Introduction to Data Protection and Cyber Security

Course Description

In this course, the students are familiarized with important concepts from the field of IT security. Basic terms are introduced and discussed, and typical application fields, areas of IT security application, and typical procedures and techniques are introduced and described.

Contents

1. Fundamentals of Data Protection and Cyber Security
   1. Conceptual Bases, Protection Goals
   2. Attacks and Threats
   3. Security Strategy
   4. Legal Regulations
2. Data Protection
   1. Data Protection as a Personal Right
   2. Basic Principles of Data Protection
   3. EU General Data Protection Regulation
   4. Further International Regulations on Data Protection
   5. Cross-Border Data Flow
   6. Data Protection in Everyday Life
3. Basic Functions of Cyber Security and Their Implementation
   1. Identification and Authentication
   2. Rights Management
   3. Rights Check
   4. Preservation of Evidence
4. Cyber Security Management
   1. Basic Concepts and Standards in Cyber Security Management
   2. Series of Standards ISO 2700x
5. Cyber Security Management in Everyday Life
   1. Password Management
   2. Data Backup
   3. Email Security
   4. Protection Against Viruses and Other Malware
   5. Protection Against Social Engineering Attacks
6. Network and Communication Security
   1. Firewall Technology
   2. Network Separation
   3. Security in WLAN, Mobile Networks, Bluetooth, and NFC
7. Cyber Security in the Development of Software and Systems

7.1 Protection of the Development Environment

1. Secure Development
2. Common Criteria