



Secure Software Engineering: Course structure and rules

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MSc Course Secure Software Engineering – Summer Semester 2022



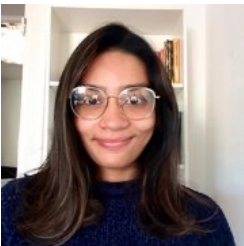
People



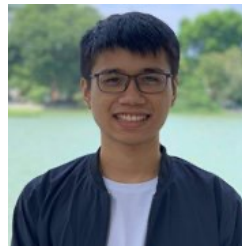
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Lectures and structure

- 01 Intro + Software process
- 02 Introduction to Security **Requirements**
- 03 Goal-Oriented Security **Requirements**

- 04 Secure Software **Design**: Fundamentals
- 05 Secure Software **Design**: Analysis Techniques

- 06 Fundamentals of Security **Risk** Analysis
- 07 Tools and Methods for **Risk** Assessment (**Guest**)



Lectures and structure

- 08 Secure **Infrastructure** and Code Quality
- 09 Fundamentals of **Privacy** Engineering (**Nicolas**)
- 10 **Privacy** as Contextual Integrity (**Nicolas**)
- 11 **Human** Factors in Cybersecurity (Nicolas)
- 12 Risk and Vulnerability Management at **Airbus** (**Guest**)
- 13 Security assurance cases in **Automotive** (**Guest**)
- 14 Wrap-up and exam preparation



Material

Exam is based on slides / lectures / labs

Additional articles mentioned in lecture slides



I do not answer messages on Stud.IP

Always **forward as email** !!!

I must be able to see your full name in the mail !

Say what course
the mail is about !

Write new message

To

User search Add more recipients

Subject

[(IIV Praktikum) Subject]

Message

Normal L...

Attachments Labels Options

Options

- Always forward as e-mail
- Shall the addressees be visible for the recipients?

Submit Cancel



Wiki on Stud.IP

Wiki contains the list of lectures and labs

Lectures available as „preview“ before class

Replaced by official **PPT/PDF after the lecture**
→ study material for the exam



Stud.IP

Files on Stud.IP

- Slides
- Project assignments

Announcements on Stud.IP

- The way we (TAs, Nico, me) communicate with you for management issues



Organization

The labs are organized around 6 knowledge areas:

- **Lab-1:** Security requirements
- **Lab-2:** Secure software design
- **Lab-3:** Risk assessment
- **Lab-4:** Secure infrastructure and code quality
- **Lab-5:** Privacy engineering
- **Lab-6:** Human factors in cybersecurity (*)

All labs have follow-up sessions:

- ✓ We start with the tasks/exercises in session 1.
- ✓ We complete the tasks/exercises in the follow-up session.
- ✓ Except for Lab-6, all labs **start on week N** and **finalize on week N+1**.

Schedule

TWO GROUPS

Week	Name	Date	Time	Location	Material
1	No lab	-	-	-	-
2	No lab	-	-	-	-
3	No lab	-	-	-	-
4	Security Requirements 1&2	Group 1: 26-04-2022 Group 2: 27-04-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
5	Security Requirements 1&2: follow up	Group 1: 03-05-2022 Group 2: 04-05-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
6	Secure Software Design 1&2	Group 1: 10-05-2022 Group 2: 11-05-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
7	Secure Software Design 1&2: follow up	Group 1: 17-05-2022 Group 2: 18-05-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
8	Risk Assessment 1&2	Group 1: 31-05-2022 Group 2: 01-06-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
9	Risk Assessment 1&2: follow up	Group 1: 07-06-2022 Group 2: 08-06-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
10	Secure Infrastructure and Code Quality	Group 1: 14-06-2022 Group 2: 15-06-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
11	Secure Infrastructure and Code Quality: follow up	Group 1: 21-06-2022 Group 2: 22-06-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
12	Privacy Engineering 1&2	Group 1: 28-06-2022 Group 2: 29-06-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
13	Privacy Engineering 1&2: follow up	Group 1: 05-07-2022 Group 2: 06-07-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	
14	Human Factors in Cyber Security	Group 1: 12-07-2022 Group 2: 13-07-2022	Group 1: 09:45 - 11:15 Group 2: 08:00 - 09:30	Group 1: VER/A - 0.13.1/2 Group 2: VER/D - 1.021	

Training material and technical requirements

The exercise sheets of each lab will be available on **Stud.IP**

- Set of tasks
- Supplementary material:
 - Scientific papers.
 - Documentation templates.
 - Docker images.
 - Software for system modeling and analysis (links).
- Case study: **Privacy and security in the “Metaverse”**
 - Goals, requirements, tactics, patterns ...
 - Threat and risk analysis ...
 - Secure design ...

Remember to bring your laptops to the lab! 😊

