

**«ТУРАН»
УНИВЕРСИТЕТИ»
МЕКЕМЕСІ**



**УЧРЕЖДЕНИЕ
«УНИВЕРСИТЕТ «ТУРАН»**

Discussed at the chair of
«CSS»
Protocol No __ dated «__» _____ 2023
Head of the chair
Kisseleva O.V.

APPROVED
Vice-Rector for Academic Affairs of
the Turan University
Tusupova L. A
«____» _____ 2023.

**Development plan
of the modular educational program
«6B06104 –Software engineering»**

**2023 y.
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**Passport
of the plan for the development of modular educational programs
(MEP) EP
«6B06104 –Software engineering»**

The purpose of the EP	Training of highly qualified specialists for innovative sectors of the country's economy in the field of the latest telecommunications technologies, possessing theoretical, practical and scientific knowledge, skills and abilities that meet the needs of domestic and global intellectual and engineering labor markets, able to quickly adapt to constantly changing socio-economic conditions in the light of the prospects for the development of the information and communication sphere.
Grounds for developing a development plan MEP	The educational program has been developed in full compliance with the regulatory legal acts defining the national priorities in the field of education of the Republic of Kazakhstan, as well as the mission of the University "Turan" "Culture, education and science for the benefit of society" and the quality goals for the 2023-2024 academic years of the University "Turan".
The main developers of the Plan	1. Head of the department: Kiseleva O.V.; 2. Teaching staff: 1) Kubekov B.S., Candidate of Technical Sciences, Professor; 2) Akhmetov B.S., Doctor of Technical Sciences, Professor 3) Alyonova R.A., master, senior lecturer Employers: 1. Konysbaev A.T., Director of the "Park of innovative Technologies "Alatau". 2. Naumenko V.V., Director of IP "Classer Web"
Purpose of the Plan	To ensure effective management of the OP «6B06104 –Software engineering» The strategic goal of the educational program development plan is to improve and supplement the content of educational programs, taking into account the employment of graduates, the results of monitoring the demand for the profession, the formation of professional competencies. The operational objective of the plan is to ensure effective management and implementation of the MEP for the approved period.
The mechanism of plan formation¹	The MEP and the Development Plan were drawn up with the involvement of developers and employers (Kalimoldaev Maksat Nuradilovich, Ph.D., Professor, corresponding member, Director of the Institute of Information and Computing Technologies of the Ministry of Education and Science of the Republic of Kazakhstan, Yezhkov Sergey Yurievich - Chairman of the Management Board of JSC NAT "Kazakhstan") taking into account the results of a survey of students of

	the specialty " Computer hardware and software engineering " (analysis of the external and internal environment, analysis of student satisfaction and teaching staff, analysis of the resources available and necessary for the program, including the material and technical base, etc.).
Mechanisms for the dissemination of information about The plan and objectives of the MEP²	All information about the educational program, including information about teaching staff, students, university resources, partners, admission rules, library, etc., is available on the Internet portal of the University "Turan" www.turan-edu.kz . The official website of the university provides access to educational and methodological and educational and administrative information necessary for students through links to automated information systems "Canvas" designed to manage the learning process. Consideration of the educational program at an expanded meeting of the department's UMC with the participation of employers. Review and approval of the educational program at the faculty's UMS. Placement of the MEP on the university's website.
Terms of implementation of the Plan	From 1.09.2023 to 1.09.2027

Analysis of the external environment³

The market of higher and postgraduate education is dynamically developing in Kazakhstan. The largest number of universities is located in the city of Almaty.

Turan University is one of the first private universities in the Republic of Kazakhstan. The University is a leader in its segment and occupies a leading place among universities in the general ranking of the Republic of Kazakhstan.

Consumers of educational services of Turan University are individuals and the state. The state consumes services based on the distribution of educational grants. The largest share falls on consumers by individuals, among whom are graduates of educational institutions. The target segment of consumers of educational services at Turan University are students whose ages range from 18 to 35 years old. Whose ages range from 18 to 35 years old. There are 20% more female students than male students.

An affordable tuition fee, a large number of grants, both state and university, and a flexible discount system allow consumers to use the university's general education services. In addition to state educational grants, it is possible to study at Turan University under the "Rector's grant", which is awarded on a competitive basis.

Over the entire period of its stay in the education market, the university has developed programs that combine the best traditions of academic education and advanced technologies of modern business education.

