

IT Security

Information & Network Security

by Bjoern Kimminich

Bjoern Kimminich

- [Nordakademie](#) Graduate (199a)
- Product Group Lead Architecture Governance + Application Security 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](#)
- [OWASP Project Committee](#) Chair



Contact Information

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Miscellaneous

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

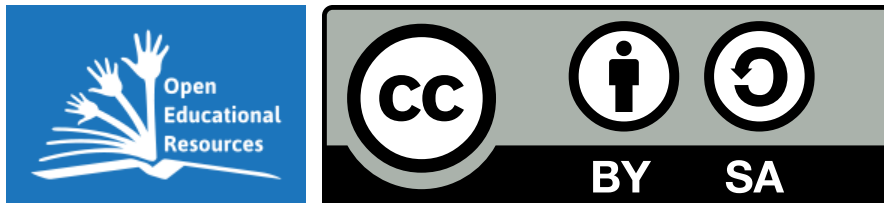
Exercise 0.1 ()

1. Write the industry you work in on a post-it and place it on the board. Cluster identical industries.
2. In the following table self-assess your own **IT security awareness** by ticking one of the columns

 Gold	 Silver	 Bronze	 Wood

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

- Presence at lectures is mandatory and will be logged
- Exercises are mandatory (unless explicitly marked as *optional*)
- Exercises marked with
 - "🤝" are done in small work groups
 - "📌" are usually done as a group using whiteboard, flipcharts or brown-paper or a dedicated [Spitfire](#) virtual whiteboard
 - "📝" have a (digitally) written outcome per student or work group
 - "🏠" are homework and must be completed until the next lecture
- Active participation and questions are encouraged at all times
- If you are done early 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. Presentations of all [Encryption](#) work groups
8. Threat Modeling
9. Penetration Testing

Curriculum 2nd Semester

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

Schedule

- Fridays, 14:30 - 17:15
- 9 lectures (22.10. - 17.12.21)
- 100% online lecture

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
- Shostack: Threat Modeling: Designing for Security, 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