Academy of Skill Development

ISO 9001:2015

UDYAM REGISTRATION

MSME

MICRO, SMALL & MEDIUM ENTERPRISES

सूक्ष्म, लघु एवं मध्यम उद्यम

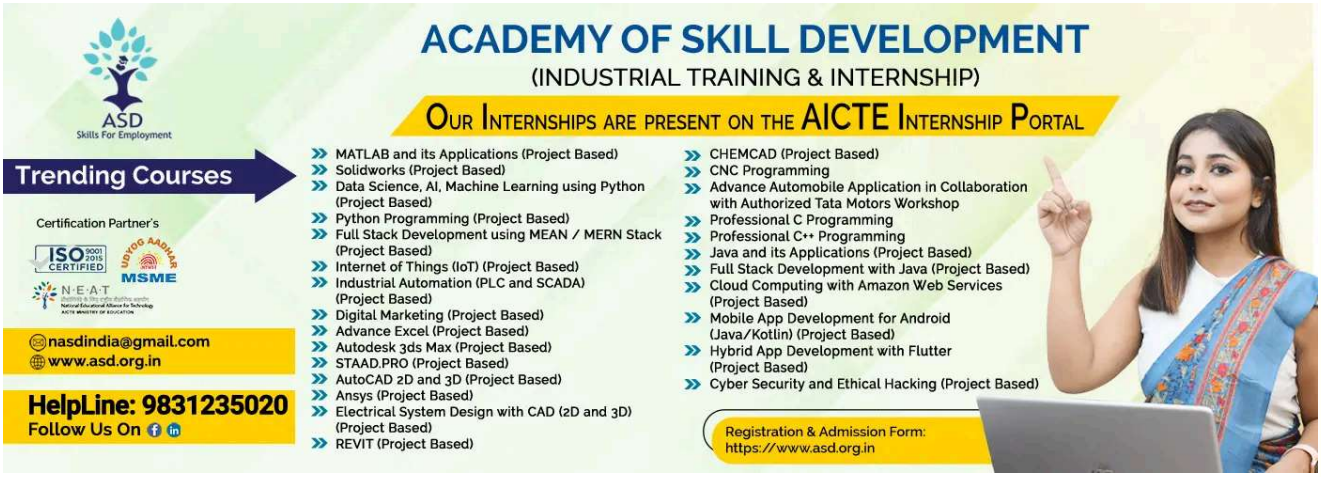
N·E·A·T

प्रौद्योगिकी के लिए राष्ट्रीय शैक्षणिक सहयोग

National Educational Alliance for Technology

AICTE MINISTRY OF EDUCATION

INTERNSHIP BROCHURE - 2024



ASD
Skills For Employment

Academy of Skill Development

[ISO 9001:2015, MSME, GOVT. REGISTERED, AND A NON-PROFIT TRUST REGISTERED WITH GOVT. OF WB U/S 60 AND RULE 69, REG. NO. -190307248]

INDUSTRIAL TRAINING AND INTERNSHIPS

Develop SKILLS for the Industry

- Do you want to upgrade and upskill to the latest Industrial tools?
- Do you want your resume to look more attractive?
- Do you want to put an ASD Certified badge in your resume?
- Do you want to work on Industry projects?
- Do you want to be more employable?

ASD Internship is the platform to enhance your skills

Highlights of the Internships:

- LIVE PROJECTS
- AGILE APPROACH
- SUBJECT EXPERTS FROM INDUSTRY
- INTERACTION WITH PEOPLE FROM INDUSTRY
- ACCOMMODATIVE SCHEDULE
- LIVE ONLINE INTERNSHIP
- LIVE SESSIONS
- CLASS RECORDINGS SHARED AFTER EACH SESSION

Certification:

All **INTERNS** will Earn **Six Certificates after Completion. ASD Certificates are Accepted by all Universities and Corporate:**

Internship Confirmation Letter

Internship Certificate

Industrial Training Certificate

Internship and Project Letter

Attendance Certificate

Completion Certificate

"Industrial Training and Internships 2024"

Open for students of all departments

(CSE, ECE, IT, ME, CE, EE, EEE, EIE, BT, AEIE, ChE, BME, BCA, MCA, MSc, BSc, Diploma, etc.)