SWOT analysis of the external environment during the implementation of the educational program plan

Strengths	Weaknesses
-funding from the state, which allows to fully develop and stabilize the training of specialists in the field of information technologies; -to organize highly qualified teaching staff and gradually raise the level of education;	-Rapid obsolescence of training programs due to dynamically developing IT-industry. -Insufficient funding for updating software and hardware. -Limited access to exchange programs.

-availability of workplaces in employers' organizations. - High demand for IT and programming specialists on the labor market. -Cooperation with IT -companies for internships and practicums. -Teaching staff with real experience in the IT sphere. -Possibility to use modern educational technologies and equipment.	-Lack of sufficient focus on the development of "soft" skills such as teamwork, project management, communication skills, which are extremely important in today's work environment.
Threats	Opportunities
-availability of a large number of universities -competitors in the field of specialty training; -stricter requirements of the Ministry of Education and Science of the Republic of Kazakhstan for -entering universities and graduates of universities. -Intensive competition from other educational institutions, including foreign online courses and educational platforms. -Rapid changes in skill requirements in the IT sphere, which requires constant updating of training programs. -Possible changes in government policy and education funding.	-need for specialists; -broad discussion of the OP by stakeholders allows to strengthen the quality component of the program. -Development of new technologies, such as artificial intelligence, big data, cloud technologies, opens new directions for training. - Possibility to introduce distance and hybrid forms of learning. -Participation in national and international scientific projects.

Analysis of the internal environment⁴

The educational program is updated and supplemented annually, taking into account the interests of the labor market. The change in compulsory disciplines occurs due to the introduction of the State Mandatory Standard of Higher and Postgraduate Education, approved by Order of the Minister of Science and Education of the Republic of Kazakhstan dated July 20, 2022 No. 2, working curricula and work programs and other regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan.

The structure of educational programs OP 6B06104 – "Software Engineering" of Turan University is developed in accordance with scientific, theoretical and practice-oriented requirements for professional and social competencies.

When forming the goals of educational programs, the changing conditions of the external and internal socio-political environment, legal reforms and changes in the regulatory framework of Kazakhstan in the field of education are taken into account. In this regard, it is necessary to train highly qualified personnel in the field of information technology.

The amount of study load and time required to master an academic discipline, module, or educational program as a whole is taken into account on the basis of a credit learning system.

Credits reflect the complexity of the student's academic load, which includes all types of his educational activities provided for in the curriculum, including classroom and independent work, practice, etc.

The content-based educational program consists of general compulsory modules, specialty modules and elective modules covering the entire course of study for students of OP 6B06104 - "Software Engineering" with a total volume of 240 ESTC credits.

Within the framework of the characteristics of professional activity, the general and professional competencies of the graduate are defined, as well as the role of each module in obtaining appropriate professional competencies, which is reflected in the competence matrix.

In general, the structure and design of educational programs comply with current legislation and regulations in the field of vocational education of the Republic of Kazakhstan, ensures the mobility of students, improving the quality of education and continuity of all levels of education.

The teaching staff meets all the qualification requirements. The composition and share of teaching staff with academic degrees in the context of EP is presented in Table 1.

Table 1. Qualitative composition of teaching staff in the context of OP in 2023-2024 academic year.

EP	PPS total		Teaching staff with academic degrees	
	number, person	Of these, the regular Number /share, %	number, person	Of these, the regular Number/share, %
6B06104–Software engineering	24	17/ 71%	13	11/ 85%

Of the 24 members of the department with an academic degree, job responsibilities are distributed within the framework of the program: the number of teaching staff conducting training sessions in this specialty is 24 people, 17 full-time, including 11 with academic degrees and titles.

Doctor of Sciences, Professor - 2 full-time units (Nusupbekova G.S., Akhmetov B.S.); PhD - 6 (Kiseleva O.V., Kurmanbaeva A., Zhetpisbayev K.U., Kulambayev B.O., Ainakul N., Kashaganova G.B.);

Candidate of Sciences, Associate Professor – 4 full-time units;

Over the past 3 years, teachers of the specialty have completed various advanced training courses.

Research work in the specialty is carried out annually through the participation of teaching staff in international and republican scientific and practical conferences, interuniversity methodological conferences, etc.

Scientific projects carried out at the Faculty of "CTI":

1. Project manager Kubekov B.S., topic of the scientific project "Concepts and mechanisms of digital transformation of education, based on the cognitive-frame approach and ontological engineering" (No. AP05134973, 01.01.2018-12/31/2020).

