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**ON THE EXPERIENCE OF THE FORMATION OF THE INTERNATIONAL EDUCATIONAL PROGRAM OF DOUBLE-DIPLOMA TRAINING MASTERS OF COMPUTER SCIENCE AS A SECOND COMPETENCE IN KAZNU**

**1. PROJECT TEMPUS PROMIS**

In Al-Farabi Kazakh National University on the Mechanics and Mathematics Department in the 2013-2016 years is performing TEMPUS project PROMIS «PROfessional network of Master's degree in Informatics as a Second competence". Partners in the project are 5 universities in Europe, 2 from each of the University of Central Asia / 1 /.

Tempus PROMIS project objectives are:

1) improving the professionalization of master's programs by establishing strong links with local businesses in the sectors of IT and ICT;

2) the development of the participation of enterprises in the learning process online master's degree programs.

3) implementation of the Master's programs Master by adapting training schedule to the students working at the enterprise.

WHAT WE HAVE NOW in current situation:

1. Join educational program PROMIS of Master’s Informatics as second competence.
2. Training mobile seminars for trainers in European universities.
3. Agreements between Al-Farabi KazNU and other universities in frame of project PROMIS.
4. Educational process of Master’s Informatics as second competence in KazNU.
5. Mobility of PROMIS masters by financing of KazNU in the European universities.
6. Collaborations in branch of preparing of PhD students.

**2. JOIN EDUCATIONAL PROGRAM OF MASTER’S INFORMATICS AS SECOND COMPETENCE**

|  |  |
| --- | --- |
| Name of the discipline | Lec+lab (hours), ECTS |
| **I semester (15 weeks)** | |
| Algorithms and Data Structures 1 | 30+30, 6 ECTS |
| Programming 1 | 30+30, 6 ECTS |
| Operating Systems and Networks | 30+30, 6 ECTS |
| Mathematics for Computer Science | 15+15, 3 ECTS |
| Databases | 30+30, 6 ECTS |
| English professional | 0+30, 3 ECTS |
| **2 semester (15 weeks)** | |
| Software Engineering(analysis, modeling and design) | 30+30, 6 ECTS |
| Project Management | 15+15, 3 ECTS |
| Web Development | 30+30, 6 ECTS |
| Algorithms and Data Structures 2 | 15+15, 3 ECTS |
| Programming 2 | 15+15, 3 ECTS |
| HMI-Human machine interaction | 15+15, 3 ECTS |
| Choose 2 course (6 кредита) | 30+30, 6 ECTS |
| Information retrieval | 15+15, 3 ECTS |
| Advanced OS and networks | 15+15, 3 ECTS |
| Data mining | 15+15, 3 ECTS |
| French for double diploma | 15+15, 3 ECTS |
| Computer English | 15+15, 3 ECTS |
| **3 semester (15 weeks)** | |
| Mobile applications development | 15+15, 3 ECTS |
| Multimedia Documents (XML) | 15+15, 3 ECTS |
| Numeric Multimedia (HTML5) | 15+15, 3 ECTS |
| Advanced O. O. Programming | 15+15, 3 ECTS |
| Java EE | 15+15, 3 ECTS |
| .Net | 15+15, 3 ECTS |
| Choose 4 course (8 кредита) | 60+60, 12 ECTS |
| Industrial language processing | 15+15, 3 ECTS |
| Application branch of intellectual systems | 15+15, 3 ECTS |
| Artificial Intelligence | 15+15, 3 ECTS |
| Natural Language Processing | 15+15, 3 ECTS |
| Internet and security | 15+15, 3 ECTS |
| **4 semester (15 weeks)** | |
| Research work | 60+420, 16 ECTS |
| Company Internship | 60+240, 12 ECTS |
| Preparing and State EXAM | 15+90, 4 ECTS |
| Master Thesis Preparation and defense | 45+270, 12 ECTS |
|  |  |

