Syllabus

1. Program information

1.1. Institution	ACADEMY OF ECONOMIC STUDIES
1.2. Faculty	Economic Cybernetics, Statistics and Informatics
1.3. Departments	(Departament) INFORMATICA SI CIBERNETICA ECONOMICA
1.4. Field of study	Economic Informatics
1.5. Cycle studies	Master Studies
1.6. Education type	Full-time
1.7. Study program	IT&C Security
1.8. Language study	
1.9. Academic year	2017-2018

2. Course information

2.1. Name	**Smart Cards & Biometrics**								
2.2. Code	**17.0241IF2.1-0006**								
2.3. Year of studies	**2**	2.4. Semester	**1**	2.5. Assessment type	**Exam**	2.6. Course type	**O**	2.7. Number of ECTS	**4**
2.8. Instructors									

3. Total estimated time

3.1. Number of weeks	14.00		
3.2. Number of hours per week	2.00	of which	
		C(C)	1.00
		S(S)	1.00
3.3. Total hours from curriculum	28.00	of which	
		C(C)	14.00
		S(S)	14.00
3.4. Total hours of study per semester (ECTS*25)	100.00		
3.5. Total hours of individual study	72.00		
Time distribution for individual study			
Study the textbook, course support, bibliography and notes			
Further reading in the library, on the online platforms and field			
Preparing seminars, labs, homework, portfolios and essays			
Tutoring			
Examinations			
Other activities			

4. Prerequisites

4.1. About curriculum	Electronic Signature, Security Standards and Protocols, Computer Networks Security, Secure Applications Programming, Multimedia Security
4.2. About skills	Java and C/C++ Programming.

5. Requirements

C(C)	Course lectures take place in rooms with multimedia teaching equipment.
S(S)	Laboratories are held in rooms that have PCs with Internet access. The development environment used is Microsoft Visual Studio 2010 or 2012, Ubuntu within virtual machines with GCC, Java plus necessary tools.

6. Skills covered

	C1	Using the theories, principles and research methods in order to develop information security solutions in the use of complex IT&C systems.
	C2	Using modern computer technology for risk management in life cycle stages of software systems
	C3	Using modern computer technologies for developing components that ensure maximum IT security
	C4	Scientific research and designing of IT security solutions for the entire range and complexity of software architectures

7. Course objectives

7.1. General objective	Presentation and deployment of biometric and smart cards applications for authentication, banking and services access.
7.2. Specific objectives	Transfer tehnologic pentru: -carduri multi-aplicatie cu contact -carduri multi-aplicatie fara contact -implementare de algoritmi pentru recunoastere vocala -implementare de algoritmi pentru recunoastere faciala -implementare de algoritmi pentru recunoastere de amprenta

8. Course contents

8.1. S(S)		Teaching methods	Advices
1	OpenCV – Face Recognition		
2	Griaule – Finger Print Recognition		
3	Iris & Retina Recognition		
4	Voice Recognition		
5	Java Cards - JCOP		
6	.NET Cards		
7	Calypso Cards		
8	NXP – Mifare & DESFire Cards		

Bibliography

- Jucheng Yang, Biometrics, InTech, 2011
- Davide Maltoni, Dario Maio, Anil K. Jain, Salil Prabhakar, Handbook of Fingerprint Recognition, Handbook of Fingerprint Recognition, 2005
- James L. Wayman (Editor), Anil K. Jain (Editor), Davide Maltoni (Editor), Dario Maio (Editor), , Biometric Systems: Technology, Design and Performance Evaluation, 2004

8.2. C(C)		Teaching methods	Advices
1	OpenCV – Face Recognition		
2	Griaule – Finger Print Recognition		
3	Iris & Retina Recognition		
4	Voice Recognition		
5	Java Cards - JCOP		
6	.NET Cards		
7	Calypso Cards		
8	NXP – Mifare & DESFire Cards		

Bibliography

- Jucheng Yang, Biometrics, InTech, 2011
- Davide Maltoni, Dario Maio, Anil K. Jain, Salil Prabhakar, Handbook of Fingerprint Recognition, Handbook of Fingerprint Recognition, 2005
- James L. Wayman (Editor), Anil K. Jain (Editor), Davide Maltoni (Editor), Dario Maio (Editor), , Biometric Systems: Technology, Design and Performance Evaluation, 2004
- Anil K. Jain , Intelligent Biometric Techniques in Fingerprint and Face Recognition, CRC Press, 1995
- Wolfgang Rankl (Author), Wolfgang Effing (Author), , Smart Card Handbook, 2010

9. Course contents corroboration with the demands of epistemic community representatives, professional associations and representative employers

Taking into account the best practices from IT&C field applied by big companies such as: Intel, Oracle, Microsoft, IBM, HP and professional consortiums such as: Apache, Red Hat, ISO/IEC.

10. Assessment

Activity	Assessment criteria	Assessment methods	Percentage in the final grade
10.1. S(S)		Applied activities, practical or project certificates/laboratory/tests, tests during the module, auditing tests	40.00
10.2. Final assessment		Final examination	60.00
10.3. Grading scale	Whole notes 1-10		
10.4. Minimum performance standard	Knowledge required: develop applications for contact and contactless cards. The point granted by default is included in the weights assigned to the types of assessments.		

Completion date,
07/10/2016

Instructors,

Approval date of department

Director of department,