Limited Seats – First Come First Serve

MODULES TO BOOST YOUR PROFILE

INTERNSHIP DOMAINS

(Click on the links below to view the contents)

1. MATLAB AND ITS APPLICATIONS (PROJECT BASED)
2. AUTOCAD 2D AND 3D (PROJECT BASED)
3. SOLIDWORKS (PROJECT BASED)
4. ANSYS (PROJECT BASED)
5. DATA SCIENCE, AI, MACHINE LEARNING USING Python (PROJECT BASED)
6. FULL STACK DEVELOPMENT USING MEAN STACK (PROJECT BASED)
7. FULL STACK DEVELOPMENT USING MERN STACK (PROJECT BASED)
8. INTERNET OF THINGS (IOT) (PROJECT BASED)
9. INDUSTRIAL AUTOMATION USING PLC AND SCADA (PROJECT BASED)
10. DIGITAL MARKETING (PROJECT BASED)
11. ADVANCE EXCEL(PROJECT BASED)
12. STAAD.PRO (PROJECT BASED)
13. CHEMCAD (PROJECT BASED)
14. 3DS MAX (PROJECT BASED)
15. ELECTRICAL SYSTEM DESIGN WITH CAD (2D AND 3D) (PROJECT BASED)
16. PROFESSIONAL JAVA AND ITS APPLICATIONS (PROJECT BASED)
17. Python PROGRAMMING AND ITS APPLICATIONS (PROJECT BASED)
18. PROFESSIONAL C++ (PROJECT BASED)
19. PROFESSIONAL C (PROJECT BASED)
20. CNC PROGRAMMING (PROJECT BASED)
21. ADVANCE AUTOMOBILE APPLICATION IN COLLABORATION WITH AUTHORIZED TATA MOTORS WORKSHOP (PROJECT BASED)
22. FULL STACK DEVELOPMENT WITH JAVA (PROJECT BASED)
23. CLOUD COMPUTING WITH AMAZON WEB SERVICES (PROJECT BASED)
24. REVIT (PROJECT BASED)
25. CYBER SECURITY AND ETHICAL HACKING (PROJECT BASED)
26. MOBILE APP DEVELOPMENT WITH FLUTTER (PROJECT BASED)

ASD Skills For Employment

ACADEMY OF SKILL DEVELOPMENT

UDYOG AADHAR MSME | ISO 9001 2015 CERTIFIED | Microsoft Technology Associate | Microsoft Office Specialist | AUTODESK. Certified User | CERTIFIED ASSOCIATE | Hewlett Packard Enterprise

CERTIFICATION

All Interns will receive 6 certificates (Click on the links below to view the sample certificate):

1. **INTERNSHIP CONFIRMATION LETTER**
2. **INDUSTRIAL INTERNSHIP CERTIFICATE**
3. **INDUSTRIAL TRAINING CERTIFICATE**
4. **INTERNSHIP AND PROJECT LETTER**
5. **ATTENDANCE CERTIFICATE**
6. **COMPLETION CERTIFICATE**

MATLAB AND ITS APPLICATIONS (PROJECT BASED)		
No	**Topics**	**Description**
1	**Introduction to MATLAB**	Introduction MATLAB application MATLAB scope MATLAB software details, packages MATLAB basics
2	**Matrix**	Matrix creation and operations
3	**Equation solving**	Algebraic Equation writing Algebraic Equation solve Calculus operation
4	**MATLAB graph-1**	Different types of 2d graph plotting technique
5	**MATLAB graph-2**	Different types of 3d graph plotting technique
6	**MATLAB and data**	Accessing excel, notepad, image
7	**MATLAB image processing**	Image processing basics
8	**MATLAB conditional statement**	If else switch case
9	**MATLAB loop**	For, while
10	**MATLAB static GUI**	MATLAB static GUI
11	**MATLAB Dynamic GUI**	MATLAB Dynamic GUI
12	**MATLAB Simulink**	MATLAB Simulink
13	**Project**	Project discussion

AUTOCAD 2D AND 3D (PROJECT BASED)	
No	**Topics**
1	**Introduction of Auto CAD** 1.1 Introduction, Advantage and applications
2	**Co-ordinate system** 1.1 Types of Co-ordinate system 1.2 Use of Mouse button
3	**Draw Instructions** 1.1 Line 1.2 Circle 1.3 Polygon 1.4 Arc 1.5 Ellipse 1.6 Polyline
4	**Modify** 1.1 Copy 1.2 Move 1.3 Mirror 1.4 Array 1.5 Offset 1.6 Trim 1.7 Chamfer 1.8 Fillet 1.9 Break 1.10 Rotate
5	**Introduction of 3D** 1.1 Introduction to 3D 1.2 Isometric View
6	**Surface drawing** 1.1 Edge Surface 1.2 Tab Surface 1.3 Rule Surface 1.4 Revolve Surface
7	**Solid drawing** 1.1 Extrude 1.3 Wedge 1.3 Cone 1.4 Pyramid 1.5 Torus 1.6 Cylinder 1.7 Press Pull
8	**Modify** 1.1 3D Mirror 1.2 3D Rotate 1.3 3D Move 1.4 3D Array

