

IDENTIFICATION

Course code : ESI-SPI-CI-IN4-
UE4-EC1
ECTS : 2

DURATION

Lectures : 4
Tutorial classes : 28
Labs : 0
Total : 32

Project :
Personnal work :

ASSESSMENT

At least two continuous assessments.

TEACHING MATERIALS

Slides, guided and practical work sheets.

LANGUAGE

English

CONTACT

Design a secure architecture for an information system.

Modifié le : 14 juillet 2026

UE : UE7-CYBER

COURSE : Cybersecurity : Secure Architecture and Infrastructure

SCOPE OF THE COURSE

OBJECTIVES

COMPETENCE AND SKILLS

- Propose a secure architecture for an information system (network / systems)
- Select and administer tools for detecting and correlating security incidents
- Write technical documents in French and English

PROGRAM

- Detect the presence of malware in a system (network, computer, or application).
- Use countermeasures based on signatures or behavior detection to combat malware infection mechanisms : antivirus, EDR, IDS/IPS.
- Securing the information system : firewalls and demilitarized zones (DMZ).
- Stateful firewalls : operating principles, address and URL filtering, content filtering.
- Secure remote access : IPsec, SSL VPN.
- CERTs (Computer Emergency Response Teams).
- Implement high availability.
- Tools for monitoring and administering security through event collection, correlation, and remote intervention : SOC (Security Operations Center) and SIEM (Security Information and Event Management).

BIBLIOGRAPHY

Solange Ghernaouti - *Cybersecurity and Networks* - Sciences Sup Collection - Dunod Editions

REQUIREMENTS

Cybersecurity and Systems and Networks courses from previous semesters.