



**THE PROCEDURE FOR THE INTRODUCTION OF A CREDIT-MODULAR SYSTEM IN THE SUBJECT "INDUSTRIAL AND RADIATION SAFETY" IN HIGHER EDUCATIONAL INSTITUTIONS**

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**Abstract**

This article analyzes the theories of the application of the credit-modular system in higher educational institutions of Uzbekistan when teaching the sciences of industrial and radiation safety and their significance. The content and essence of the credit-modular system, its priorities and the work to be done at the Fergana Polytechnic Institute of our republic in the transition to this system, as well as the author's recommendations and opinions on this matter, are shown.

**Keywords:** Credit module, academic mobility, mobility program, student's individual educational trajectory, catalogue of educational programs.

**Introduction**

Achievements in the field of technology, and the development of information and communication technologies create new opportunities for organizing the educational system conveniently and efficiently for both teachers and students. The principle of achieving greater results with fewer resources is becoming a priority not only in education but also in other areas. In addition, during the pandemic, humanity began to look for ways to carry out several traditional activities remotely, especially in the field of education, the need for this is stronger than ever. From this point of view, it is time to introduce a credit-modular system of higher education. Recognizing the priority of education in our country, systemic and large-scale measures are being implemented to ensure the quality and freedom of education and to create an effective system of public administration in this area. Over the past five



years, about 100 decrees and resolutions of the President of the Republic of Uzbekistan and more than 220 resolutions of the Cabinet of Ministers of the Republic of Uzbekistan have been adopted in the field of education. Every year, most of the state budget of the Republic of Uzbekistan is directed to social spending, including education costs [1,2].

## **The main part**

Appendix 1 of Resolution No. 824 of December 31, 2020, of the Cabinet of Ministers of the Republic of Uzbekistan “On measures to improve the system related to the organization of the educational process in higher educational institutions “Higher Education” contains a provision on the procedure for introducing a credit-modular system into the educational process in institutions. This Regulation determines the procedure for introducing a credit-modular system of education based on the European Credit Transfer and Accumulation System (ECTS) into the educational process in higher education institutions [2,3,4]. This Regulation does not apply to higher educational institutions of the Ministry of Justice of the Republic of Uzbekistan, the Ministry of Health, higher military educational institutions, or non-state and foreign organizations of higher education operating on the territory of the Republic of Uzbekistan. The phased introduction of the credit-modular system into the educational process in higher educational institutions is carried out according to the scheme presented in the appendix to this Regulation. Information on organizational issues of introducing a credit-modular system into the educational process, including an educational program, a catalogue of subjects, ensuring academic mobility, documents related to the recognition and offset of loans, diploma supplement forms, as well as indicators for determining the level of knowledge of a student during academic mobility and samples other necessary documents are developed and approved by the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan together with the Republican Council of Higher Education. It is also shown that by 2030, 85 percent of all family educational institutions of the republic, including 33 higher educational institutions in the 2020/2021 academic year, will be transferred to the credit-module system. From the 2020/2021 academic year, a credit system of education has been introduced at the Fergana Polytechnic Institute [5,6].

The credit-modular system, that's all



- **academic mobility** - the departure of students of a higher educational institution for the purpose of studying in another higher educational institution on the territory of the republic or abroad for a certain period;
- **mobility program** - an academic mobility program created based on a mutual learning agreement between two or more higher education institutions;
- **Credit** – this is a unit of measurement of the workload mastered by a student in a particular subject based on learning outcomes. Loans can be expressed in whole, fractional numbers according to the rule;
- **institution of higher education** - an institution issuing a document on education and qualifications, taking into account the recognition of the established number of credits;
- **lending** - the process of formally granting credits to students or other students based on achieved learning outcomes in accordance with the requirements for a qualification or its parts;
- **credit transfer** — transfer and recognition of loans received under the educational program of one higher education institution to another higher education institution to ensure academic mobility of students;
- **credit accumulation** — accumulation of credit units provided as a result of mastering the elements of education and achieving other achievements;
- **the personal educational trajectory of the student** – this is the direction (route) chosen by the student and allows him to consistently accumulate knowledge and acquire the desired set of competencies. Educational trajectories are structured using institutional documents and guidelines, and different educational trajectories can lead to the same qualification;
- **educational program** - the main characteristics of education (volume, content, planned results), organizational and pedagogical conditions, scientific programs designed to implement the educational process in the field of undergraduate or graduate education, general requirements, as well as a set of information-resource and educational guidelines necessary for the organization and implementation of education;
- **catalogue of educational programs** — description of the university, access to the credit-module system, available undergraduate and graduate specialities, services and resources, curricula, description of individual elements of the educational program, and information about them;



- **educational outcomes** - a description of the skills acquired by the student and the ability to apply them in practice, reflecting the level of competence acquired by the student and confirmed by the assessment;
- **study load** - all types of educational activities of the student - lecture, practice, seminar, laboratory work, course project (work), practice and independent work necessary to achieve the expected learning outcomes in the number of hours;
- **registration service** - formation of a database on the educational process of teachers, employees and students using information systems and software products for managing the educational process, as well as all the learning outcomes of student services, providing for the organization of all types of registration, education monitoring and calculation of their academic rating;
- **educational elements** - the type of training that is part of the educational program and contributes to the achievement of educational results and the acquisition of knowledge specified in the educational program;
- **Transcript** – this is a document of the established form containing a list of subjects indicating the letters and numbers of credits and grades received for the corresponding period of study.

