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**TO A QUESTION OF THE SPECIFITIES OF USING MODULAR -  
RATING SYSTEM IN COURSE OF HIGHER MATHEMATICS  
К ВОПРОСУ ОБ ОСОБЕННОСТЯХ ПРИМЕНЕНИЯ МОДУЛЬНО-  
РЕЙТИНГОВОЙ СИСТЕМЫ В КУРСЕ ВЫСШЕЙ МАТЕМАТИКИ**

*Summary. The main goal of modular educational system is a such organization of studying process that would allow to adapt it to individual skills of students and would improve their cognitive independence. The rating system helps to get objective and precise marks fast. The organization of work of modular*

*rating system is shown basing on example of one semester of higher mathematics course in NTUU «Igor Sikorsky Kyiv Polytechnic Institute».*

**Key words:** *modular-rating system, higher mathematics, knowledge assessment.*

**Аннотация.** *Основной целью модульно – рейтинговой системы контроля является такая организация учебного процесса, которая позволяет адаптировать его к индивидуальным возможностям и способностям обучаемых, развивает их познавательную самостоятельность. Рейтинговая система оценки знаний способствует получению более точной, объективной и оперативной оценки. Показана организация работы по модульно-рейтинговой системе на примере одного семестра курса высшей математики в НТУУ «Киевский политехнический институт имени Игоря Сикорского».*

**Ключевые слова:** *модульно-рейтинговая система, высшая математика, оценка знаний.*

In the context of modernization and integration of Ukrainian education into the European educational space, the problem of the quality of higher professional education is relevant. The introduction of a modular-rating system is one of the factors for improving the quality of education.

The main goal of modular education is a such organization of studying process that would allow to adapt it in accordance with the individual skill of students and would improve their cognitive independence. One of the tools for realization of this system is rating control system.

The rating system has significantly expanded possibilities of traditional five-point system, it allows to get objective and precise marks fast. Results are public and based on objective criteria [1, p. 88].

There are some advantages of modular rating system:

- increases educational motivation;
- it individualizes and differentiates the studying process;
- decreases workload of students during session period;
- it includes different forms of independent study and knowledge control;
- decreases the subjectivity considering final marks.

**The goal of this article** is to show organization of work considering modular rating system on the basis of one semester of course of higher mathematics in NTUU «Igor Sikorsky Kyiv Polytechnic Institute».

To describe organization of work considering modular rating system we will take one semester of course of higher mathematics in NTUU «Igor Sikorsky Kyiv Polytechnic Institute» as an example.

Course material is divided into four logical modules. For example, there are four modules (themes) in first semester: linear and vector algebra, analytical geometry and introduction to mathematical analysis, differential function calculation of one real variable. There are some independent studies are conducted on every module (20-60 minutes each). Each task in the work is assessed in accordance with its difficulty with estimated amount of points. For clever students there are additional tasks that have higher difficulty. These tasks cost only 1 or 2 points and it gives a possibility to increase rating for students who solved them, but they will not be far ahead of all other students. At the same time weak students have a possibility to do independent study using literature and syllabus. In that case points are multiplied by coefficient  $k=0,7$ .

During the semester student can also rewrite badly done work ( $k=0,8$ ). In case of missing independent study by a compelling reason (documentary evidence is meant) student has a right to rewrite it later without decreasing coefficient. If work is done not in time without any reason, the coefficient is 0,8.

The independent study includes calculating and graphic work (includes tasks from all modules) that students do themselves at home. Additionally,

students can find out and discuss questions they have with a teacher on consultations.

A student can get additional points for taking part in mathematical olympiads, papers and reports preparation for student scientific conference etc.

Theoretical knowledge in accordance with the module's theme (except last) is tested. Thus, before the exam student has all his points by all themes, that are summarized and make up his rating. In NTUU «Igor Sikorsky Kyiv Polytechnic Institute» maximal score before the higher mathematics exam is 60.

The exam is written and with use of examination papers that have module structure. Maximal score that student can get for the exam is 40. Student who has positive mark for the module (amount of points is estimated by a teacher) has a right to pass that module on the exam automatically. A student who worked hard all semester and has good results in accordance with actual control, has to pass only last theme on the exam. All requirements and explanations considering rating are provided by the teacher for the first time he meets students in the semester.

The big motivational and educational matter for students is rating system transparency. Students are regularly provided with information about their rating changes. Students can not only monitor their results, but also can compare themselves with other students. Rating transparency allows to clear teachers considering their subjective methods. When information about current rating is public, students are stimulated to study regularly and systematically and therefore it leads to increasing of knowledge level. Rating system prepares students psychologically for life in conditions of market economy and fierce competition.

**Conclusions.** In general, modular rating system allows to realize effective differential and individualized mathematics teaching, provides flexibility and dynamism of educational process that allows to talk about possibility of increasing mathematics teaching quality.

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