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**DOCMEN**

SHAKARIM UNIVERSITETI  
SEMey

# Development of two cycle innovative curricula in microelectronic engineering - DOCMEN

Report on project activities within the year 2017  
(Up to December 2017)

**Shakarim State University of Semey**

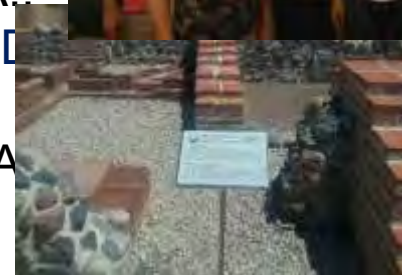


# 1. COMPLETED TRAININGS IN EUROPEAN UNIVERSITIES

Teachers of our department had internships on the base of leading European Universities in accordance with the programme of academic mobility:

- Technical University Sofia, 19.06.17-30.06.17 –A. Zolotov, A.Shaikhanova, A. G.Bekeshova;
- Politechnic di Torino - 3.07.17-18.07.17 - A. Zolotov, G. Berikkhanova, Zh. Talgatova
- Cracow University of Technology – 25-29.09.17–G.Berikkhanova, D.Kozhakhmetova, T. Yerkinbekov.

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# 1. COMPLETED TRAININGS IN EUROPEAN UNIVERSITIES

## Training at Technical University of Sofia (19.06.2017 – 30.06.2017)

- Lecture on Nanocoatings and Nanostructures.
- Lecture on Computer Added Design in Microelectronics.
- Laboratory training in the Thin Films Deposition Lab and in the Photolithography and Galvanic Lab.
- Excursion to the scientific and technological park "AMG Technology" (city Botevgrad).



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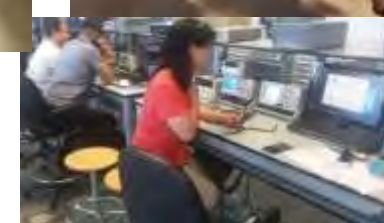


# 1. COMPLETED TRAININGS IN EUROPEAN UNIVERSITIES

## Training at Politecnico di Torino (01.07.2017 – 21.07.2017)

- BIO/CMOS interfaces and co-design.
- Building tomorrow society: Nano Electronics & Photonics.
- Building tomorrow society: IoT applications and data management.

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# 1. COMPLETED TRAININGS IN EUROPEAN UNIVERSITIES

## Training at Cracow University of Technology (25.09.2017 – 29.09.2017)

- Microelectronic technologies for alternative sources of energy
- Project management (business planning, funding, marketing, performance)
- ECAD for Microsystems: ELECTRONIC DESIGN AUTOMATION COURSE
- Soft Skills for Engineers.



## 1.1. DISSEMINATION OF KNOWLEDGE ACQUIRED AT TRAININGS IN EUROPEAN UNIVERSITIES

As a result of the trainings, seminars were held on the dissemination of knowledge: Shaykhanova A.K, October 2017 on the topic "Technology of manufacturing printed circuit boards"

Zolotov A.D, November 2017 - IoT applications and data management.

Berikkhanova G.E, Kozhakhmetova D.O, Yerkinbekov T.S. December 2017 - Project management (business planning, funding, marketing, performance), ECAD for Microsystems: ELECTRONIC DESIGN AUTOMATION COURSE, Microelectronic technologies for alternative sources of energy.

The participants in the seminars were teachers, students and undergraduates



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## 2. PILOT TEACHING OF MODERNIZED/NEW COURSES IN THE UNIVERSITY



- Working curriculums were designed with adding disciplines offered by European partners, Lessons on the the base of the modernized courses have been hold since September, 1<sup>st</sup> 2017

<b>N</b>	<b>Discipline</b>	<b>Department</b>	<b>Lecturer</b>	<b>BA/MA</b>	<b>Number of ECTS</b>
1	<b>Digital and analog chips</b>	Automation and computer facilities	Myasoyedov D.V.	BA	5
2	<b>Information-control systems</b>	Automation and computer facilities	Nazarov RN	BA	5
3	<b>Applied Electronics</b>	Automation and computer facilities	Myasoyedov D.V.	BA	5
4	<b>Pulse and digital control systems</b>	Automation and computer facilities	Demyanenko AI	MA	5

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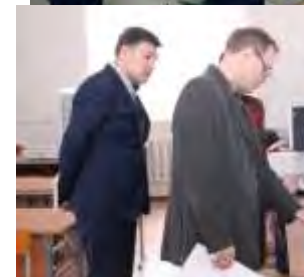


### 3. INFORMATION ABOUT STARTING OF PILOT TEACHING IN MICLABS



Report on the Workload of the MICLABs:

Speciality	Number of BA students studying in MICLAB per month	Number of MA students studying in MICLAB per month	Number of working hours of MICLABs per month
Automation and control	31	9	52
Technical Physics	15		12
Computer Science and Software	13		12