The following basic concepts are used in this Regulation:

GPA (Grade Point Average) is the average value of a student's scores in a program, which is calculated using the following formula:

$$GPA = \frac{K_1 * U_1 + K_2 * U_2 + K_3 * U_3 \dots + K_n * U_n}{K_1 + K_2 + K_3 \dots + K_n}$$

In that:

K — the number of credits allocated for each subject/module;

U — student assessment for each subject/module;

The credit-modular system on the subject "Industrial and Radiation Safety" at the Department of Life Safety of the Fergana Polytechnic Institute is organized as follows. A credit is a unit of measure for education and represents the size of an educational program and associated labour costs per student. That is, to master the subject, the student performs a certain amount of academic workload and receives certain credits based on the acquired knowledge, skills and abilities. At the undergraduate level, a student must earn 240 credits over a 4-year study period. 1 credit corresponds to a 30-hour study load. The 30-hour credit includes the hours the student spent in class under the direct supervision of a teacher (15 hours = 50%) and hours of self-study (15 hours = 50%). Depending on the nature of each item, there may be different loan amounts. For example, for an introductory course in



Oriental Studies, taught in 1 semester, 30 hours of lectures and 30 hours of self-study are allotted, which is 2 credits;

The main subject of the Oriental language is given 120 classroom hours and 120 hours of self-study, which is 8 credits. Students must earn 30 credits per semester and 60 credits per academic year. Subjects are divided into compulsory and optional. Without fail, each student independently chooses all the subjects included in the lesson schedule, based on the curriculum. A student who has missed 5 or more lessons of a subject is considered not to have mastered the subject and is suspended from teaching the subject. During one semester there will be 2 midterm exams and a final exam at the end of the semester. Evaluation is carried out on a 5-point system. Assessment of the student's knowledge of boundary control is carried out by the teacher who conducted the training. Conducting the final type of control and assessing the student's knowledge of this type of control is carried out by a teacher who did not conduct training. The student must pass an intermediate test before the final test in the relevant subject. A student who achieves a grade of 3 or higher in a subject is considered to have mastered the subject and receives all the credits allocated for that subject. A student who has not passed an intermediate type of control and received a mark of "2" (unsatisfactory) for this type of control is not included in the final type of control. A student who did not enter or was not included in the final type of control, as well as received a mark of "2" (unsatisfactory) for this type of control, is considered not to have mastered the subject and is credited to the academic debt.

In order to master the subjects promptly, students with academic debts are allowed to study this subject at the end of each semester, during the vacation period. Re-mastering is carried out on a paid basis, that is, a fee is charged in the amount of dividing the amount of a 1-year contract by a 1-year study load for a student to re-study a subject that he could not master and receive a loan. For example, a student owes 60 hours of academic credits for a course with 2 credits. In this case, he will pay the following amount: If the amount of the annual contract established for the direction of study that the student is studying is, for example, 10,000,000, then it is divided by the annual teaching load, for example, 60 hours, which = 166,667 sums. Based on the fact that 60 hours are 2 credits, we multiply this amount by 2, it will be  $166,667 \times 2 = 333,334$  sums. The student who has paid for this subject is organized by the teachers for consultations and a deadline is set for taking the subject. The institute will not have a system for expelling students for academic debt. A student must earn 240 credits in 4 years to receive a diploma. For students



who have not collected 240 credits, the term of study can be extended from 4 to 6 years. Earned points are saved throughout the course.

## Conclusion

Most students still do not have complete information and understanding of the credit-module system. There are even supporters of the previous system. However, taking the education system to a new level, we, like other developed countries, must support this system. Not surprisingly, we find answers to our questions in this article. Fully master the theoretical and methodological provisions of the science of industrial and radiation safety, be able to correctly reflect the results of the analysis, independently observe the processes being studied and perform the tasks and tasks set in the forms of current and intermediate control, final control, it is necessary to submit a written work on. The following task should be set as one of the main goals of the educational standard on the science of industrial and radiation safety. Also, such issues as the use of acquired knowledge and skills in solving practical problems, life tasks, rational nature management and environmental protection, and the safety of human life and society are studied in detail.

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