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**CEP-CCIT**

FAKULTAS TEKNIK

FAKULTAS TEKNIK UNIVERSITAS INDONESIA  
CONTINUING EDUCATION PROGRAM  
CENTER FOR COMPUTING AND INFORMATION TECHNOLOGY

### C. Program Teknologi Informasi *Cyber Security* (TI CS)

#### 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 credential and confidential data are exchanged through the internet which ease to be leaked. Security awareness become a mandatory thing, since every aspect of daily activity are managed or use the information technology by means of computer, laptops, or smartphones. Thus, security measure will playing 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. Starting from understanding the operating system, the Python programming language, analyzing and anticipating risks against attacks from within or outside.

#### Exit Profile of Cyber Security Curriculum

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

- Define how the security measure should be implemented so the data is not damaged and leaked.
- Implement a system design which enable security measures
- Transmit the data on the means of secured system of devices or computers which hardened to minimize cyber attacks
- Designing and Implementing a security measure for such a network





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## Curriculum Contents

### Semester 1

| Modules   | Credits   |
|---|-----------|
| Introduction to Information Technology          | 3         |
| Introduction to Information Technology Project  | 1         |
| Algorithm and Data Structure                    | 3         |
| Algorithm and Data Structure Project            | 1         |
| Relational Database Design                      | 2         |
| Tools and Technique for Analyzing Data*         | 3         |
| Implementing Database Design on MySQL           | 3         |
| Implementing Database Design on MySQL Project   | 1         |
| Information Systems Architecture and Technology | 2         |
| Operating System                                | 2         |
| <b>Total Credits</b>                            | <b>21</b> |

### Semester 2

| Modules   | Credits   |
|---|-----------|
| Computer network                                  | 2         |
| Computer network Project                          | 1         |
| Administering Network Operating System            | 3         |
| Linux Server Configuration                        | 3         |
| Linux Server Configuration Project                | 1         |
| Installing and Configuring Windows Server         | 3         |
| Installing and Configuring Windows Server Project | 1         |
| Administering Windows Server                      | 3         |
| Administering Windows Server Project              | 1         |
| Leadership and Communication Skills               | 2         |
| Cyber Security Review                             | 2         |
| <b>Total Credits</b>                              | <b>22</b> |





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| Semester 3                          |           |
|-------------------------------------|-----------|
| Modules                             | Credits   |
| Object Oriented Programming         | 2         |
| Object Oriented Programming Project | 1         |
| IT Security Introduction            | 2         |
| IT Security Introduction Project    | 1         |
| Ethical Hacking                     | 2         |
| Introduction to Cybersecurity       | 2         |
| Cybersecurity Essentials            | 3         |
| Cyberops                            | 4         |
| Cyber Operations Project            | 1         |
| Cyber Security Review II            | 2         |
| <b>Total Credits</b>                | <b>20</b> |

| Semester 4                        |           |
|-----------------------------------|-----------|
| Modules                           | Credits   |
| Penetration Test                  | 4         |
| Penetration Test Project          | 1         |
| Cyber Analyst                     | 3         |
| Cyber Analyst Project             | 1         |
| OPNsense Beginner to Professional | 3         |
| Writing Methodology               | 1         |
| Internship                        | 4         |
| Final Project                     | 2         |
| Professional Ethics               | 2         |
| Cryptography                      | 1         |
| <b>Total Credits</b>              | <b>21</b> |

