

Institute for Advanced Learning and Skill Development



IALSD
INSTITUTE FOR ADVANCED
LEARNING
& SKILL DEVELOPMENT



INSTITUTE PROFILE

About The Institute

At the Institute for Advanced Learning and Skill Development, we are committed to bridging the gap between academic knowledge and industry requirements. Our institute provides high-impact training programs, skill development courses, and hands-on projects designed to enhance employability, entrepreneurial abilities, and real-world problem-solving skills.

With a curriculum aligned to NEP 2020 and the University internship framework, we offer specialized internship programs, skill-based training modules, and research-driven projects across various disciplines.

Our Focus Areas:

- ✓ Hands-on skill development through internships and projects
- ✓ Interdisciplinary learning for real-world applications
- ✓ Employment-oriented training in traditional and emerging fields
- ✓ Expert mentorship and industry collaborations



Vision And Mission

Vision

To be a center of excellence in skill development and professional training, fostering a culture of innovation, research, and interdisciplinary learning. We aim to bridge the gap between academic knowledge and industry requirements, ensuring students become job-ready professionals and future leaders in their respective fields.

Mission

- ✓ To offer skill-based, industry-aligned training that enhances employability and entrepreneurial capabilities.
- ✓ To foster interdisciplinary learning by integrating traditional and modern knowledge systems.
- ✓ To provide hands-on, experiential education through live projects, internships, and case studies.
- ✓ To empower students with emerging and conventional skill sets through structured certification programs.
- ✓ To create a collaborative learning environment that nurtures critical thinking, problem-solving, and leadership skills.

Core Concept

Innovation First

We believe in continuously upgrading our programs with cutting-edge technologies.

Hands-on Learning

Our pedagogy emphasizes doing, building, and solving—beyond just theory

Inclusive Growth

We provide opportunities for learners from all backgrounds.

Industry Collaboration

Programs are built in sync with tech leaders and domain experts.

Student Success

Our focus is on meaningful careers, not just certifications.

Why Choose Us?



Industry-Aligned Curriculum

Courses are co-designed with industry professionals and based on current market trends and job roles.



Hands-on Projects & Labs

Every course includes live simulations, tools, and capstone projects for real-world application.



Experienced Mentors

Learn from experts with years of professional experience in AI, Cybersecurity, Cloud, IoT, and more.



Placement Assistance & Career Support

Get help with resume building, mock interviews, job referrals, and internship opportunities.



Certification & Recognition

Receive government-aligned or industry-certified credentials that boost your employability.



Flexible Learning Modes

Choose from in-person, online, or hybrid formats to fit your schedule and learning preference.



Project-Based
Learning



Case Study
Discussions



**Learning
Methodology**



Live Tool
Demos

Soft Skills &
Interview Prep
Modules



- Final-year students & fresh graduates looking for job-ready skills.
- Working professionals seeking career upgrades.
- Entrepreneurs and freelancers building tech-driven businesses.
- Enthusiasts passionate about AI, cybersecurity, data, and innovation.

**Who Should
Join?**

Industries In Focus



Startups &
Innovation
Labs



IT & Software
Services



FinTech &
Banking



Telecom &
Smart Cities



eCommerce &
Retail



Healthcare &
Biotech



Manufacturing
& Automation



Government &
Defense

Our Short Certificate Courses

Data Science

Course Overview: Learn how to extract valuable insights from structured and unstructured data using Python, statistics, and visualization tools.

Duration: 60 Hrs

Learning Modules:

1. Introduction to Data Science
2. Statistics & Data Analytics Fundamentals
3. Python for Data Analysis
4. Data Visualization with Matplotlib/Seaborn/Power BI
5. Machine Learning Basics
6. Working on Datasets & Mini Projects
7. Capstone Project: Predictive Analytics Use Case

Generative AI

Course Overview: Master cutting-edge Gen AI tools like ChatGPT, DALL-E, and Stable Diffusion to generate content, images, and code.

Duration: 60 Hrs

Modules:

1. Introduction to Generative AI & Models
2. Prompt Engineering Techniques
3. Text Generation with LLMs (OpenAI, Hugging Face)
4. Image Generation (DALL-E, Midjourney, SD)
5. Code & Automation with Gen AI
6. Ethics, Bias & Responsible AI
7. Capstone: AI-based Content Generator Tool

Our Short Certificate Courses

Natural Language Processing (NLP)

Course Overview: Learn how machines understand human language using NLP libraries like spaCy, NLTK, and transformers.

