Certificate Course in General ICT

Course Objective

The objective of this course is to provide the student with skills, knowledge and competency in using Microsoft Office applications and tools for improved office productivity. Students will develop a better understanding of computer hardware and software fundamentals, including basic troubleshooting tips. Students will learn how to confidently navigate the Windows environment for file management, concept of digitalisation and image processing software installation. Students will learn the basics for Microsoft Word, Excel and PowerPoint program, and develop an understanding basic concept of information security and internet-based applications.

Target Audience

Nominated Government Officials from North Sumatra.

Eligibility Qualification

Prerequisite: Trainees should be proficient in basic computer knowledge.

Course Outcome

The students will be provided an overview of computer fundamentals, basic operations and uses of computer and internet, PowerPoint presentation using latex, digitalisation and image processing software installation and understand the basic concept of information security and internet-based applications.

Teaching Schema

SI. No.	Modules	Hours
1	Fundamentals of Computer & Operating system	05
2	Ms Office	12
3	Fundamentals of Network and Internet Applications	05
4	Digital Transformation	06
5	Information Security Concept	10
6	Image Processing	10
7	Emerging Technology	12
	Total	**60**

Detailed Course Content

1. **Fundamentals of Computer & Operating system**
- Fundamentals of Computers,
- Uses of Computer, Hardware,
- Accessories, Interfaces and their functions,
- Computer hardware connectivity
- Primary and Secondary storage, Input-output devices,
- Software, types of software,
- Operating Systems, Software used in Academic departments and other area.

2. Ms Office Tools

- Launch Word Processing Software
- Work with the text formatting and editing features, save a document,
- Add Bulleted and numbered lists,

- Add clip art and auto shapes
- Use page formatting (margins, size and orientation, header, footer, page numbers),
- Use keyboard shortcuts
- Launch Spread sheet Software and familiarize with the interface,
- Save a workbook, Explore the Editing and Formatting cell features, Change width/height of rows and columns, Use basic formulae and functions and rename sheets in a workbook, Use Help feature and keyboard shortcuts
- Getting Started with Presentation software,
- Insert a New Slide,
- Change the Title of a Slide,
- Add an Image,
- Add a Textbox, Set up a Master Slide,
- Format the Master Slide,
- Adding the animated images,
- Resize an Image,
- Slide Transitions,
- Using help tools and features

3. Fundamentals of Network and Internet Applications

- Introduction to Networking
- Network Architectures
- Network topology architectures
- Cabling
- OSI Model
- Protocols
- Network Devices
- Overview of Internet, Intranet (WORLD WIDE WEB (WWW))
- Internet based applications

4. Digital Transformation

- Digital Transformation: An Introduction
- The Context of Digital Transformation
- Mastering Digital Transformation
- Challenges Underlying Digital Transformation
- Digitization, Digitalization, And Digital Transformation
- Digital Transformation: The Instrumental Purpose
- Organizational Performance and Technology
- High-Performance Digital Capabilities

5. Information Security Concept

- Introduction
- What is information security?
- What are the Threats?
- Security Threats
- Elements of Information security
- Types of IT Threats
- Types of Attacks
- Security in different aspects
- Basic security measurements
- Internet security threats

6. Basic Concept of Image Processing

- Fundamental components of digital analytics

- CNN- Convolutional Neural Network
- Libraries-numpy, pandas, matplotlib
- Data Visualization-Barchart, Piechart, line Charts

7. Emerging Technology

- Artificial Intelligence
- Internet of Things (IOT)
- Augmented Reality/ Virtual Reality

Case Study