Scientific projects of grant financing of the Ministry of Education and Science of the Republic of Kazakhstan:

1. Project manager G.B. Kashaganova, topic of the scientific project "Research and development of a fiber sensor for monitoring the condition of road surfaces" (no. IRN AR 14972921, 01.01.2022- 31.12.2024)

2. Project executors Alyonova R.A., Naumenko V.V., topic of the scientific project "Building a system of intelligent management of the development and harmonization of standards within the framework of interstate and national standardization based on ontological engineering" (1.01.2021-12/31/2023, Int-Sat Alatau LLP "Int-Sat Alatau")

Students undergo practical training at enterprises and organizations that correspond to the profile of the specialty. Internship places can be offered by the department, by the students themselves, at the request of enterprises (organizations), as well as district, city and regional administrations.

The bases of practices are:

1. AliSan Tumar LLP
2. "SimbiosKZ" LLP
3. MyCarRaiymbek LLP
4. JSC "AUES"
5. JSC "Kaspi"

6. JSC "Technodom"
7. JSC "Bank Center Credit"
8. IP "NEKO"
9. LLP "Nemo.kz "
10. LLP "stop shop"
11. IP "Web-art.kz "
12. Dastarkhan Toy LLP
13. LLP "MSTRATEGY"
14. IP "Cluster WEB"
15. LLP "informConsulting"
16. LLP "Optimum Market"
17. JSC "Halyk Kazteleport"
18. IP "Warehouse"
19. JSC "Alfa-Bank"
20. JSC "Eurasia"
21. GOS "PSC"
22. LLP "Accounting Accounting 1C"
23. TOO "White wind KZ"
24. Ilgeri Adi-Mer LLP
25. CyberTech LLP
26. Magnum LLP
27. RURG LLP
28. Bereke Bank JSC
29. ONE TECHNOLOGIES LLP
30. Kazstroy Engineering GroupLLP
31. Kontur LLP
32. Progress Electronic LLP
33. Turing LLP 34.
34. Aquameter LLP, etc.

SWOT analysis of the internal environment in the implementation of the educational program plan

Strengths	Weaknesses
- high rate of settling down of the personnel of the department; - wide involvement of practitioners for the educational process;	- increase in the average age of the teaching staff; - insufficient number of teaching staff teaching classes in English; - insufficient level of potential realization in research work (participation in competitions, tenders, funded projects).
Threats	Opportunities
- increase in state funding of scientific research; - the possibility of professional development through the university's continuing education system; - the opportunity to participate in the competition for Master's and PhD degree educational grants.	- Headhunting (poaching) of qualified personnel to national, etc. universities - low socio-economic status of a pedagogical employee of a university in the Republic of Kazakhstan; - low interest of domestic business in financing applied scientific research.

Action plan for the development of the EP⁵

№	Events	The level of education	Responsible	Deadlines	Type of reporting
I. Improving the content of the MEP⁷					
1	Formation and optimization of the educational program (annually updated by 30%, taking into account the achievements of science, the requirements of the labor market and the analysis of the satisfaction of students and their needs)	Bachelor	Kisseleva O. V.	Annually May-June	UMKD
2	Work on anticipating the formation of employers' requests (meetings, round tables, presentation events, visits of teaching staff to enterprises and organizations)	Bachelor	Kisseleva O. V.	Annually According to the plan of the department	Minutes of meetings with representatives of the practice bases, potential employers, copies of contracts
3	Adjustment of the MOS taking into account new regulatory documents in the field of higher education	Bachelor	Kisseleva O. V.	If necessary, as soon as the NPA is published within the time limits set by the NPA. April-May before the start of the year	Updated MOP
4	Attracting employers to participate in the work of the educational and methodological section of the department	Bachelor	Kisseleva O. V.	Annually during the academic year	Minutes of meetings of the educational and methodological section of the Department and the Educational and Methodological Bureau of the Faculty of

					Economics
5	Adjustment of work curricula taking into account the requirements of the market, the wishes of employers and the recommendations of the Ministry of Education and Science of the Republic of Kazakhstan (elective modules and elective disciplines) in order to increase the competitiveness of the educational institution	Bachelor	Kisseleva O. V.	If necessary March-April (RUP for the next year of study)	Updated MOP
6	Annual updating of the content of the OP, based on the principles of practice-oriented training, including the content of disciplines that define modern professional competencies of a specialist	Bachelor	Kisseleva O. V.	For the entire period	OP development plan, corrective action plan, updated RUP
7	Constant monitoring of specialist competencies and disciplines of the OP specialty	Bachelor	Kisseleva O. V.	For the entire period	Updated MOP
8	Involving students in research work on the topic of the department	Bachelor	Kubekov B.S.	For the entire period	Theses, articles
II. Educational and methodological support⁸					
1	Introduction of innovative methods of technology (preparation of a lecture course using presentation material, videos, handouts)	Bachelor	Teaching staff of the department	For the entire period	Training manuals
2	Improving the methods of conducting practices in order to prepare students for independent performance of professional tasks	Bachelor	Teaching staff of the department	For the entire period	Methodological developments: guidelines for the passage of all types of practice
3	Optimization of teaching methods, the introduction of new learning technologies into the educational process that increase the efficiency of teachers, the active use of information technologies that allow students to master educational material at a convenient time for them	Bachelor	Teaching staff of the department	Annually According to the plan, the department will die	Methodological developments: methodological guidelines for the implementation of practical tasks, SRSP, SRO within the framework of the studied disciplines

