

Network and System Defence

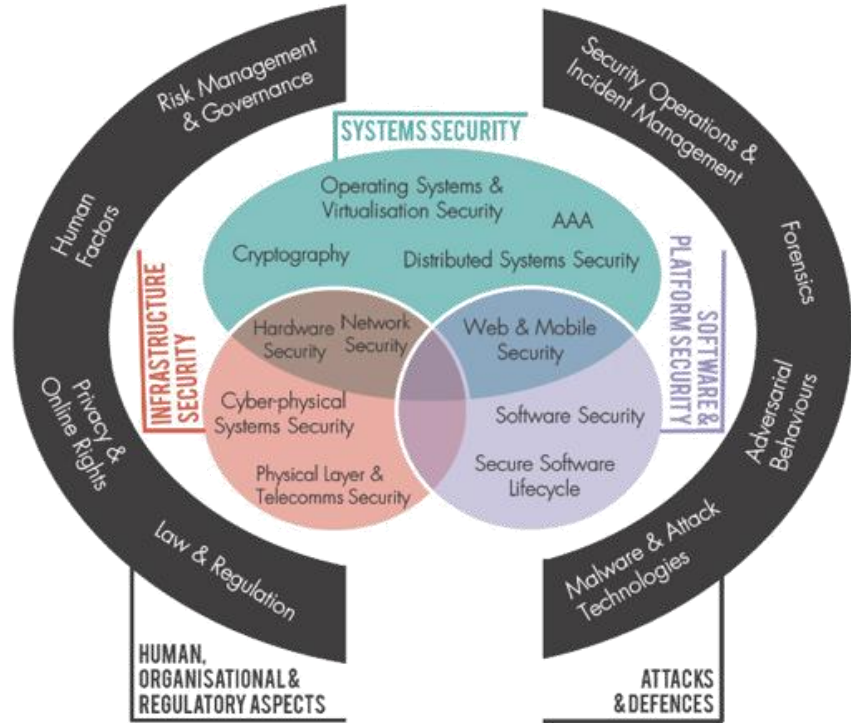
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General Information

- Lecturers:
 - Alessandro Pellegrini
 - Angelo Tulumello
- The teaching material will be uploaded to Teams
- Lectures
 - Monday, 9.30 am @ C4;
 - Tuesday, 4.30 pm @ B14;
 - Wednesday, 4.30 pm @ C4.

Course Objectives

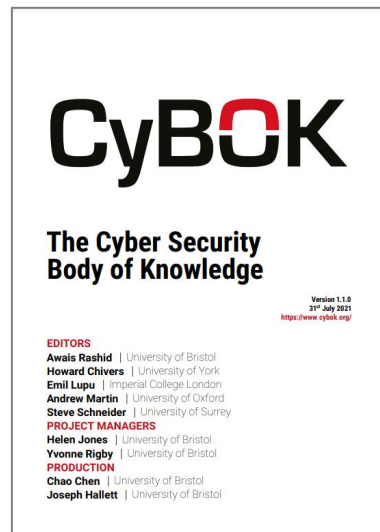
- Getting your hands dirty with attacks at various stack levels
- Understand the general security issues of complex IT systems
- Know the main defence methodologies and techniques
- Get a better understanding of the hardware/software stack of IT systems



Teaching Material

- This course is based on a combination of:

- books
- standards
- papers
- best practices
- Internet pages
- source code
- experience



- We will provide as much material as possible on Teams
- If you need one book:

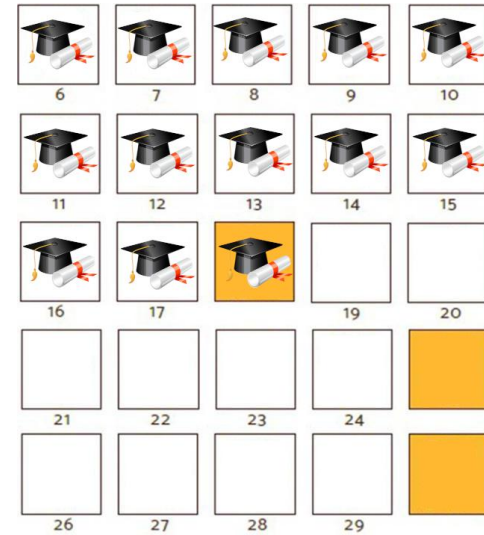
Awais Rashid, Howard Chiversi, Emil Lupu, Andrew Martin, Steve Schneider (eds.)

[CyBOK: The Cyber Security Body of Knowledge, v1.1.0](https://www.cybok.org/)

The National Cyber Security Centre 2021

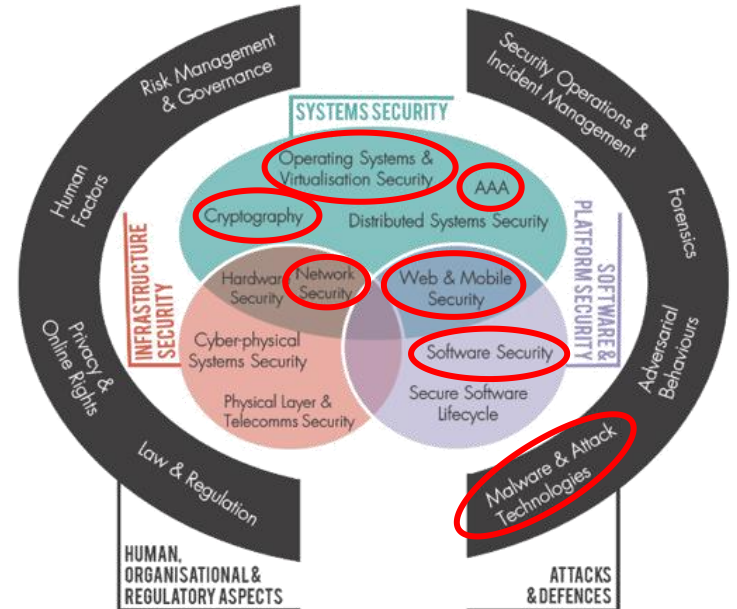
Exam information

- There are two flavours of the exam:
 - 6 CFU
 - 9 CFU
- 6 CFU exam:
 - a written test
- 9 CFU exam:
 - a written test
 - a project (picked by the student from a pool proposed by the lecturers)
- Discussion of the project on the same day of the written test
- Must be handed in one week before
- Both project and written test in the same A.Y.



Course program

- Security frameworks
- Access networks and perimeter security
- Core Networks
- End-to-end security
- Hardware and Operating Systems security
- Virtualisation and Cloud security
- Database Security
- Antivirus Software



Prerequisites

- Some knowledge of IT systems stack
- Hardware knowledge (like a Computer Architecture course)
- Basic operating systems principles
- Network infrastructures
- Programming Languages (C is good, Java is *meh*, Python is bad)
- The class has a very diverse background: if something doesn't fit, ask the teachers!