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**МОДУЛЬНО-РЕЙТИНГОВАЯ СИСТЕМА КОНТРОЛЯ  
УСПЕВАЕМОСТИ ПО УЧЕБНОЙ ДИСЦИПЛИНЕ  
«ИНЖЕНЕРНАЯ ГРАФИКА», КАК ФАКТОР ПОВЫШЕНИЯ  
КАЧЕСТВА ПОДГОТОВКИ ИНОСТРАННЫХ СТУДЕНТОВ  
БНТУ, ОБУЧАЮЩИХСЯ НА АНГЛИЙСКОМ ЯЗЫКЕ**

MODULAR-RATING SYSTEM FOR ASSESSMENT OF ACADEMIC  
ACHIEVEMENT FOR THE ACADEMIC DISCIPLINE  
«ENGINEERING GRAPHICS» AS A FACTOR FOR INCREASING  
THE QUALITY OF INTERNATIONAL STUDENTS,  
TRAINING AT THE BNTU IN ENGLISH

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*Рассмотрены роль и значимость разработки и внедрения модульно-рейтинговой системы контроля успеваемости по учебной дисциплине «Инженерная графика» при подготовке иностранных студентов, обучающихся на иностранном языке.*

*There is a consideration of the role and significance of the modular-rating system's development and implementation for assessment of academic achievement for the academic discipline "Engineering graphics" for international students studying in English.*

*Ключевые слова: инженерная графика, модульно-рейтинговая система, успеваемость студентов, иностранные студенты.*

*Key words: engineering graphics, modular-rating system, academic achievement, international students.*

## INTRODUCTION

In recent years, Belarusian system of higher education has been focusing on attracting as many as possible international students for studying in Belarusian universities, which is reflected in the valid government

program of education and youth policy [1, p. 19]. It takes roots from globalization of the world educational space.

Among the various tackling ways for this crucial task the organization of educational process in the English language should be highlighted, as the well-established means for intercultural communication in all life areas.

In the light of this, the number of international agreements between local and foreign universities has been increasing all the time and the BNTU is not an exception. The agreement between the BNTU and French school of engineering ESIGELEC was signed in 2017, and as a result first groups of the international students from Sri Lanka were admitted for major 1-53 01 –Automation of technological processes and production (majors in)”. Moreover, in 2020 such possibility was given for students with major 1-53 01 06 –Industrial Robots and Robotic Cells” from Federative Republic of Nigeria in order to save time by implantation the preparing year for mastering Russian into the study process. It enables students to start studying in English during the first two years and to transit into study in Russian gradually.

Integration of existed syllabi into study process in English has revealed some issues due to particular significance of intercultural interaction which have been influencing negatively the effectiveness of educational process. It forces teaching staff to search for ways of tackling this challenge in order to diminish that negative effect.

As a prospective solution, it seems possible to implement a modular-rating system for monitoring of an academic achievement.

## THE MAIN PART

Growth of engineering training quality for technical establishments of higher education students is the main objective of higher professional education. It was reflected in the government program of education and youth policy for 2016–2020, where it was established that, improving the effectiveness of practice-oriented training should be carried out by the introduction of organizing modern methods in the educational process based on modular and rating technologies [2, p. 28].

In the light of this, in 2019 the Department of Engineering graphics for machine building at the BNTU started working at the development and implementation of a modular-rating system for academic achieve-

ment monitoring for the academic discipline –Engineering graphics” in order to solve the following issues which were detected during international students’ study before:

- low index of students’ independent work;
- lack of motivation for learning;
- gaps in a material and technical base, particularly a lack of enough number of relevant literature in English for the discipline.

Modular-rating system has been chosen as the main and the most effective educational strategy because of the following principles:

- structuring of the academic discipline materials, which ensures the setting of particular tasks for students to achieve certain aims - mastering the modules for example, and by the way it can simplify the creation of educational and methodological literature;
- assessment of every working stage, what assumes to motivate students for rising their own rating in general;
- monitoring of knowledge regularly, which should promote more unbiased judgment at the end of the semester and provide managing of students’ independent work.

Modular-rating system implies that the main part of the final grade is determined by students’ activity during tutorials and lectures and the quality of the performed individual tasks. To be more precise it is about 60–70 % of the final grade. It enables every student to have «entering» grade before the exam or credit, which can be improved by solving the examination task successfully. It should motivate students to work harder during the semester and decrease the stress during the exam.

Syllabus for students studied on the discovered above international program features 102 academic hours (34 tutorials and 17 lectures in the first semester and 51 tutorials in the second). These hours are for studying four branches, which can be divided into the relevant modules (see the scheme 1):

Modular-rating system deals with three types of students’ achievement monitoring:

- current checking, when each individual task should be approved by a lecturer;
- intermediate monitoring by passing test assignments;
- final control when students solve complex tasks in the case of an exam or differentiated credit at the end of term.

Descriptive geometry

- M1 - A point, a line and a plane. Metrical tasks
- M2 - Surfaces. Faceted and revolution surfaces.

Projection drawing

- M3 - Views, sectional views and sections.

Machine building graphics

- M4 - Threads and threaded joints
- M5 - Sketching
- M6 - Assembly drawings and general drawings

Computer graphics

- M7 - Detailed drafting (With learning the AutoCAD primitives)
- M8 - 3D modeling

Scheme 1 – Modules for academic discipline “Engineering graphics” for two-semestered groups.

## CONCLUSION

Modular-rating system implementation into study process enables teaching staff to stimulate students' independent work and to motivate students to attend all classes without absence. However, the main advantage of the modular-rating system is the equalling distribution of the lecturers' workload throughout the semester and the exclusion of a huge amount of students' debts at the end of the semester.

## ЛИТЕРАТУРА

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