Duration: 60 Hrs

Modules:

- 1.Text Preprocessing & Tokenization
- 2.POS Tagging, NER & Lemmatization
- 3.Sentiment & Topic Analysis
- 4.Text Classification with ML Models
- 5.Chatbot Development
- 6.Transformers & BERT
- 7.Capstone: NLP Pipeline for Real Use Case

Advanced Excel

Course Overview: Enhance your data handling and business analysis skills using formulas, dashboards, and automation in Excel.

Duration: 60 Hrs

Modules:

- 1.Excel Essentials Refresher
- 2.Advanced Functions & Formulas
- 3.Pivot Tables & Charts
- 4.Excel Dashboards
- 5.Data Analysis & What-If Tools
- 6.Macros & VBA Introduction
- 7.Capstone: Business Data Dashboard

Our Short Certificate Courses

Full-stack Development

Course Overview: Build dynamic web applications using MERN (MongoDB, Express, React, Node.js) stack.

Duration: 60 Hrs

Modules:

- 1.HTML, CSS, JavaScript
- 2.React.js Frontend
- 3.Backend with Node.js & Express
- 4.MongoDB Integration
- 5.REST API Development
- 6.Authentication & Deployment
- 7.Capstone: Fullstack Web App

Django

Course Overview: Build robust, scalable web applications using Django, Python's high-level web framework.

Duration: 60 Hrs

Modules:

- 1.Django Basics & MVC Architecture
- 2.Models, Views, and Templates
- 3.Form Handling & CRUD Operations
- 4.Admin Panel Customization
- 5.User Authentication & Session Management
- 6.Django REST API Development
- 7.Capstone: Web App with RESTful Backend

Our Short Certificate Courses

Node.js with MongoDB

Course Overview: This hands-on course trains learners in building efficient server-side applications using Node.js and MongoDB. Learn to create RESTful APIs, handle asynchronous operations, and manage NoSQL databases in real-world projects.

Duration: 60 Hrs

Modules:

1. Core concepts of Node.js and Express.js
2. RESTful API design and middleware
3. Working with MongoDB and Mongoose
4. Authentication using JWT
5. Deployment to cloud platforms (Heroku/Vercel)

Angular

Course Overview: Learn to develop robust, component-based web apps using Angular, focusing on routing, forms, API integration, and responsive UI techniques.

Duration: 60 Hrs

Modules:

1. Angular CLI & architecture
2. Components, directives, and data binding
3. Routing, services, and dependency injection
4. Reactive forms and validations
5. API integration and Angular Material

Our Short Certificate Courses

React.js

Course Overview: Gain in-depth skills in React.js and modern frontend development. Learn state management, component lifecycles, hooks, and single-page application architecture.

Duration: 60 Hrs

Modules:

1. JSX syntax and component-based architecture
2. React hooks (useState, useEffect, etc.)
3. Props, state, and context API
4. Routing with React Router
5. Integration with APIs and Firebase

MERN Stack

Course Overview: This intensive MERN Stack course trains learners to build modern, dynamic, and fully functional web applications using the complete JavaScript tech stack. From front-end UI to backend services and database integration — you'll learn to develop, test, and deploy apps like a professional fullstack developer.

Duration: 60 Hrs

Modules:

1. Introduction to MERN & Project Setup
2. Frontend with React.js
3. Backend with Node.js & Express
4. MongoDB with Mongoose
5. Fullstack Integration
6. Authentication & Deployment

Our Short Certificate Courses

DevOps

Course Overview: Implement CI/CD pipelines and automate infrastructure using Docker, Jenkins, Git, and Kubernetes.

Duration: 60 Hrs

Modules:

- 1.Introduction to DevOps & SDLC
- 2.Version Control with Git & GitHub
- 3.CI/CD with Jenkins & GitHub Actions
- 4.Containerization with Docker
- 5.Orchestration with Kubernetes
- 6.Monitoring Tools (Prometheus/Grafana)
- 7.Capstone: Build a CI/CD Pipeline

Web Development

Course Overview: Learn full-stack basics from front-end design to backend logic using modern web tools and frameworks.

