Study program: Informatics

Course title: Information System Security

Professor: Srđan V. Atanasijević

Type of course: Compulsory

ECTS credits: 5

Prerequisites: none

Aims of the course:
Students get acquainted with threat sources, methods and techniques for protecting computer networks, including software, technical, cryptographic and organizational methods. Especially Internet/Intranet network environment.

Learning outcomes:
After passing the final exam the student is trained to use techniques to protect computer networks.

Syllabus:
Theoretical part:

1. Methods for protection. Types of protection, methods and approaches to ensuring security. Theoretical concepts and mathematical model of a secured system.
2. Cryptography. The term and development of cryptography. Symmetrical and asymmetrical encryption algorithms, systems with public keys, digital signature, hash functions, protocols for certifying authentification.
3. Access control. Authentification and authorization, access rights, warning and defense against computer network attacks.
4. Organizational and physical methods for protection. Organization of computer networks, choice of software, equipment and devices needed for a system with an increased demand for security. Staff, ethical and legal aspects.
5. The security of distributed systems. Security, integrity and wholeness of data. Internet and Intranet security. Special-Purpose Systems. E-business and security. Case studies. Processing actual/specific cases.

Practical part: Practical computer exercises

Literature:

1. Atansijević Srđan, Bezbednost informacionih sistema – Skripta, VTŠ Kragujevac, 2009
2. Andress Jason. The basics of information security: Understanding the fundamentals of InfoSec in theory and practice, Syngress, 2014.

Total number of active classes: 60	**Lectures: 30**	**Practical classes: 30**

Teaching methods: Lectures and practical computer exercises

Grading system (maximum 100 points)
grading scale from 5 to 10: below 51 points – student fails the exam, grade 6 from 51- 60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91- 100 points

Pre-exam obligations:	**Points:**	**Final exam:**	**Points:**
Activity during theoretical lectures	max 5	Oral exam	50
Practical training	max 5		
Written test(s)	max 10		
Term papers	max 30		
Minimum requirement for the exam	30		