ESIROI
ÉCOLE D'INGÉNIEURS
UNIVERSITÉ DE LA RÉUNION

DEPARTMENT : *IT*
SEMESTER : *S5*

IDENTIFICATION

Course code : SEC502
ECTS : 1

DURATION

Lectures :	0
Tutorial classes :	16
Labs :	0
Total :	16

Project :
Personnal work :

ASSESSMENT

At least two continuous assessments.

TEACHING MATERIALS

Slides, SecNumAcademy MOOC (ANSSI).

LANGUAGE

English

CONTACT

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UE : UE5-CYBER

COURSE : Cybersecurity : Principles, Practices, and Threats

SCOPE OF THE COURSE

OBJECTIVES

Discover the risks faced by individuals and information systems on the Internet, and understand why cybersecurity is a challenging implementation.

COMPETENCE AND SKILLS

- Describe the operating methods of APTs (Advanced Persistent Threats)
- Select cryptographic tools suited to the requirements of a specification
- Use network/system penetration testing tools
- Work with technical documents in English

PROGRAM

- Cybersecurity organization in France : ANSSI (National Cybersecurity Agency of France).
- Security criteria : availability, integrity, confidentiality, and proof.
- Understanding risk, threat, vulnerability, and attack vector concepts (including the fact that perfect security does not exist).
- Cybercriminal actors and their operating methods
- Documenting an example of "countermeasures" for specific simple threats.
- Listing capabilities and tools that enable continuous identification of cybersecurity risks.
- Demonstrating the concept of identity management and its importance.
- Giving meaning to authentication, authorization, and access control concepts.
- Arguing the benefits of multi-factor authentication.

BIBLIOGRAPHY

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

REQUIREMENTS

No theoretical prerequisites for this module ; basic knowledge of computer science and networking.