Duration: 60 Hrs

Modules:

- 1.HTML5, CSS3 & Responsive Design
- 2.JavaScript & DOM Manipulation
- 3.Frontend Frameworks: Bootstrap/React Basics
- 4.Backend with Node.js or PHP
- 5.Database Connectivity with MySQL or MongoDB
- 6.Hosting & Deployment
- 7.Capstone: Build a Complete Web App

Our Short Certificate Courses

Cloud Computing

Course Overview: Master the fundamentals of cloud infrastructure with practical skills in AWS, Azure, and Google Cloud operations.

Duration: 60 Hrs

Modules:

1. Introduction to Cloud Computing & Deployment Models
2. Compute & Storage Services (EC2, S3, Azure VM)
3. Networking & Identity Management (IAM, VPC)
4. Cloud Monitoring & Security Tools
5. Hybrid & Multi-Cloud Concepts
6. Real-Life Scenarios in Hosting, Backup & Deployment
7. Capstone Project: Deploying a Cloud-Based App

Blockchain & Cryptocurrency

Course Overview: Understand the technology powering Bitcoin, Ethereum, smart contracts, and decentralized apps (dApps).

Duration: 60 Hrs

Modules:

1. Blockchain Fundamentals
2. Cryptography & Distributed Ledgers
3. Smart Contracts with Ethereum (Solidity)
4. Cryptocurrency Mining, Wallets & Transactions
5. Blockchain Platforms: Ethereum, Hyperledger
6. Legal, Ethical & Regulatory Aspects
7. Capstone: Build a Basic dApp or Crypto Wallet

Our Short Certificate Courses

Cyber Security

Course Overview: Gain foundational knowledge of cyber threats, defense mechanisms, and security frameworks for protecting digital infrastructure.

Duration: 60 Hrs

Modules:

- 1.Introduction to Cyber Security
- 2.Network Security & Firewalls
- 3.Threats, Attacks & Vulnerabilities
- 4.Tools: Wireshark, Nmap, Nessus
- 5.Cyber Laws & Compliance
- 6.Hands-on: Simulated Attacks & Security Labs
- 7.Capstone: Security Strategy for an Organization

5G & Security

Course Overview: Understand 5G architecture and secure communication channels for next-generation telecom networks.

Duration: 60 Hrs

Modules:

- 1.Introduction to 5G Technologies
- 2.Network Slicing, MEC & URLLC
- 3.IoT & 5G Synergy
- 4.5G Security Threats & Protocols
- 5.Encryption & Key Management
- 6.Security Use Cases in 5G
- 7.Capstone: Design a Secure 5G Application

Our Short Certificate Courses

Internet of Things (IoT)

Course Overview: Explore the world of connected devices and smart systems by building IoT solutions using sensors, controllers, and cloud platforms.

Duration: 60 Hrs

Modules:

1. Basics of IoT & Ecosystem
2. Hardware Overview: Arduino/Raspberry Pi
3. Sensors, Actuators & Microcontroller Programming
4. IoT Communication Protocols (MQTT, HTTP)
5. Cloud Integration & Dashboarding
6. IoT Applications in Smart Home/City/Health
7. Capstone Project: Build an IoT Solution

Digital Twin

Course Overview: Learn to build digital replicas of physical systems and simulate real-time data using IoT, AI, and simulation tools.

Duration: 60 Hrs

Modules:

1. Introduction to Digital Twin Concepts
2. Data Modeling & System Replication
3. Sensor Integration & Real-Time Simulation
4. Visualization Dashboards
5. Tools: MATLAB, Simulink, Azure Digital Twins
6. Industry Use Cases (Manufacturing, Energy, Health)
7. Capstone: Build a Digital Twin Model

Our Short Certificate Courses

Robotics & Process Automation (RPA)

Course Overview: Automate repetitive business tasks using RPA tools like UiPath and Power Automate for digital workforce efficiency.

Duration: 60 Hrs

Modules:

- 1.RPA Concepts & Business Use Cases
- 2.UiPath Interface & Recorder
- 3.Variables, Loops & Conditions
- 4.Automation of Web/Desktop Apps
- 5.Power Automate & Integration
- 6.Workflow Orchestration & Deployment
- 7.Capstone: Automate a Business Process

Robotics & Automation

Course Overview: Learn the fundamentals of robotics and industrial automation with hands-on exposure to microcontrollers, sensors, and robotic programming.