4	Development and testing of author's innovative teaching methods	Bachelor	Teaching staff of the department	2024-2025 2025-2026	Patents for author's developments
III. Personnel support⁹					
1	Analysis of statistics on the contingent of students and personnel in the management of the EP	Bachelor	Kisseleva O. V.	For the entire period	Report
2	Conclusion of a cooperation agreement on academic mobility and double-degree education	Bachelor	Kiseleva O. V.	Annually during the academic year	The contract, the schedule of classes
3	Advanced training of teaching staff (internships, School of Pedagogical Skills, trainings, training seminars, round tables, etc.) in order to effectively implement modular, variable, individually oriented education	Bachelor	Teaching staff of the department	Annually according to the PC plan of the department, the SHPM plan	Certificates of participation, diplomas
4	Improvement of the PPP rating system	Bachelor	Advisors-curators of study groups	Annually May-June	Annual reports of the department, the rating of the department, the qualitative composition
5	Assessment of teaching quality	Bachelor	Kisseleva O.V.	Annually according to the plan of mutual visits of the department, work plans of the COC	Analysis of teaching staff attendance, panoramic lectures, competition for vacant positions 2 times a year (January, August)
6	An increase in the number of teachers who have taught as part of academic mobility abroad	Bachelor	Teaching staff of the department	For the entire period	Training and internships at a foreign university, certificates
IV. Material and technical support¹⁰					
1	Purchase of educational equipment in full compliance with modern requirements for a specialist in the field of infocommunications in the labor market.	Bachelor	Kisseleva O.V.	For the entire period	Applications. Reports of the department
V. Information and library resources¹¹					

1	Monitoring the availability of scientific databases, electronic scientific journals	Bachelor	Kisseleva O.V.	For the entire period	Applications. Reports of the department
2	Updating the library fund with professional literature	Bachelor	Kisseleva O.V.	For the entire period	Applications. Reports of the department
VI. Development of the research component of the MEP¹²					
1	An increase in the proportion of teaching staff and students who have publications in scientific journals with a non-zero impact factor	Bachelor	Teaching staff of the department	Annually according to the plan of the Research Institute of the Department	Articles
2	Participation of students with reports and articles in international and interuniversity scientific and practical conferences	Bachelor	Teaching staff of the department	Annually according to the plan of the Research Institute of the Department	Reports, certificates of participation, collections of conference materials.
3	Involvement of students in the collection of materials on the cathedral research topics registered in the NCGNTE.	Bachelor	Teaching staff of the department	Annually in accordance with the thematic research plans	Annual reports on the research of the department, interim reports, final report to the NCNTI
4	Organization of interdisciplinary applied research in order to carry out a diploma and master's project	Bachelor	Kisseleva O. V.	For the entire period	Graduation projects
5	Activation of relations with foreign partners in order to implement joint scientific research and publication of educational and methodological literature	Bachelor	Teaching staff of the department	Ежегодно	Implementation of joint scientific research and publication of educational and methodological literature
VII. Monitoring the effectiveness of the MEP¹³					
1	Improving the evaluation of learning outcomes.	Bachelor	Kisseleva O. V. Kubekov B. S.	Annually	UMKD, WK protocols
2	Development/ use of methods for determining the level of formed competencies of students.	Bachelor	Kisseleva O. V. Kubekov B. S.	For the entire period	Faculty reports, annual report of the Department
3	Survey of employers, survey of teaching staff satisfaction with the educational program, etc.	Bachelor	Kisseleva O. V. Kubekov B. S.	Annually April -May	Annual report of the Department, SCUMS protocols

Developers:

Head of EP

Kisseleva O.V.**AGREED:****Chairman of the Faculty Council
Dean of Faculty**

Kuandykova D.R.**Approved Online Learning Center**

Bekmagambetova Zh.M