

Semester 1: Fundamentals & Core IT Skills

- **Computer Fundamentals**
 - Basics of computer systems, hardware, and software
 - Operating systems (Windows, Linux)
 - File management and utilities
- **Programming Concepts**
 - Introduction to programming logic
 - Flowcharts, algorithms, pseudocode
 - Basics of C/C++ or Python
- **Office Productivity Tools**
 - MS Word, Excel, PowerPoint
 - Advanced Excel functions for data analysis
 - Google Workspace/Office 365 basics
- **Internet & Web Basics**
 - HTML, CSS fundamentals
 - Introduction to JavaScript
 - Basics of web publishing

Semester 2: Database & Networking

- **Database Management Systems (DBMS)**
 - Introduction to databases
 - SQL queries (SELECT, INSERT, UPDATE, DELETE)
 - Relational database design
 - Practical with MySQL/Oracle
- **Computer Networking**
 - Networking fundamentals (LAN, WAN, MAN)
 - OSI & TCP/IP models
 - IP addressing and subnetting
 - Configuring routers and switches
 - Network troubleshooting
- **Operating Systems Administration**
 - Windows administration (user management, policies)
 - Linux administration (shell commands, permissions)
 - Virtualization basics

Semester 3: Advanced IT Applications

- **Programming & Software Development**
 - Object-Oriented Programming (Java or Python)
 - GUI development basics
 - Introduction to software engineering principles
- **Web Development**
 - Advanced HTML5, CSS3, JavaScript
 - Introduction to PHP or Node.js
 - Building dynamic websites with database connectivity
- **System Analysis & Design**
 - SDLC (Software Development Life Cycle)
 - UML diagrams and modeling
 - Project documentation

Semester 4: Emerging Technologies & Projects

- **Cybersecurity**
 - Security threats and prevention
 - Firewalls, antivirus, encryption basics

- Ethical hacking fundamentals
- **Cloud Computing**
 - Cloud concepts (IaaS, PaaS, SaaS)
 - Introduction to AWS/Azure/Google Cloud
 - Cloud storage and virtualization
- **Data Science & AI Basics**
 - Introduction to data analytics
 - Python libraries (NumPy, Pandas, Matplotlib)
 - Basics of machine learning concepts
- **Final Project & Internship**
 - Real-world IT project (web app, database system, or networking setup)
 - Internship/industry training
 - Viva and presentation

Learning Outcomes

By the end of ADIT, learners will:

- Gain strong knowledge of computer hardware, software, and networking
- Develop programming and web development skills
- Manage databases and perform system administration
- Understand cybersecurity and cloud computing fundamentals
- Apply IT skills in real-world projects and industry settings