Duration: 60 Hrs

Modules:

- 1.Introduction to Robotics
- 2.Electronics & Sensors Basics
- 3.Arduino & Raspberry Pi Projects
- 4.Motor Controls & Servo Mechanisms
- 5.Robot Operating System (ROS) Basics
- 6.Automation Tools: PLC, SCADA Overview
- 7.Capstone: Build a Line-Follower or Pick & Place Bot

Our Short Certificate Courses

Quantum Computing

Course Overview: Explore quantum principles and their application in computing using IBM Qiskit and simulators.

Duration: 60 Hrs

Modules:

1. Quantum Mechanics for Computing
2. Qubits, Gates & Circuits
3. Quantum Algorithms (Grover, Shor)
4. IBM Qiskit Programming
5. Quantum Cryptography Basics
6. Challenges & Real-World Use Cases
7. Capstone: Quantum Program Simulation

ChatGPT for Productivity

Course Overview: Master ChatGPT for automating tasks, writing, coding, customer support, and business intelligence.

Duration: 60 Hrs

Modules:

1. Intro to ChatGPT & AI Prompting
2. ChatGPT for Content Creation
3. ChatGPT in Education & Research
4. Code Generation & Debugging
5. ChatGPT for Business & Marketing
6. Custom GPTs & Plugins
7. Capstone: AI Automation Toolkit with ChatGPT

Our Short Certificate Courses

3D Printing

Course Overview: Learn the fundamentals of 3D modeling and the entire 3D printing workflow from concept to physical object.

Duration: 60 Hrs

Modules:

- 1.Introduction to Additive Manufacturing
- 2.Basics of 3D Design Tools (Tinkercad/Fusion 360)
- 3.Understanding STL, OBJ, and Slicing Formats
- 4.3D Printer Operation & Troubleshooting
- 5.Material Selection & Properties
- 6.Industry Use Cases (Automotive, Healthcare, etc.)
- 7.Capstone Project: Model to Print Workflow

CATIA

Course Overview: Gain proficiency in 3D CAD design using CATIA software to model parts, assemblies, and technical drawings.

Duration: 60 Hrs

Modules:

- 1.Introduction to CATIA Interface & Workspace
- 2.Sketcher & Part Design Workbench
- 3.Assembly Design & Constraints
- 4.Surface & Sheet Metal Design
- 5.Drafting & Drawing Documentation
- 6.Manufacturing Simulation Basics
- 7.Capstone: Industrial Design Challenge

Our Short Certificate Courses

AutoCAD

Course Overview: Master 2D drafting and 3D modeling using AutoCAD for engineering and architectural design.

Duration: 60 Hrs

Modules:

1. AutoCAD Interface & Basic Tools
2. 2D Drawing Techniques
3. Layers, Blocks & Annotations
4. Dimensioning & Plotting
5. Isometric & 3D Modeling Basics
6. Industry-specific Applications (Mechanical/Civil)
7. Capstone: Drafting Project

Sustainable Growth

Course Overview: Understand environmental, social, and economic pillars of sustainability through case studies and innovation.

Duration: 60 Hrs

Modules:

1. SDGs & ESG Framework
2. Green Technologies & Renewable Energy
3. Circular Economy & Waste Management
4. CSR and Impact Projects
5. Sustainable Design Thinking
6. Policy & Regulatory Landscape
7. Capstone: Build a Sustainability Roadmap

Our Short Certificate Courses

General IT Course

Course Overview: An all-rounder IT course covering computing fundamentals, productivity tools, and basic programming.

Duration: 60 Hrs

Modules:

- 1.Computer Basics & OS (Windows/Linux)
- 2.MS Office Suite (Word, Excel, PPT)
- 3.Internet, Email & Online Safety
- 4.Introduction to Programming (Python/C++)
- 5.Cloud & Web Fundamentals
- 6.IT Support Basics & Troubleshooting
- 7.Capstone: Mini Project with Office/Code Tools

Networking

Course Overview: Understand computer networking concepts, configuration, and troubleshooting in real-world environments.

Duration: 60 Hrs

Modules:

- 1.Networking Basics & OSI Model
- 2.IP Addressing & Subnetting
- 3.Switching & Routing Concepts
- 4.DHCP, DNS, NAT & VLANs
- 5.Wi-Fi & Network Security Basics
- 6.Tools: Cisco Packet Tracer/Wireshark
- 7.Capstone: Network Setup & Testing



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