Graduate Model
Departments of Fundamental Mathematics
NJSC " L.N. Gumilyov Eurasian National University"

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| **Graduate Qualities** | **Skills and skills, professional competencies** |
|---|---|
| Academic | He has fundamental scientific and professional training. Demonstrates efficiency, meets the needs of modernity, direct utility to production, knows how to set modern professional goals and achieves them, has deep scientific knowledge in the industry, methods of scientific research and experimental research |
| Administrative | Possesses management skills, team leadership, knows the basics and specifics of professional management, is able to tolerate social, ethnic, confessional and cultural differences, and also shows leadership qualities in solving important problems |
| Autonomous | Knows how to make a fundamentally correct decision based on knowledge of management regulations, stress is stable and not afraid of outside pressure, knows how to take personal responsibility for decisions and situations made |
| Active | Demonstrates initiative and indifferent attitude to life, activity in professional and any other activity. Has a strong citizenship and responsibility, has mobility, communication skills and demonstrates a willingness to innovate |
| Analytic | Able to reason logically, has the skills of mental or real dismemberment of the whole into its constituent parts, sees relationships and parallels, is able to make predictions and critical analysis, research and create a product of the professional sphere |
| Adaptive | Possesses the ability to adapt to the requirements and criteria existing in society due to knowledge of the norms and values of this society, knows how to work in a team, knows how to find new opportunities, is ready for various types of activities in the face of new challenges of our time, is in demand in the labor market |
| Attractive | Knows how to rally like-minded people around him, express attractive ideas for development and creation in the field of activity, is attractive due to professional and scientific literacy |

These characteristics represent a set of universal qualities that graduates of the three levels of education should possess, which are achieved as a result of completing studies in educational programs at our university.

The competencies acquired in the process of mastering a specific educational program are prescribed in Section 2 of the Passport of Educational Programs "Competence Map/Profile" and do not contradict Model 7A.

**Table 1**
**Model of the graduate of the educational program "6B05401 - Mathematics"**

| **Professional competencies** |
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| *Graduate of EP 6B05401 - Mathematics:*<br>✓ *understands the general forms, patterns of a particular subject area;*<br>✓ *owns the tools of a separate subject area;*<br>✓ *speaks competent mathematical language and terminology of a separate subject area;*<br>✓ *owns the basic physical laws when setting specific tasks; understands the correctness of setting tasks;*<br>✓ *able to rigorously prove statements; formulate the result correctly on the basis of the analysis;*<br>✓ *owns the skills of independent construction of an algorithm for solving a problem and its analysis;*<br>✓ *conveys the result of the conducted research in the form of specific recommendations, expressed in terms of the subject area of the studied phenomenon;*<br>✓ *able to extract useful scientific and technical information from electronic libraries, abstract journals, the Internet;*<br>✓ *able to draw up the results in the form of reports, reports;*<br>✓ *able to publicly present known and own scientific results;*<br>✓ *able to continue education and conduct professional activities in the state (Russian) language and in a foreign language environment;*<br>✓ *owns programming languages for numerical analysis of tasks.* |

**Table 2 - graduate model for the educational program "7M05401 - Mathematics"**

| **Professional competencies** |
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| *Graduate of OP 7M05401 - Mathematics:*<br><br>✓ *The ability to apply in practice the latest achievements in the field of pedagogical activity, to expand and deepen one's knowledge in the field of scientific research.*<br>✓ *Ability to find, formulate and solve actual and significant problems of fundamental and applied mathematics.*<br>✓ *Possess methods of fundamental areas of mathematics and be able to apply them in solving various applied problems, also have an analytical approach to solving problems and be able to present their own new scientific results in the form of strictly substantiated statements.*<br>✓ *The ability to correctly formulate the goals and objectives of scientific research, the concept of scientific research.*<br>✓ *Draw up a plan of research work on individual sections of the master's thesis, plan the resources necessary to complete the work, evaluate the results of one's own work. Be able to extract useful scientific and technical information from electronic libraries, abstract journals, the Internet.*<br>✓ *Be able to present own new scientific results in the form of well-founded statements.* |

**Table 3 - graduate model for the educational program "8D05401 - Mathematics"**

| **Professional competencies** |
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✓ *The ability to shape the learning activities of students and develop software and methodological support for the development of academic disciplines, modules of professional education in the field of theory of functional spaces and problems of mathematical physics.*

✓ *The ability to correctly formulate the goals and objectives of scientific research, the concept of scientific research, independently analyze scientific problems and processes, critically rethink the accumulated experience and knowledge, draw up a plan for research work on sections of a PhD dissertation, plan the resources necessary to complete the work and evaluate the results of one's own work .*

✓ *The ability to design, carry out comprehensive research, including interdisciplinary ones, generate new ideas when solving research and practical problems, develop new research methods in independent research activities based on a holistic systematic scientific worldview using knowledge in the field of modern mathematical research and organize teaching activities in the main educational programs of higher and postgraduate education. Participate in the work of domestic and international research teams to solve scientific and research problems and use modern methods and technologies of scientific communication in the state and foreign languages.*