

COMPUTER TEXTBOOKS ON DIFFERENTIAL EQUATIONS

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Within the system of distance learning mathematical disciplines of the Moscow Aviation Institute (MAI LMS) designed computer textbook on differential equations. The textbook is designed for self-study students MAI for classes, tests and examinations for the course "Differential Equations" interactively and effectively complements classroom seminars and lectures. In DLS MAI already successfully functioning computer textbooks on probability theory and mathematical statistics, mathematical analysis, linear algebra and analytic geometry. The basis for the creation of textbooks is an interactive shell, developed at the Department "Theory of Probability" MAI [1].

Computer textbook on differential equations is on the server LMS at the site MAI (**distance.mai.ru**) and includes theoretical, practical part and a section of learning outcomes. In the theoretical part contains adapted for interactive use of the material course of lectures on differential equations, for many years the author has taught students the MAI, which, apart from definitions and theorems, given a large number of detailed examples. In the practical part contains the tasks relevant to all sections of the theory. The tasks include: theoretical issues, challenges to determine the types of equations to perform the individual steps of solving differential equations, to find common solutions and the solutions of the Cauchy problem. In each section of the problem are divided into three levels in order of complexity: the problem of preliminary testing, learning problem with multiple attempts and tips (active link to the definitions, theorems and examples) and control tasks. Prepare a large number of options for the tasks carried out in a system of analytical calculations «Maple-14» by the parameterization problem is somewhat randomly selects integer parameters [2].

References

1. Кибзун А.И., Вишняков Б.В., Панарин С.И. Оболочка системы дистанционного обучения математическим курсам // *Вестник компьютерных и информационных технологий*. № 10, 2008. Стр. 43-48.
2. Гурина Т.А. Подготовка задач в системе «Maple» для дистанционного обучения по курсу «Дифференциальные уравнения» // *Материалы X Международной конференции NPNJ 2014*. 2014. Стр. 583-584.