

**CREDIT-MODULE SYSTEM IN HIGHER EDUCATION INSTITUTIONS  
(EUROPEAN SYSTEM)**

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**Abstract**

The article highlights the key principles of the credit-module system (ECTS) formed within the European Higher Education Area (EHEA), the distribution of credits within the three-cycle (bachelor-master-doctorate) structure, and a comparison of the application of the 180 and 240 ECTS models at the bachelor level based on real statistical data from the 2010/11 academic year. It also analyzes the stages of introducing the credit-module system in Uzbekistan's higher education system on the basis of the concept and government decisions adopted for the period up to 2030, as well as target indicators (including the task of transferring 85% of higher education institutions to the credit-module system by 2030). Based on secondary data analysis and a review of regulatory and legal documents, the paper discusses adapting the European ECTS model to Uzbekistan's conditions, increasing the share of students' independent work, changes in teachers' assessment practices, and integration of the educational process with management information systems. The Results section presents a real statistical table and a bar chart reflecting the distribution of 180- and 240-credit programmes across EHEA countries. The Discussion section considers, along with the advantages of the credit-module system, issues such as ensuring workload-credit balance, digital competencies, and the reliability of assessment, and provides practical recommendations for higher education institutions of Uzbekistan.

**Keywords:** Credit-module system, ECTS, European Higher Education Area (EHEA), three-cycle system, bachelor, master, Uzbekistan, education reforms.

**Introduction**

As a result of the Bologna Process implemented in the European Higher Education Area since 1999, the three-cycle higher education system (bachelor-master-doctorate) and a unified credit system—the European Credit Transfer and Accumulation System (ECTS)—were introduced step by step. EHEA documents define the usual volume for the first cycle (bachelor) as 180–240 ECTS, for the second cycle (master's) as 60–120 ECTS, and 60 ECTS per academic year as a full workload; credits are based on the student's total study workload and learning outcomes [1].

The main purpose of this model is to increase comparability of degrees across countries, facilitate academic and labour mobility, and make students' learning trajectories more flexible. In the European Higher Education Area, the credit-module system is implemented by designing curricula in a modular structure, assigning clear learning outcomes and a credit volume to each module, and linking assessment to the level of achievement of those outcomes [2].

In Uzbekistan, the “Concept for the Development of Higher Education up to 2030” identifies, as a priority, introducing study plans based on the credit–module system and learning outcomes aligned with international standards. The concept aims to adapt programmes to international experience—especially to EHEA requirements—raise the share of practical skills, and expand students’ academic mobility [3]. From this perspective, the main purpose of the article is to analyze the conceptual and statistical characteristics of the credit–module system formed on the basis of the European ECTS model and to describe the regulatory, organizational, and pedagogical aspects of introducing this system in higher education institutions of Uzbekistan. The research questions are formulated as follows: (1) What are the typical structure and credit workload of the credit–module system in the European Higher Education Area? (2) How widespread were the 180 and 240 ECTS models at the bachelor level in the 2010/11 academic year? (3) What are the main legal foundations, target indicators, and expected results of introducing the credit–module system in Uzbekistan?

### Methods

This article is not based on empirical observation or a survey; rather, it relies on secondary data analysis. First, information on the three-cycle system, typical ECTS credit ranges, and programme structures was analyzed using official EHEA sources—reports prepared by EHEA and Eurydice—as well as an analytical article by WENR (World Education News & Reviews) [2], [4].

Second, the regulatory and legal framework of Uzbekistan was analyzed, including the above-mentioned concept, the Cabinet of Ministers’ Resolution No. 824 of December 31, 2020, and the attached “Regulation on the procedure for introducing the credit–module system into the educational process of higher education institutions” [3], [5].

Third, scientific articles and conference theses describing the role, advantages, and problems of the credit–module system in Uzbekistan’s higher education (Boytemirova, 2020; Tuychiyeva, 2022; Ismailov, 2022, and others) were subjected to content analysis [6]–[9].

The data analysis mainly used descriptive and comparative approaches: the distribution of credits and programme duration in the European ECTS model were compared with the regulatory requirements of the credit–module system being introduced in Uzbekistan’s higher education. In the statistical part, a table and a bar chart were constructed based on real figures from the WENR article on the prevalence of 180- and 240-ECTS bachelor programmes within the EHEA in the 2010/11 academic year [2].

Methodological limitations are that the European data used largely reflect the situation of 2011–2018, while in Uzbekistan the system is still being implemented, so continuous time-series statistics are not available. Therefore, the results are interpreted not as the full effectiveness of the system, but as analytical conclusions describing an intermediate state of implementation.

