**Computing systems and software**

By the results of scientific researches of the chair for last three years there have been defended 2 Doctoral, 4 Candidates, and 28 Candidates for a master’s degree dissertations, 7 patents and prepatents of РК have been received.

**The main directions of scientific research of the department are related to the topics:**

**1.**Development of a methodology for obtaining approximate analytical solutions of systems of kinetic equations for the aggregation and clustering of dispersed systems.

**2.**Development of programs and algorithms for industrial process control.

**3.**Development of algorithms and solving mathematical modeling problems

The teaching staff of the department participated in the competitions of the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan for obtaining grant funding for research with the following topics:

1. "Development of algorithms and programs for modeling and controlling industrial processes for the production of polymers to obtain the required grades", head Doctor of Technical Sciences, Professor Ospanova A.O.;

2. "Development of an information system for managing industrial polymerization processes", supervisor, Doctor of Technical Sciences, Professor Ospanova A.O.;

3. "Modeling and methods for calculating reaction-diffusion processes in systems with moving boundaries", Doctor of Technical Sciences, Associate Professor Musabekova L.M.

As a result, Doctor of Technical Sciences, Professor Ospanova A.O. won a grant to finance research work on the topic "Development of an information system for managing industrial polymerization processes" in the amount of 30 million tenge.

At this time, applications have been submitted for a competition for grant funding for scientific and (or) scientific and technical projects for 2022-2025 on the topic "Unmanned vehicles for various purposes with a high degree of automation", "Creation of intelligent tools for recognizing the contextual similarity of scientific documents using artificial intellect."

**Department of "Computer Engineering and Software"**

**topics of research work of students**

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| --- | --- | --- | --- |
| № | **Topic name** | **Name of students, course, group** | **Full name of the supervisor** |
|  | Development of a multimedia project, with the application "Moho" | Anarkulova Asem Gabidenkyzy  IP-19-6r | **Candidate of Physics and Mathematics** Akhmetova S.T. |
|  | Development of a program that displays information about the company's employees | Tolegenov Jamshid Spiridonov Semyon  IP-19-6r | **Candidate of Physics and Mathematics** Akhmetova S.T. |
|  | "Machine Learning" | Datkaev Adiar  IP-20-6r | Senior Lecturer  Tarasova R.N. |
|  | "Protection Systems - Denuvo" | Bondarev Vladimir  IP-20-6r | Senior Lecturer  Tarasova R.N. |
|  | Creating a chat program in Java | Kudayberdi D. Serikbay Nurgysa  IP-20-6k1 | Senior Lecturer  Ermekbaeva G.Y. |
|  | The development of the exam program the student did not violate the rules | Tore Alisher  IP-22-6ks | Senior Lecturer  Ermekbaeva G.Y. |
|  | Development of a 3D game program using modern software tools | Slambek Alikhan IP-19-6k2  Shishikov Roman  IP-20-3tr | master, senior lecturer  Kaldarkhanova S.M. |
|  | Voice assistant in Python | Slambek Alikhan  IP-19-6k2  Shishkov Roman  IP-20-3tr | master, senior lecturer  Kaldarkhanova S.M. |
|  | Information security methods | Serikbay Nurgysa  IP-20-6k1 | master, senior lecturer  Kaldarkhanova S.M. |
|  | A study of the differences between the programming languages Python and C++. | Yesenbaev Abubakir  IP-21-1k | master, senior lecturer  Kaldarkhanova S.M. |
|  | Development of the "Smart card" program | Amen Yerkebulan  IP-21-6k1  Maulenuly Magzhan  IP-21-6k1  Lesbeck Diaz  IP-21-6k1 | master, senior lecturer  Kaldarkhanova S.M. |
|  | Network development for companies in the Cisco Packet Tracer program | Saparbaev Meyirzhan,  IP-22 6rs | master, senior lecturer  Seytkhanova A.D. |
|  | Website development for a car dealership | Serikbaev Ilyas  IP-22-6ks | master, senior lecturer  Seytkhanova A.D. |
|  | Creating a messenger using PHP and MYSQL | Tore Alisher  IP- 22-6x | master, senior lecturer  Seytkhanova A.D. |
|  | Creating a bot in the Telegram application using the PYTHON programming language | Amirova Ayaulym  IP-22-1k | master, senior lecturer  Seytkhanova A.D. |
|  | MS Access Features | Toktybek Kundyzay,  IP-22-1k | master, senior lecturer  Seytkhanova A.D. |
|  | Creation of websites in HTML and C++ programming languages. | Tokhanov Zhasulan  IP-21-1k | master, senior lecturer  Dosanova G.Sh. |
|  | Development of the program "Hidden security lock" | Tokhanov Zhasulan  IP-21-1k | master, senior lecturer  Dosanova G.Sh. |
|  | Creating a calculator program in the Arduino programming environment | Tokhanov Zhasulan  IP-21-1k | master, senior lecturer  Dosanova G.Sh. |
|  | Loops in Python | Aktay Baiken  IP-21-6r | master, senior lecturer  Bakhberdieva K.M. |
|  | Programming languages | Baymbetov Danial  IP-21-6r | master, senior lecturer  Bakhberdieva K.M. |
|  | Development an application for managing the database of coursework issued to students | Saduaqas Azamat IP-19-6a | Senior Lecturer  Meldebekova S.K. |
|  | Development an application for managing a database containing a schedule of student classes | Tasbulatov Darkhan IP-19-6a | Senior Lecturer  Meldebekova S.K. |