IT Security

Information & Network Security

by Bjoern Kimminich

Bjoern Kimminich

- Nordakademie Graduate (I99a)
- IT Architect / AppSec Officer at Kuehne + Nagel
- Lecturer at Nordakademie since 2009
- Volunteer in the Open Web Application Security Project
- Board Member of the German OWASP Chapter
- Project Lead of the OWASP Juice Shop

Contact Information

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Miscellaneous

- https://keybase.io/bkimminich
- https://twitter.com/bkimminich

Course Material

https://github.com/bkimminich/it-security-lecture

Course Material

- All slides and references are in 🇬🇧 language
- The lecture can be held in 🇬🇧 or 🇩🇪 language
- Latest course material is available only on GitHub
- Content exists as `Markdown` files for use with Marp
- Slides can be downloaded as PDF from GitHub
- All slides are published as OER under CC BY-SA 4.0 license

You can help save a 🌳 by not 🖨 all slides for the entire course in advance as content might change during the course!

🎩 Rules

- Physical presence at lectures is mandatory and will be logged
- Exercises are mandatory (unless explicitly marked as *optional*)
- Exercises marked with "📌" might be done in the plenum
- Exercises marked with "📝" must have a (digitally) written result
- Active participation is encouraged. Otherwise at least be quiet
- If you are done with the last exercise of the day, you may leave

Curriculum 1st Semester

1. Motivation
2. Security Goals
3. Malware
4. Network Security
5. Encryption
6. Security Management & Organization
7. Threat Modelling
8. Risk Assessments
9. Penetration Tests & Security Automation

Curriculum 2nd Semester

1. Open Web Application Security Project (OWASP)
2. XSS
3. Injection
4. Authentication Flaws
5. Authorization Flaws
6. Sensitive Data
7. Insecure Dependencies & Configuration
8. XXE & Deserialization
9. Secure Development Lifecycle

Schedule

- **Thursdays, 9:15 - 11:45**
- 9 lectures (18.10. - 20.12.18)
- ❌ Lectures from 25.10. and 29.11.
- ✓ have been moved to 27.11. and 14.12.

Test Exam

- At the end of 2nd semester (90min)
- ⚠️ Covers topics from both semesters

Recommended Resources

- Berkley Information Security and Policy - Best Practices & How-To Articles

Optional Literature Recommendations

- Andress: The Basics of Information Security (2nd Edition), 2014
- Paar/Pelzl: Understanding Cryptography: A Textbook for Students and Practitioners, 2010
  - Introduction to Cryptography by Christof Paar (24 recorded lectures)

Prerequisites @ Angewandte Informatik (B.Sc.)

Information & Network Security	S5	Application Security & SDLC	S6
Diskrete Mathematik 2	S2	Datenbanksysteme	S2+3
Technische Grundlagen der Informatik 2	S3+4	Praxis der Softwareentwicklung	S3+4
Gestaltung von Informationssystemen	S3+4	Softwarequalitaet	S4
IT-Organisation und Projektmanagement	S3+4	Software Engineering	S5+6
Informatik und Gesellschaft	S1	Internet Anwendungsarchitekturen	S5+6