

Syllabus

1. Program information

1.1. Institution	ACADEMY OF ECONOMIC STUDIES
1.2. Faculty	Economic Cybernetics, Statistics and Informatics
1.3. Departments	(Department) 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	English
1.9. Academic year	2016-2017

2. Course information

2.1. Name	Databases Security								
2.2. Code	16.0241IF1.2-0003								
2.3. Year of studies	1	2.4. Semester	2	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	3.00	of which	
		C(C)	2.00
		S(S)	1.00
3.3. Total hours from curriculum	42.00	of which	
		C(C)	28.00
		S(S)	14.00
3.4. Total hours of study per semester (ECTS*25)	100.00		
3.5. Total hours of individual study	58.00		
<i>Time distribution for individual study</i>			
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	Cryptography Basis, Secure Applications Programming
4.2. About skills	Java 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

7. Course objectives

7.1. General objective	Presentation of mechanisms, technologies and techniques for securing databases. Securely acquiring knowledge through Internet and data mining.
7.2. Specific objectives	Transfer tehnologic pentru: -crearea unui motor minimal de baze de date -crearea bazelor de date -securizarea accesului si continutului bazelor de date -administrarea bazelor de date

8. Course contents

8.1. C(C)		Teaching methods	Advices
1	1. Security requirements in databases;		
2	2. Users, access rights and privileges management;		
3	3. Backup and data recovery methods;		
4	4. Errors tolerant solutions and architectures;		
5	5. Disaster recovery plans;		
6	6. Data mining mechanisms implementation for secure knowledge acquiring.		
7	7. Data Mining for fraud detection		
8	8. JDBC for databases accesses		
9	9. Security in JDBC technology		
10	10. DBA and Security in Oracle/MySQL		
11	11. ETL – Extract, Transform, Load		

Bibliography

- Patriciu V., Bica I., Pietrosanu M, Vaduva C, Voicu N., Securitatea comertului electronic, All, 2001
- Patriciu V., Pietrosanu M., Bica I., Cristea C., Securitatea informatică în UNIX și INTERNET, Tehnica, 1998
- Patriciu V., Criptografia si securitatea retelelor de calculatoare, Tehnica, 1994
- Stalling Willliam, Cryptography and Network Security, Prentice Hall, 1999
- Ion Ivan, Cristian Toma , Informatics Security Handbook - 2nd Edition, ASE Publishing House, 2009
- Oracle Tutorials
- MySQL Tutorials

8.2. S(S)		Teaching methods	Advices
1	1. Security requirements in databases;		
2	2. Users, access rights and privileges management;		
3	3. Backup and data recovery methods;		
4	4. Errors tolerant solutions and architectures;		
5	5. Disaster recovery plans;		
6	6. Data mining mechanisms implementation for secure knowledge acquiring.		
7	7. Data Mining for fraud detection		
8	8. JDBC for databases accesses		
9	9. Security in JDBC technology		
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- Patriciu V., Criptografia si securitatea retelelor de calculatoare, Tehnica, 1994

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: relational database creation and access plus encryption of the content of the database. 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,