**3. TRAINING MOBILE SEMINARS FOR TRAINERS IN EUROPEAN UNIVERSITIES**

|  |  |  |  |
| --- | --- | --- | --- |
| **NAME** | **COURSES** | **TRIP PLACE** | **PERIOD OF TRAINING** |
| Tukeyev U. | Data mining & data warehouse | Kaunas University of Technology, Kaunas, Lithuania | 22-26/06/2015 |
| Zhumanov Zh. | Databases | Kaunas University of Technology, Kaunas, Lithuania | 22-26/06/2015 |
| Buribayev B. | Programming | Beuth University of Applied Sciences,  Berlin, Germany | 16-20/02/2015 |
| Seiketov A. | Algorithms and Data  Structure | Beuth University of Applied Sciences,  Berlin, Germany | 16-20/02/2015 |
| Kungozhin A. | Human Machine  Interaction | Pierre Mendès France University,  Grenoble, France | 2/05 – 13/05/2015 |
| Duysembayev  A. | Mathematics for  Computer Science | Pierre Mendès France University,  Grenoble, France | 2/05 – 13/05/2015 |
| Jomartova Sh. | Operating Systems and Networks | Savonia University of Applied Sciences,Kuopio, Finland | May 2015 |
| Rakhimova D. | Web development | Savonia University of Applied Sciences,Kuopio, Finland | May 2015 |
| Akzhalova A. | Software Engineering | Lublin University of Technology, Lublin,Poland | 13/06 – 24/06/2015 |
| Murzabekov Z. | Project Management | Lublin University of Technology, Lublin,Poland | 13/06 – 24/06/2015 |

**4. AGREEMENTS BETWEEN AL-FARABI KAZNU AND OTHER UNIVERSITIES IN FRAME OF PROJECT PROMIS**

There are agreements on cooperation with:

* Lublin Technological University, Lublin, Poland
* University P. Mendes France, Grenoble, France
* Savonia University of Applied Sciences,Kuopio, Finland
* Kaunas University of Technology, Kaunas, Lithuania.

There is cooperation on the base of project Promis with:

* Beuth University of Applied Science, Berlin, Germany.

**5. ORGANIZING OF EDUCATIONAL PROCESS OF MASTER’S INFORMATICS AS SECOND COMPETENCE IN KAZNU**

1. Advertising activities begin since April , preparing booklets, poster – each year
2. University gave for join educational program four-five grant place each year
3. In August each year are accepting exams
4. 2011: submitted- 6, accepted -4, study – 3, diplomed-3;

2012: submitted- 6, accepted-4, study-4, diplomed-3;

2013: submitted -6, accepted-4, study-4, diplomed-3;

2014: submitted -4, accepted-2, study-2;

2015: submitted -8, accepted-5, study-5.

**6. MOBILITY OF PROMIS MASTERS BY FINANSING OF KAZNU**

On the base cooperation agreement with Lublin Technological University(Dr. Marek Milosh) KazNU financed mobility on two weeks:;

2011- 9 masters, PhD-1;

2012 -12 masters, PhD-1;

2013- 6 masters;

2014 – 6 masters, bachelor – 1 for semester;

2015- 8 masters, bachelor – 2 for semester.

On the base of cooperation in the project KazNU financed mobility on two weeks:

* 3 masters in Beuth University of Applied Science, Berlin, Germany(prof. Agathe Merceron);
* 18 masters in University Alicante, Alicante, Spain(Dr. Sergio Lujan Moro, prof. Mikel Forcada)

2015 – 5 masters in Savonia University of Applied Sciences,Kuopio, Finland;

* 3 masters in in Beuth University of Applied Science, Berlin, Germany(prof. Agathe Merceron).

**7. COLLABORATIONS IN BRANCH OF PREPARING OF PHD STUDENTS IN FRAME OF ERAMIS AND PROMIS**

On the base of project ERAMIS created collaborations in join preparing of PhD students in KazNU:

* Dr. Marek Milosh from Lublin Technological University was co-advisor of PhD student Diana Rakhimova since 2010 year;
* Prof. Mikel Forcada from University Alicante is co-advisor of PhD student Assem Shormakova since 2011 year**.**

On the base of project PROMIS created collaborations in join preparing of PhD students in KazNU:

* Dr. Marek Milosh from Lublin Technological University is co-advisor of PhD student Aida Kozhanova since 2014 year.

**8. CONCLUSION**

Setting up the learning process of any specialty in terms of integration into the European educational space and the formation of double-diploma educational programs requires, firstly, the use of models and technologies setting the Bologna Process to the specific educational process; and secondly, the agreement with specific educational process of European university specialty. The first requirement is prevailing, if the educational process of a particular specialty of the University is fully consistent with the content and quality requirements of the Bologna Process, the second requirement is easily realized. However, in practice, the implementation of double-diploma education requires a multilateral, systematic review, the interest of all parties involved in this process, namely, the two universities, and the students who want to go double-diploma training.

LITERATURE:

1. Adam J., Tukeyev U. TEMPUS project in KAZNU: from ERAMIS to PROMIS. Материалы международной научно-практической конференции «Применение информационно-коммуникационных технологий в образований и науке», посвященной 50-летию Департамента информационно-коммуникационных технологий и 40-летию кафедры «Информационные системы», 22 ноября 2013 года, Алматы, Қазақ университеті, 2013, с.12-16 .