

Aspects of Quality Assurance of the Educational Process of Higher Technical Education

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Abstract—The principles of quality assurance of higher education are considered in the work. The analysis of aspects of quality assurance of the educational process of higher technical education on the example of Kharkiv National University of Radio Electronics is given. Measures to develop a quality system of higher education at the university level are proposed as well.

Keywords—higher education, technical education, quality of education, educational process, microcontroller, FPGA, educational laboratory, remote laboratory.

I. INTRODUCTION

Improving the quality of higher education is a challenge today. As part of the increase in the development of the industrial revolution, the requirements for the level and quality of higher technical education are increasing.

Maintaining the appropriate level of quality of the educational process of higher technical education is, on the one hand, compliance with legislation and regulations [1, 2], on the other hand, the reputation of the university, public relations, demand for specialists, interest of employers, etc. This problem is also actual with the transition to distance learning due to the epidemiological situation.

Regarding the construction of the appropriate level of quality of education in higher education institutions, a number of normative documents, decisions, regulations, projects, measures, regulations, etc. have been developed [2]. But these are general decisions and proposals that require an authentic approach in each specific institution of higher education.

All efforts of the university community should be aimed at avoiding, preventing and stopping the manifestations of academic dishonesty through teaching, leadership and mentoring, as well as by creating a positive, favorable and virtuous educational and scientific environment [2].

On the example of Kharkiv National University of Radio Electronics, by approximating the existing experience and taking into account the specifics of the institution of higher education, a number of normative administrative documents for internal use have been developed [3-6].

According to the analysis, the following problematic issues can be identified to ensure the quality of the educational process of higher technical education: complex, cumbersome, high-cost technical equipment; technical equipment with specific operating conditions; unique technical equipment; equipment without the possibility of full-fledged remote connection; availability of highly qualified scientific and pedagogical staff; introduction of modern scientific and technical solutions in the educational process, etc..

II. GENERAL PRINCIPLES OF QUALITY ASSURANCE OF THE EDUCATIONAL PROCESS

Quality assurance policy and related processes are the basis of a coherent institutional quality assurance system, which forms a cycle of continuous improvement and contributes to the development of the university. The policy supports the development of a culture of quality, within which all internal parties take responsibility for quality and are involved in quality assurance at all levels of the institution. In order to facilitate this process, the policy should have an official status and be available to the general public [2].

Quality assurance policy is most effective when it reflects the link between research, teaching and learning, and takes into account both the national context in which the institution operates and its institutional context and strategic approach [2]. This policy supports: the organization of a quality assurance system; faculties, departments and other structural units, as well as management, teachers and students to take responsibility for quality assurance; academic honesty and

freedom, watching for demonstrations of academic fraud; prevention of any manifestations of intolerance or discrimination against students or teachers; involvement of external parties in quality assurance.

The policy is implemented through a number of internal quality assurance processes that ensure the participation of various parties within the institution. The ways of implementation, monitoring and revision of the policy are guided within the autonomy of the university. The quality assurance policy covers all aspects of the university's activities.

III. PARTICULAR QUALITIES OF THE EDUCATIONAL PROCESS OF HIGHER TECHNICAL EDUCATION

Let's consider the features of the educational process of higher technical education on the example of Kharkiv National University of Radio Electronics (NURE). Within certain autonomy, the university has developed a number of basic administrative documents that regulate the educational process [7-11].

A regulation on the organization of the educational process in NURE is the main normative document governing the organization and conduct of the educational process in NURE [7].

The normative basis of the organization of the educational process at the university is: the Constitution of Ukraine; laws of Ukraine "On education"; "On higher education", "On scientific and scientific-technical activities"; administrative normative and legal documents of the President of Ukraine, the Cabinet of Ministers of Ukraine, the Ministry of Education and Science of Ukraine, other ministries and departments; NURE Charter; NURE administrative documents, etc.

In the content of the Regulation on the organization of the educational process in NURE is presented [7]: Regulatory framework for the organization of the educational

process; Degree system of education; Higher education standards and educational programs; Curricula, working curricula, individual student curricula; Schedule of the educational process for the academic year; Timetable; Language of instruction; Forms of organization of the educational process and types of educational classes; Features of the organization of the educational process; Transfer, renewal and expulsion of higher education applicants; Quality assurance system of the educational process; Rights and responsibilities of participants in the educational process; Educational time of applicants for higher education; Working hours of scientific and pedagogical, pedagogical and scientific workers.