### Results

According to EHEA documents, bachelor programmes typically carry 180 or 240 ECTS credits and are designed for 3 or 4 years respectively; master programmes are designed within 60–120 ECTS credits (1–2 years). One ECTS credit is assumed to correspond to 25–30 hours of a student’s total workload, which includes lectures, practical classes, laboratory work, seminars, independent study, and final assessment types [1].

An important feature of ECTS is that credits account not only for teacher contact hours but also for the student's independent-study workload. This approach takes competence-based learning outcomes as the main criterion and links the assessment system to the level of achievement of those outcomes [10].

In an analytical review prepared by WENR, based on EHEA data for the 2010/11 academic year, the following picture is presented regarding bachelor programme duration: in 14 higher education systems, 180 ECTS (3-year) bachelor programmes accounted for at least 75% of all programmes, while in 13 systems, 240 ECTS (4-year) bachelor programmes had at least a 75% share [2].

These data show that within the EHEA the 3+2 (180+120 ECTS) model is widely used, but in a number of countries the 4-year bachelor model also has a high share. Below, this distribution for the 2010/11 academic year is presented in table form.

Table 1. Distribution of systems by bachelor programme duration within the EHEA in the 2010/11 academic year ([2])

ECTS (bachelor)	model	Typical duration	Number of higher education systems in which this model was predominant in 2010/11*
180 ECTS		3 years, 60 ECTS/year	14 systems
240 ECTS		4 years, 60 ECTS/year	13 systems

\* "Predominant" means that programmes of this length account for at least 75% of all bachelor programmes.

Based on this table, a simple bar chart can be constructed (Figure 1). The chart shows that at the bachelor level, the 3-year (180 ECTS) and 4-year (240 ECTS) models have an almost equal prevalence.

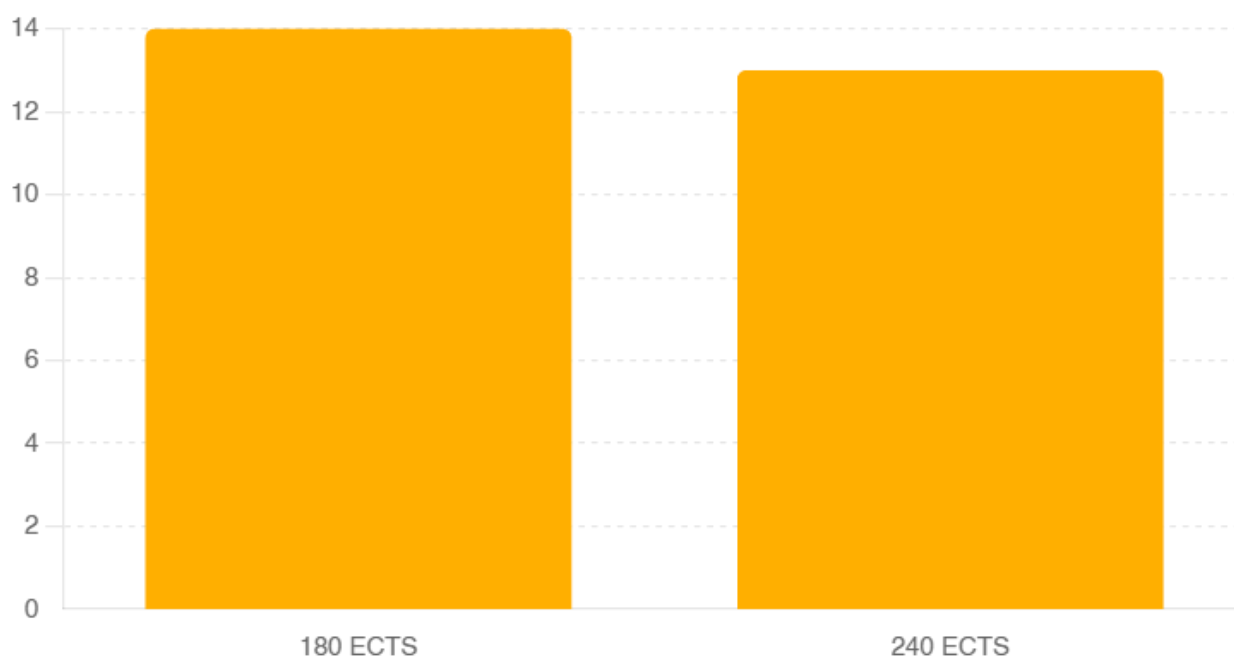


Figure 1. Number of EHEA systems in which 180- and 240-ECTS bachelor programmes were predominant in the 2010/11 academic year ([2])

This graph indicates that within the ECTS model, European countries rely, on the one hand, on a 3-year “accelerated” bachelor model and, on the other hand, on a traditional 4-year model; at the same time, the principle of 60 ECTS credits per year is maintained in both models.

