identify parameters, variables, establish performance criteria, as well as attitudes and skills assessment. Experience shows that the practical tasks with simultaneous strengthening attention to creative thinking of the students mathematical the situation lead to conscious and lasting learning of theoretical material, helping you see the relationship of Mathematics with other sciences, promotes the development of professional interest and skills in future engineering activity.

Keywords: Method, practice, differential equations, mathematical, model, engineering.