

**Project Acronym:** MEDIS

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## Context

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# 1. Executive Summary

This deliverable presents the report on the analysis of the possibilities of AIISM courses integration in the curricula of Master Programs at the Information Systems department that is responsible for MEDIS Project in al-Farabi Kazakh National University.

## 2. Introduction

### 2.1 General information about the unit responsible for the new curricula

The Information Systems Department of KazNU named al-Farabi is committed to providing undergraduate and graduate students with the knowledge and skills required to plan, develop, and deploy technology-based business solutions. Students are equipped with a solid understanding of the strategic role of information systems in organizations and the influential role of technology in society. The department trains specialists in the field of information systems, recruits to the specialty:

Bachelor's Degree

6B070300–Information Systems;

6B070200– Automation and Control;

Master's Degree

6M070300– Information Systems;

6M100200–Information Security Systems;

6M070200– Automation and Control;

Ph.D.

6D070300– Information Systems,

6D100200– Information Security Systems,

6D070200– Automation and Control.

### 2.2 Target groups

- Teachers.
- Students.
- Administrative and other non-teaching staff.

## 2.3 Master degree programme

Information Systems Department provides Master degree programmes in the fields: 6M070300– Information Systems; 6M100200–Information Security Systems;6M070200– Automation and Control;

Education is provided in Kazakh, Russian and English languages, also possible to use distance learning with the help of foreign scientists and professors.

According to the plan of MEDIS project the new curriculums were elaborated for the specialties of Information Systems, Information Security Systems, Automation and Control. Five new courses will be introduced during 2015-2016 educational year. Parts of curricula for corresponding specialties are shown in tables 1,2,3.

Table 1. 6M070200– Automation and Control

Module	Code	Discipline name	Credits	Semester		
				I	II	III
Basic disciplines						
1.2. Elective module	Elective module #2 ASUSTMSS AU 5206	Microcomputers	3	1+1+1		
	Elective module #3 IK 5207	Industrial computers	3	1+1+1		
	Elective module #4 KSUTP 5208	Industrial controllers and simulators	3		1+1+1	
Specialized elective disciplines						
2.2. Elective module	Elective module #3 MOKP 6307	Mobile and cloud computing platforms	3			1+1+1
	Elective module #4 6308	Industrial networks and protocols	3			1+1+1

Table 2. 6M070300– Information Systems:

Module	Code	Discipline name	Credits	Semester		
				I	II	III
Basic disciplines						

1.2. Elective module	Elective module #2  ISP 5205	Industrial networks and protocols	3		1+1+1	
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Table 3. 6M100200–Information Security Systems:

Module	Code	Discipline name	Credits	Semester		
				I	II	III
Basic disciplines						
1.2. Elective module	Elective module #3 MOKP 5307	Mobile and cloud computing platforms	3	1+1+1		

### 3. Analysis of Possibilities for the Integration of AIISM Courses

The proposed AIISM courses were integrated into curricula as a new elective trajectory «Design and Development of Advanced Industrial Informatics Systems (TEMPUS MEDIS)» of a Master Programme for specialty 6M070200– Automation and Control. According MEDIS project’s work plan all 5 new courses have to be learned during next educational year. To achieve this task the course “Industrial networks and protocols” was integrated into curricula of Master Programme for specialty 6M070300– Information Systems (see table 2). And the course “Mobile and cloud computing platforms” was integrated into curricula of Master Programme for specialty 6M100200– Information Security Systems (see table 3).

#### I semester

1. Microcomputers, 6M070200- AC, teacher – Ph.D., Associate Prof. Yeraliyev A.K.
2. Industrial computers, 6M070200- AC, teacher – Ph.D., Associate Prof. Azanov N. P.
3. Mobile and cloud computing, 6M100200 - ISS, teacher – Ph.D., Associate Prof. Yessengaliyeva Zh. S.

#### II semester

1. Industrial Networks and protocols, 6M070300 - IS, teacher – Ph.D., senior lecturer Rahimova D.

2. Industrial controllers and simulators, 6M070200 - AC, teacher – Ph.D., Associate Prof. Azanov N. P.

#### **4. Laboratory Equipment**

Developed and implemented of courses can be based on the use of laboratory equipment of Information systems Department.

Proposed 5 courses require specially equipped laboratory classes (industrial computers, microcomputers, simulators, etc.). At this stage of the project works on the purchase of related equipment is being carried out.

#### **5. Conclusion**

The presented above master's programme is developed to provide preparation of masters in engineering and technology area – highly skilled experts in the field of intelligent systems and control technologies. Students wishing to be enrolled in that programme should have knowledge in the field of information technology, computer science, applied mathematics and informatics which enables to study courses on MEDIS methodology.