In Uzbekistan, the concept adopted for reforming higher education up to 2030 notes the credit–module system as one of the key directions and envisages aligning curricula and programmes with international experience, in particular with ECTS standards, and introducing a competency-based approach [3].

To implement this direction in practice, the Cabinet of Ministers’ Resolution No. 824 of December 31, 2020 approved the “Regulation on the procedure for introducing the credit–module system into the educational process of higher education institutions”. The Regulation specifies credit volumes, subjects organized in a modular structure, the credits a student must accumulate during the year (usually 60 credits), assessment criteria and the rating system, and the procedure for recording achievement and academic debt [5].

Scientific sources note that starting from the 2020/2021 academic year, all higher education institutions in the country began a phased transition to the credit–module system, and this process is being carried out together with ECTS-adapted curricula and new-generation standards [11]. At the same time, some sources emphasize that the goal has been set to fully implement the credit–module system in at least 85% of higher education institutions by 2030 [12].

Studies conducted by Uzbek scholars emphasize that introducing the credit–module system increases the share of students’ independent work, enables accurate planning of study workload, makes rating-based assessment more transparent, and allows consistent monitoring of student activity throughout the semester [6], [7].

For specific fields (for example, mathematics and other exact sciences), it is noted that clearly defining learning outcomes by module and using an assessment system based on the “small steps” principle through end-of-module controls can increase student motivation, while the teacher gains the opportunity to revise teaching strategies more frequently [8].

It is also noted that the credit–module system, based on the ECTS model, can create an institutional basis for bringing Uzbekistan’s higher education to an internationally comparable level and for developing joint programmes and academic mobility projects [9].

### Discussion

European experience shows that the credit–module system is not merely a technical accounting mechanism; rather, it is a mechanism that orients the entire learning process toward learning outcomes, plans student workload on a clear normative basis, and enables comparability of degrees across countries. Data for the 2010/11 academic year (predominance of 180 ECTS bachelor models in 14 systems and 240 ECTS models in 13 systems) show that despite the existence of several structures within the EHEA, the unified ECTS principle brings them to a single “currency” [2].

For Uzbekistan, the significance of this experience is that introducing the credit–module system on the basis of Resolution No. 824 and the concept up to 2030 simultaneously serves several strategic goals: (1) shifting curricula and programmes to a competency-based model; (2) increasing the share of students’ independent work and individualizing learning trajectories; (3) aligning with ECTS in international cooperation and diploma recognition processes. At the same time, European experience shows that the

transition to the credit–module system requires not only regulatory decisions but also a fundamental change in teachers’ assessment practices, course design, and workload planning methods.

- Among the issues observed in local research and practice, the following stand out:
- Imbalance between workload and credits. For some subjects, the allocated credits may not fully correspond to the student’s real workload (number of hours, volume of independent work), which can contradict the main ECTS idea of “credits proportional to workload”.
- Digital competencies and information systems. The credit–module system usually operates together with digital tools such as an electronic journal, rating system, and curriculum constructor. For teachers and dean’s offices, effective management of these systems requires certain digital skills; otherwise, technical errors and delays in data can negatively affect students’ interests.
- Changing assessment culture. The rating system increases the number of interim assessments during the semester, but if these assessments remain only in test form, the depth of learning outcomes and the practical component may not be sufficiently reflected. In European practice, it is common to include project work, portfolios, practical assignments, and reflective reports in the module’s final grade.

At the same time, European experience should not be transferred as a “ready-made box”. The ECTS model must be adapted to Uzbekistan’s conditions: labour market requirements, teaching traditions, language and cultural factors, and infrastructure capabilities should be considered. For example, in some fields (medicine, engineering), it may be appropriate to preserve or gradually introduce 5–6-year integrated programmes (300–360 ECTS) in line with international practice [4].

An important strategic task for Uzbekistan’s higher education is to implement the credit–module system integrated with digital management systems, including education management information systems, and to maintain credits, assessment, and learning outcomes in a single database. This not only simplifies statistical reporting but also helps ensure continuity between the bachelor–master–doctorate cycles.

### Conclusion and recommendations

The analysis shows that in the European Higher Education Area the credit–module system (ECTS), through a three-cycle structure, the principle of 60 credits per year, and a learning-outcomes-based assessment model, has brought student workload to a clear normative basis. In the 2010/11 academic year, the fact that 180 ECTS (3-year) bachelor programmes were predominant in 14 systems and 240 ECTS (4-year) programmes in 13 systems shows that despite different structures within the EHEA, they are unified by a single credit “currency”.

