

REVIEW

of the Analysis of the Results of Institutional, Programme and Initial Programme Accreditation (2024–2025) by the Dean of the School of Applied Mathematics at KBTU JSC

The analytical report presented by the IQAA is a valuable and systematic study of the state of external quality assessment in higher education in Kazakhstan. As Dean of the School of Applied Mathematics at KBTU JSC, I recognise the great significance of the document's conclusions both for the development of our school and for the higher education system as a whole.

The report's methodology, based on a comparison of institutional and programme indicators, is an effective tool for identifying gaps between stated policies and their actual implementation. The heat map of the implementation of quality assurance mechanisms clearly demonstrates the areas in which institutional decisions require further specification and strengthening at the level of educational programmes. This is particularly relevant for mathematics programmes, where continuity between levels of education (undergraduate – master's – doctoral) is critical for the development of competences.

An analysis of the distribution of comments across standards provides clear guidelines for development. The 'Academic Staff' standard has rightly been identified as a priority area. Mathematics programmes in applied mathematics, data science and cryptography academic staff with both a strong theoretical background and up-to-date industry experience. This analysis confirms the need to develop flexible mechanisms for recruiting and assessing teaching staff, including taking into account professional certifications, participation in industry projects and practical experience of working with real-world data.

The comments on the standard 'Student-centred learning, teaching and assessment' are directly in line with contemporary requirements for mathematical education. The document rightly highlights the need for a clear differentiation between the criteria for assessing final projects and the development of competences in the areas of reproducible computational experiments, proficiency in computer algebra systems, and the public defence of mathematical results. These conclusions will form the basis for improving our teaching and assessment methods.

An analysis of our engagement with employers highlights the versatility of mathematical competencies, which are in demand across a wide range of sectors – from the oil and gas industry and bioinformatics to financial technology and quantum computing. The report quite correctly highlights the process-oriented nature of this interaction and suggests directions for its development. For the School of Applied Mathematics, this means the need to develop mechanisms for analysing graduates' career trajectories, which will enable the content of programmes to be adjusted promptly on the basis of up-to-date data on the demand for specific competences.

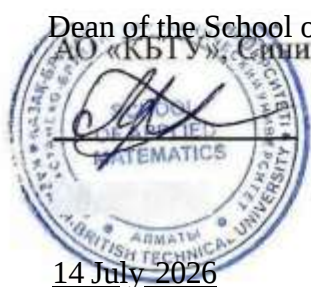
The analysis of programmes undergoing initial accreditation is of particular value. Although programmes undergoing initial accreditation account for 7.5 per cent of the total, this indicates that the programme portfolio is already well established. At the same time, the report provides an important evidence base to support decisions on launching new programmes in mathematics of data, quantum computing, cryptography and computational biology, which require significant time and resources.

The development priorities identified in the report coincide with our internal assessment of critical areas for improvement:

- strengthening continuity between levels of education;
- developing flexible mechanisms for evaluating and recruiting academic staff;
- expanding the use of reproducible computational experiments;
- institutionalising feedback from graduates based on data analysis;
- strengthening engagement with stakeholders.

We would like to thank the IQAA for providing an objective, systematic assessment, which will be used in developing the strategy for the School of Applied Mathematics', improving the content of educational programmes and strengthening human resources policy. We recommend that the findings of the analysis be disseminated among all educational organisations in the Republic of Kazakhstan as a methodological basis for the development of quality assurance systems.

Dean of the School of Applied Mathematics
АО «КБТУ», С.В. Синица
KBTU JSC, A.V. Sinitsa



14 July 2026