Peculiarities of the educational process in NURE have been developed by the best scientific and pedagogical workers using the accumulated experience of the university and new scientific and technical trends of today.

The result is the developed methods of ensuring: the distribution of time for theoretical and practical training of higher education; conducting laboratory and practical classes in accordance with the educational components; etc.

Based on the results of the analysis, it can be concluded that the educational process in NURE for technical specialties is provided at a high level according to the results of accreditation and licensing activities within the university [12].

IV. PROPOSALS FOR ENSURING AND DEVELOPING THE QUALITY OF THE EDUCATIONAL PROCESS OF HIGHER TECHNICAL EDUCATION

The main principles, proposals and guidelines for the quality assurance system of educational activities in NURE are set out in [4], which can be generally described in the structure (Fig. 1).

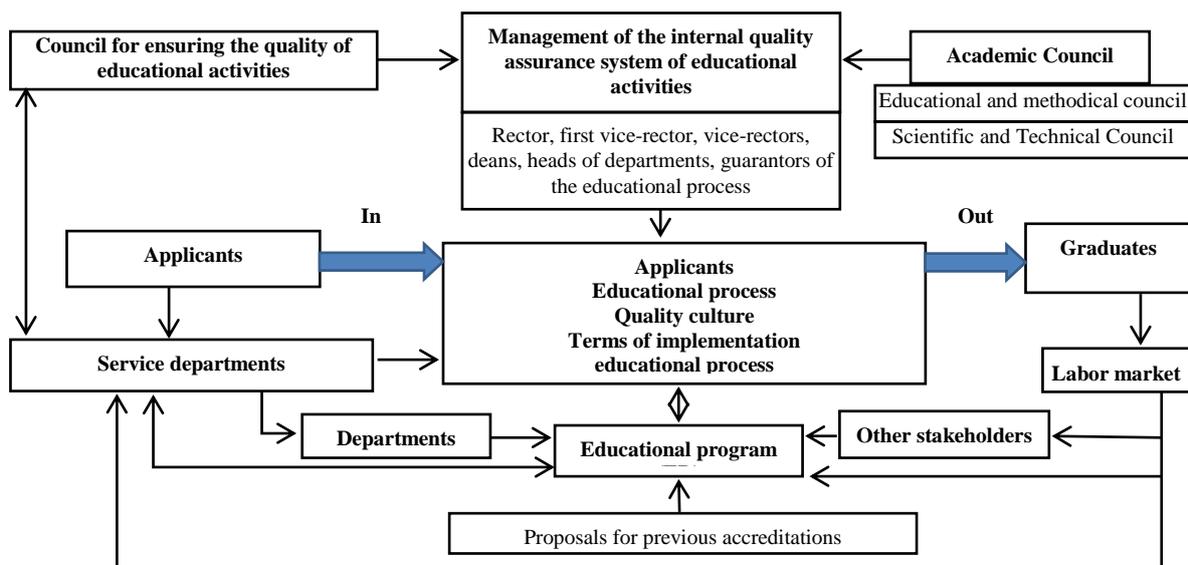


Fig. 1. The structure of the system of internal quality assurance of educational activities.

The University provides transparent and defined rules for participants in the educational process at all stages of education.

At the level of scientific and pedagogical workers, as participants in the educational process, there is a constant work to ensure the quality of educational activities within the competences and taking into account the guidelines of the university [13-20].

In order to develop the system of quality assurance of educational activities in NURE University joins the study of world best practices. For example, the university joined the Academic IQ Academic Integrity and Quality Initiative Project [21, 22]. The Academic IQ project is implemented by the American Councils for International Education in cooperation with the Ministry of Education and Science of Ukraine, the National Agency for Quality Assurance in Higher Education and with the support of the US Embassy in Ukraine.

One of the key tasks of the Academic IQ Project is to create an effective model for monitoring the quality of education, identifying key problems and causes of violations of the principles of academic integrity by participants in the educational process, and, as a result, improving the quality of education at the university [21].

V. CONCLUSION

Ensuring the quality of the educational process of higher technical education is an integral and key factor in training a qualified and in-demand specialist in the labor market. According to the analysis of best practices for quality assurance in higher education, this is a process that should demonstrate the positive dynamics of building a quality assurance system for the educational process as a whole and have the support and adherence of all stakeholders in the educational process. Also, ensuring the appropriate level of quality of the educational process is not possible without institutional support at the level of society and the state.

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