In Uzbekistan, the conceptual and normative documents adopted for introducing the credit–module system (the concept up to 2030 and Resolution No. 824) have ensured a noticeable institutional shift in a short time: curricula are being redesigned based on credits, the share of students’ independent work is increasing, and the assessment system is being reorganized on a rating basis. At the same time, the full effectiveness of the system depends on workload–credit alignment, digital competencies, the substantive depth of assessment, and the level of clear formulation of learning outcomes.

The main recommendations are as follows:

1. Credit–workload calibration. For each subject and module, the allocated credits should be recalculated based on the student’s real workload (contact hours + independent work), and regular monitoring should be established in line with the annual 60-credit principle.

2. Clearly defining learning outcomes. Learning outcomes that answer the question “What should the student know, understand, and be able to do?” should be redesigned for subjects and modules in accordance with ECTS criteria.

3. Diversifying assessment tools. In the rating system, it is recommended to increase the share of projects, portfolios, practical assignments, reflective essays, and presentations alongside tests; this better matches the real formation of competencies.

4. Strengthening digital infrastructure. Information systems that support the credit–module system (electronic journal, curriculum constructor, distance-learning platforms) should be integrated with each other, and regular digital literacy trainings should be organized for teachers.

5. International comparability and mobility. An ECTS-aligned credit–module system should be used not only for internal management, but also actively for joint programmes with foreign universities, double degrees, and student exchange. For this purpose, curricula should be supplemented with learning outcomes and module descriptions in English.

Overall, the credit–module system, while structurally bringing higher education closer to European standards, also enables shifting the learning process to a model oriented toward student activity and outcomes. To fully use these opportunities, along with normative decisions it is necessary to consistently modernize methodological, organizational, and information-and-communication infrastructure.

### References

1. European Higher Education Area. (n.d.). The three-cycle system. EHEA official website. <https://ehea.info/page-three-cycle-system>
2. WENR – World Education News & Reviews. (2014, June 3). Towards a European Higher Education Area: 15 Years of Bologna. <https://wenr.wes.org/2014/06/towards-a-european-higher-education-area-15-years-of-bologna>
3. Cabinet of Ministers of the Republic of Uzbekistan. (2019). Concept of development of the higher education system of the Republic of Uzbekistan until 2030. [https://www.samdu.uz/upload/content-files/Concept\\_of\\_Higher\\_Education\\_of\\_Uzbekistan\\_until\\_2030\\_EN\\_NEO\\_UZ.pdf](https://www.samdu.uz/upload/content-files/Concept_of_Higher_Education_of_Uzbekistan_until_2030_EN_NEO_UZ.pdf)
4. Eurydice. (2018). The European Higher Education Area in 2018: Bologna Process Implementation Report. Chapter 3: Degrees and Qualifications. Publications Office of the European Union. [https://eurydice.eacea.ec.europa.eu/sites/default/files/2022-06/Chapter%203\\_Degrees%20and%20Qualifications.pdf](https://eurydice.eacea.ec.europa.eu/sites/default/files/2022-06/Chapter%203_Degrees%20and%20Qualifications.pdf)
5. Cabinet of Ministers of the Republic of Uzbekistan. (2020, December 31). Resolution No. 824: “On approval of the Regulation on the procedure for introducing the credit–module system into the educational process of higher education institutions”. <https://lex.uz/ru/docs/-5193564>
6. Boytemirova, Z. D. (2020). ECTS Credit–Module System in the Universities of the Republic of Uzbekistan. Ta’lim va innovatsion tadqiqotlar jurnali. <https://inlibrary.uz/index.php/tajir/article/view/11523>
7. Tuychiyeva, I. (2022). The importance of the credit–module system in improving the quality of higher education. CyberLeninka. <https://cyberleninka.ru/article/n/oliy-ta-lim-sifatini-oshirishda-kredit-modul-tizimini-ahamiyati>
8. Ismailov, T. (2022). Credit-modular system and its principles of implementation in teaching mathematics in higher education institutions. CyberLeninka. <https://cyberleninka.ru/article/n/credit->



modular-system-and-its-principles-of-implementation-in-teaching-mathematics-in-higher-education-institutions

9. The credit-module system (ECTS) in the higher education system. (n.d.). slib.uz. <https://slib.uz/en/article/view?id=33841>
10. ECTE. (2022). ECTE Certification Framework. <https://ecte.eu/wp-content/uploads/2022/09/ECTE-Certification-Framework.pdf>
11. Inovatus EJBSOS. (2023). Higher Education Reforms: Expanding Opportunities. <https://www.inovatus.es/index.php/ejbsos/article/download/5357/5626/8376>
12. Introduction of Credit-Module System in Higher Education. (2022). International Journal of Clinical and Experimental Neurology & Psychiatry. <https://medicaljournals.eu/index.php/IJCNP/article/download/1835/1955/3261>