converter with pulse-width and pulse-frequency modulation. *2022 IEEE 41st International Conference on Electronics and Nanotechnology (ELNANO)*. 2022. P. 571–575. DOI: 10.1109/ELNANO54667.2022.9926762.

6. Knedlík M., Rot D. Specialised frequency converter for induction devices. *2023 23rd International Scientific Conference on Electric Power Engineering (EPE)*. 2023. P. 1–4. DOI: 10.1109/EPE58302.2023.10149236.

UDK 378.09

Sazanova L.S.
senior lecturer of the department of foreign languages
of faculty No.4
ORCID ID: https://orcid.org/0000-0002-3722-2593
Kochyn V.D.
a first-year cadet of faculty No.4
ORCID ID: https://orcid.org/0009-0007-8809-5604
Kharkiv National University of Internal Affairs, Ukraine

THE FUTURE CHALLENGES OF HIGHER EDUCATION IN UKRAINE

Abstract. *The paper examines the issue of the development of higher education in Ukraine and the importance of active participation of students, critical thinking, and the development of relevant skills for the labor market. The implementation of student-oriented teaching methods, which can improve the quality of education and prepare graduates for the challenges of the modern world is analyzed.*

Key words: *challenges, educational policies, student-centered learning, approach. competitiveness.*

The modern challenges of higher education development in Ukraine encompass various aspects, including changing trends, problematic issues, and potential solutions for implementation. These challenges play a crucial role in shaping the future of higher education in the country.

One of the main trends in higher education development in Ukraine is the shift towards a more student-centered learning approach. This trend emphasizes the importance of active student engagement, critical thinking, and the development of relevant skills for the job market. Implementing student-centered learning methods can enhance the quality of education and better prepare graduates for the challenges of the modern world.

However, along with these positive trends, there are several problematic issues that need to be addressed. One major challenge is the lack of funding in higher education. Insufficient financial resources hinder the development of infrastructure, research capabilities, and faculty training. Adequate funding is essential to ensure that universities can provide high-quality education and remain competitive on both national and international levels. On the one hand, in this situation higher education in Ukraine should be resultoriented, training professionals that are to reignite the Ukrainian economy and social sphere and develop them further. At the same time the education sector is experiencing additional difficulties related to the problems of

accessing cyberspace [1].

Another challenge is the need for educational reforms and policy changes. There is a demand for greater autonomy and flexibility for universities in decision-making processes and curriculum development. Reforms should focus on creating an environment that promotes innovation, fosters academic freedom, and encourages international collaboration. It is imperative for higher education institutions to not only offer education, but also conduct research and serve as hubs for meaningful conversations on topics of societal significance [2].

Additionally, alignment with international standards and best practices is crucial. Ukraine's higher education institutions need to enhance their quality assurance mechanisms and accreditation processes to ensure that their programs are recognized and valued both nationally and internationally. Implementing quality assurance systems can help improve the credibility and reputation of Ukrainian higher education institutions.

To overcome these challenges and implement effective solutions, several measures can be taken. First, there should be increased investment in higher education to ensure adequate resources for infrastructure development, faculty training, and research advancements. This can be achieved through public-private partnerships and government initiatives.

Second, educational policies should be reformed to provide more autonomy and flexibility to universities. This includes revising the curriculum, fostering interdisciplinary studies, and promoting innovation in teaching methods. Collaborations with international universities and student exchange programs can also contribute to the modernization and internationalization of Ukrainian higher education.

Third, it is crucial to establish rigorous quality assurance mechanisms that align with international standards. This involves accrediting institutions and programs, conducting regular evaluations, and promoting transparency in the educational system. The primary purpose ofthe modern reform was to achieve true quality improvement in higher education and the transformation of Ukrainian educational system to become truly competitive in the European Union [3].

Collaboration with external accreditation bodies and international organizations can assist in ensuring the credibility and recognition of Ukrainian degrees.

The challenges faced in developing higher education in Ukraine are multidimensional. However, by embracing student-centered learning, addressing funding issues, implementing educational reforms, and aligning with international standards, Ukraine can overcome these challenges and improve the quality and competitiveness of its higher education system.

References

1. T. Sokol, L. Melko. Current challenges of higher education in Ukraine. Pedagogy and Education Management Review. Issue 5 (7), 2022, p.52

URL: https://public.scnchub.com/perm/index.php/perm/article/view/85

2. Marin Kahanec, Snizhana Leu-Severynenko, Anna Novosad, Egor Stadnyi Rebuilding education for a smarter and stronger Ukraine
URL: https://cepr.org/voxeu/columns/rebuilding-education-smarter-and-stronger-ukraine

3. Nadiya Ivanenko, Higher Education in Ukraine: Past Overview, Present State and Future Perspectives. Working paper no. 102, December 2023, p.102
URL: https://www.researchcghe.org/publications/working-paper/higher-education-in-ukraine-past-overview-present-state-and-future-perspectives/

UDK 378

Siora A.S., teacher
Kremenchuk Flight College of Kharkiv National University of Internal Affairs, Kremenchuk, Ukraine
ORCID ID: https://orcid.org/0000-0002-2934-7281
Puzyr M.S., teacher
Kremenchuk Flight College of Kharkiv National University of Internal Affairs, Kremenchuk, Ukraine

THE USE OF MODERN MATHEMATICAL MODELING TOOLS IN THE DESIGN OF AIRCRAFT PARTS

Abstract: *this article provides an overview of automation approaches for modeling and simulating aircraft components, focusing on leveraging both central processing units (CPUs) and graphics processing units (GPUs) for computational tasks. The complexity of aircraft components, including aeroelasticity and density, presents challenges that require sophisticated mathematical models governed by differential equations, which accurate mathematical representations and efficient computational techniques could resolve. Various numerical integration methods are explored, including the usage of computer instruments such as MATLAB and LabVIEW for modeling and simulation tasks.*

Keywords: *mathematical model, MATLAB, LabVIEW*

Additionally, the article discusses recent advancements in parallel computing architectures, particularly the use of GPUs and the compute unified device architecture (CUDA) algorithm, to enhance computational efficiency for aircraft component simulations.

The simulation and modeling of aircraft components present a difficult challenge due to the intricate nature of mathematical models and the computational demands involved. These models, capturing the dynamic behavior of various aircraft parts, rely on differential equations influenced by various factors. Researchers increasingly rely on computer instruments such as MATLAB and LabVIEW to address these complexities. These instruments offer a suite of tools tailored to the unique requirements of aircraft component modeling, facilitating the accurate representation and simulation of their performance under diverse conditions. These software platforms empower researchers to tackle challenging calculations efficiently and with enhanced accuracy, driving advancements in aircraft engineering.

Moreover, there is a growing trend towards automation in the modeling and