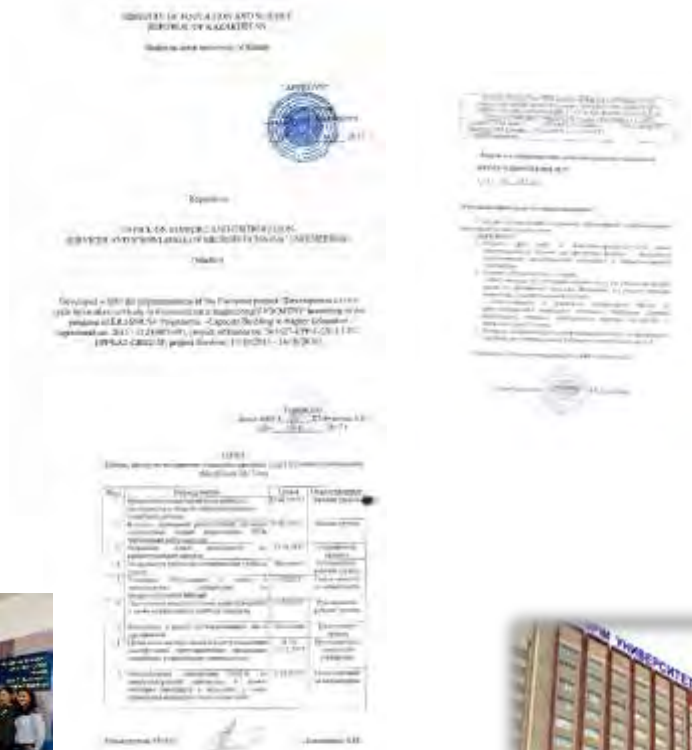


# 4. OFFICE PROVISION ON SUPPORT AND SERVICES DISTRIBUTION IN MICROELECTRONICS (MICSO)



The Office Provision on support and services distribution in microelectronics was founded on Department «Automation and Computer Science» (MicSO) room # 702, Regulation on function was created.

According to the faculty dean order (No. 37 from 15/03/2017) the Cand.Tech.Sci. Demyanenko A.I. is appointed to be responsible for MicSO work.



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## 5. PUBLISHING OWN EDUCATIONAL AND METHODICAL MANUALS



Associate Professors A. Demyanenko and Zolotov A.D. developed methodical instructions for practical work on equipment purchased from the project funds for the discipline "Industrial Controllers".

Демьяненко А.И., Золотов А.Д.

МЕТОДИЧЕСКИЕ УКАЗАНИЯ  
К ВЫПОЛНЕНИЮ ПРАКТИЧЕСКИХ РАБОТ  
по дисциплине «ПРОМЫШЛЕННЫЕ КОНТРОЛЛЕРЫ»



2017 г.

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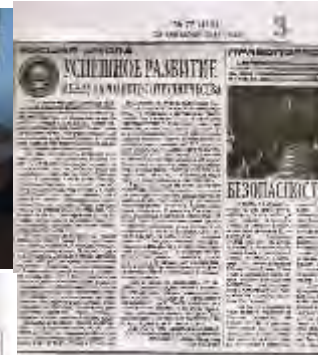
# 6. PROJECT PROMOTION

Information on Project was presented:

- During the meeting with under and postgraduated students;
- On Academic Council at Shakarim University
- On extended and joint sessions of Departments that implement courses.
- University student journal
- Mass-media –in newspaper «Vesti Semey»
- University web-site (<http://semgu.kz/mezhdunarodnoe-sotrudnichestvo/sovmestnye-proekty/proektu-development-of-two-cycle-innovative-curricula-in-microelectronic-engineering-docmen/>)
- University web-site <http://semgu.kz/mezhdunarodnyj-proekt-po-programme-eras>

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## 7. INVOLVING NEW PARTNERS INTO DOCMEN+ AGREEMENT

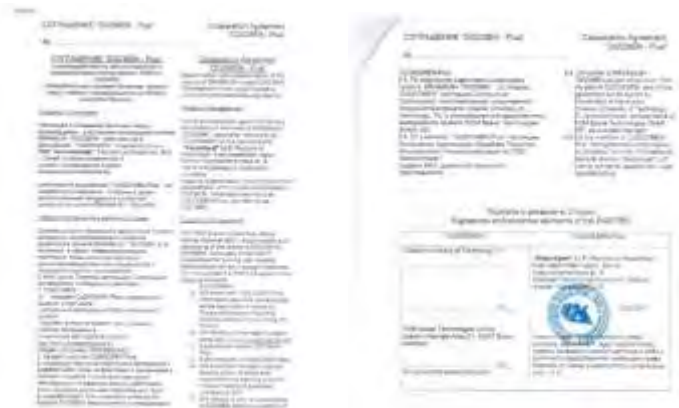


- As a result of the project dissemination activities, the following agreements were signed:

L.L.P. KAZPOLIGRAF



D. Serikbayev East Kazakhstan state technical university



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# Contact information of reporter



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Thank you for attention!