SYLLABUS

SUBJECT: SECURITY OF COMPUTER SYSTEMS

TEACHER: DARIUSZ BOBER, PhD, Eng., PRZEMYSŁAW PARDEL, PhD, Eng.

COURSE DESCRIPTION:
The aim of the course is to familiarise students with the basic problems of information systems security. They will include the risks of information systems in the context of confidentiality, integrity and availability of information security policy development issues system, elements of cryptography, issues of electronic signatures and public key infrastructure, basic models of authentication, access control policies, security, communication protocols and application services. The lectures will address the following issues:

- Basic concepts and definitions related to the protection of information.
- Identification of threats (from what / who protects).
- The scope of protection (specification of sensitive areas).
- Specification of the means (methods of).
- Security of wireless networks.
- Steganography and water security marking work and copyright law.
- Physical risks of information systems and methods to counteract these threats.
- Cryptography, ciphers classic programming codes.
- Asynchronous encryption rules overview, for example, an electronic signature.
- Corporate network security techniques.
- Security techniques workstations. Security of personal data.
- The legal basis governing the rights and obligations of the security of information systems.

LEARNING OUTCOMES:
The ability to determine the computer security strategy, the location of these systems` administrator. The students are expected to have the ability to specify security policies including: protected resources, defined procedures and available technologies and the role of people involved in the procedure.

GRADING POLICY:
Students have to prepare a multimedia presentation on a selected example of technology and its applications.

TIMETABLE:
15 hours of lectures, 30 hours of laboratories. The primary language is Polish, but during the classes there is also a possibility to communicate with the teacher in English. The students of Erasmus Programme can pass the subject in an individual form of classes. They can prepare an original project, which will solve a sensitive issue in the selected areas. The progress on the project should be consulted regularly during the consultation hours, which are presented on the teacher's home page: http://www.univ.rzeszow.pl/ki/dbober1.html

TEXTBOOK AND REQUIRED MATERIALS:

1. W. Stallings, *Network Security Essentials.* Prentice Hall, 2003.
2. Ch. P. Pfleeger, S. L. Pfleeger *Security in Computing, 4th Edition* Prentice Hall, 2006.

3. B. Tjaden *Fundamentals of Secure Computer Systems* Franklin Beedle & Associates 2003.
4. D. Russell & G.T. Gangemi, Sr *Computer Security Basics.*
   http://oreilly.com/catalog/csb/chapter/ch03.html
   http://lifehacker.com/354018/low+hassle-ways-to-secure-your-computer-system

PREREQUISITES:
Operating Systems (in practice).