

APPLICATION OF THE DETERMINED INTEGRAL IN THE FORMATION OF THE PROFESSIONAL COMPETENCES OF THE HIGHER AND PRE-HIGHER EDUCATION STUDENTS

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The article deals with the methodological aspects of the formation of professional competencies of higher and pre-higher education students in the study of the subject «Mathematics», the discipline «Higher Mathematics» at KKTE NAU College of specialties 172 «Telecommunications and Electrical Engineering»; 133 «Branch Engineering» by way of Solving Professionally Oriented Problems by Integral Calculators. The examples of problem solving for students with the technical training profile are provided. The main task of the classes is to form a practical-value measurement of the student's mathematical competence, the ability to use a mathematical apparatus to solve vocationally-oriented tasks that will help graduates to solve problems in their future profession. On the example of studying the section «Integral calculus» students are offered the task of using the acquired knowledge and skills in physics, engineering, etc.

The main purpose of teaching mathematics in colleges and universities is to acquire the knowledge and skills that will help graduates to pursue their professional activity, to become qualified, competent specialists in their field. Therefore, the applied nature of the problems under consideration combines the study of higher mathematics with the special training of future specialists, gives them the opportunity to gain experience in solving industrial problems, to increase their professional competence, which is very important in the tough competition in the labor market. Solving applied tasks stimulates, motivates students to study the subject, increases interest in applying the acquired knowledge in the future; confirms the importance of acquired mathematical competences in professional activity, further self-development of personality. Mathematical competence is the ability to see and apply mathematics in real life, to understand the content and method of mathematical modeling, the ability to build a mathematical model, to research its mathematical methods, to interpret the results obtained, to evaluate the error of calculations. Mathematical competence is determined by the levels of academic achievement for which the acquisition of mathematical skills is essential. For college and university mathematics teachers, working with students of various specialties, areas, the most important and essential is the formation of practical and value measurements that imply the ability to apply mathematics.

Examples of the possibility of applying the theory of integral calculus to solve the problems of professional orientation by students of KKTE NAU College are considered. When studying the sections «Double Integral and its Application», «Triple Integral and its Application» in higher mathematics, it is necessary to pay attention to the use of the named topics in physics and engineering, applying the theoretical material given in the tables and examples of solving typical exercises for the use in the known formulas.

Applied orientation of the studied material, use of the professionally oriented tasks is an effective means of forming the mathematical and professional competences of future specialists.

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