Information Technology - Cyber Security (CS) Curriculum

Designed and delivered by **CEP-CCIT FTUI** started on new academic year of 2024

Overview

In the development of increasingly sophisticated technology where the internet can be accessed anywhere and anytime, human activity seamlessly integrates the internet. This makes it important to secure data to avoid data being lost or leaked. User credentials and confidential data are exchanged through the internet, which is easy to leak. Security awareness has become a mandatory thing, since every aspect of daily activity is managed or uses information technology by means of computers, laptops, or smartphones. Thus, security measures will play an important role due to the increasing amount of data delivered over the internet. Cyber security refers to the practice of ensuring confidentiality, integrity and availability of information. The three points just now are known as the CIA Triad. This involves understanding the operating system and the Python programming language, as well as analysing and anticipating risks from both internal and external attacks.

Exit Profile of CS Curriculum

After completing all modules, the students should be able to:

- Ensure the implementation of security measures to prevent data damage and leakage.
- Implement a system design that enables security measures.
- Transmit the data using a secure system of hardened devices or computers to minimise cyber attacks.
- Designing and implementing a security measure for such a network

Target Students

This course is designed for students who desire to work as experts in network security by analysing security, incident response, and security controls to prevent data loss or leakage from outside or inside.

Prerequisites

Students should be able to interact in an English and Indonesian classroom environment.

Entry Profile

- Student at least having a high school graduate certificate.
- Student should already comfortable using the any OS smartphone, internet, Microsoft Windows / Linux Operating System PC.
- Knowledge of basic programming as well as basic networking would be an advantage.

Curriculum Contents

Semester 1

Code	Modules	Credits
IIT-24	Introduction to Information Technology	3
IIT/P-24	Introduction to Information Technology Project	1
ADS-24	Algorithm and Data Structure	3
ADS/P-24	Algorithm and Data Structure Project	1
RDD-24	Relational Database Design	2
TAD-24	Tools and Technique for Analyzing Data	3
IDD-24	Implementing Database Design on MySQL	3
IDD/P-24	Implementing Database Design on MySQL Project	1
IST-24	Information Systems Architecture and Technology	2
ISAS-OPS-24	Operating System	2
	Total Credits	**21**

Semester 2

Code		Credits
CNE-CS-24	Computer Network	2
CNE/P-CS-24	Computer Network Project	1
ANOS-CS-24	Administering Network Operating System	3
LSC-CS-24	Linux Server Configuration	3
LSC/P-CS-24	Linux Server Configuration Project	1
ICWS-CS-24	Installing and Configuring Windows Server	3
ICWS/P-CS-24	Installing and Configuring Windows Server Project	1
AWS-CS-24	Administering And Advanced Windows Server	3
AWS/P-CS-24	Administering And Advanced Windows Server Project	1
LCS	Leadership and Communication Skills	2
ISAS-CSR1-24	Cyber Security Review I	2
	Total Credits	**22**

Semester 3

Code	Modules	Credits
OOP-CS-24	Object Oriented Programming	2
OOP/P-CS-24	Object Oriented Programming Project	1
ITS-CS-24	IT Security Introduction	2
ITS/P-24	IT Security Introduction Project	1
ETH-CS-24	Ethical Hacking	2
ITC-CS-24	Introduction to Cybersecurity	2
CSE-CS-24	Cybersecurity Essentials	3
CBO-CS-24	Cyberops	4
CBO/P-s4	Cyber Operations Project	1
ISAS-CSR2-24	Cyber Security Review II	2
	Total Credits	**20**

Semester 4

Code	Modules	Credits
OPN-CS-24	OPNsense Beginner to Professional	3
PNT-CS-24	Penetration Test	3
PNT/P-CS-24	Penetration Test Project	1
WM-24	Writing Methodology	1
PRE-24	Professional Ethics	1
CA-CS-24	Cyber Analyst	3
CA/P-CS-24	Cyber Analyst Project	1
INT-CS-24	Internship	4
FP-CS-24	Final Project	2
ISAS-CRYP-24	Cryptography	1
	Total Credits	**20**
Total Credit in 2 Years		**83**