9	1.1 Render and light effect 1.2 Apply material color
10	Project work and documentation

SOLIDWORKS (PROJECT BASED)	
No	**Topics**
1	INTRODUCTION INTRODUCTION OF SOLIDWORKS APPLICATION AND ADVANTAGE
2	PART DESIGN Concept of plane Convert entities LINE RECTANGLE CIRCLE SPLINE TRIM ARRAY MIRROR
3	SOLID DESIGN EXTRUDE (Assignments) REVOLVE (Assignments) EXTRUDE CUT (Assignments) REVOLVE CUT (Assignments) SWEEP (Assignments) SWEEP CUT (Assignments) SHELL (Assignments) DIFFERENT TYPES OF GEAR DESIGN SPARK GEAR (Assignments) BEVEL GEAR (Assignments)
4	ASSEMBLE DESIGN FUNCTION OF MATE MECHANICAL MATE SCREW (Assignments) GEAR (Assignments) EXPLODED VIEW ANY 3D OBJECT (Assignments)
5	DRAWING DRAFTING OF 3D DESIGN DRAFTING OF PAGE SETUP DIFFERENT TYPE OF VIEW
6	Project work and documentation

ANSYS (PROJECT BASED)	
No	**Module**
1	Introduction for ANSYS Advantage of ANSYS Application of ANSYS
2	Static structural analysis and its applications Different type of Beam analysis Different type of spring (Helical and Leaf spring)
3	Steady state thermal analysis and its applications Heat sink analysis Piston analysis
4	Explicit Dynamics analysis and its applications Base on velocity Base on gravity
5	Fluid flow (CFX) and its applications Internal water flow analysis of a pipe External air flow analysis (cross section area of an object) Heat transfer through a pipe
6	Fluid flow (fluent) and its applications Internal water flow analysis of a pipe (cross section area) External water flow analysis of any object (cross section area) External air flow analysis of a car body Airfoil analysis of cross section area of an object (cross section area)
7	Project work and documentation

DATA SCIENCE, AI, MACHINE LEARNING USING Python (PROJECT BASED)

Description

This Data Science, Artificial Intelligence, and Machine Learning using Python course dives into the basics of machine learning using an approachable, and well-known, programming language. The learner will learn about Supervised vs. Unsupervised Learning, look into how Statistical Modeling relates to Machine Learning, and do a comparison of each.

Expectations and Goals

This course helps participants understand what data scientists do, the problems they solve, and the tools and techniques they use. Through in-class simulations, participants apply data science methods to real-world challenges in different industries and, ultimately, prepare for data scientist roles in the field.

Prerequisites

This course is suitable for students, developers, data analysts, and statisticians with basic knowledge of computer science and Python programming.

Course Schedule

DATA SCIENCE, AI, MACHINE LEARNING USING Python (PROJECT BASED)	
Module	**Topic**
Module 1	Introduction to Python & Data Science Python for Data Science Data Visualization in Python Data Analysis Using SQL (Optional) Data Analysis in Excel (Optional) Analytics Problem Solving (Optional) Math for Machine Learning
Module 2	NumPy Basics: Arrays and Multidimensional NumPy Attributes and Functions Creating Arrays from Existing Data Creating Array from Ranges Indexing and Slicing in NumPy Advanced Slicing in NumPy Nditer Function and Broadcasting Array Manipulation Functions NumPy Trigonometric Functions NumPy Arithmetic Functions NumPy Power and Reciprocal Functions NumPy Power and Mod Functions Numpy Multidimensional Matrix

Module 3	Getting Started with pandas Getting Started with Pandas Dataset Description (Loan Prediction, Big Mart Sales) Read & Write Data using Pandas Reading Excel & CSV files Pandas Dataframes What are Pandas Dataframes & its operations? DataFrames and basic operations Data Exploration using Pandas Basic Descriptive Statistics using Pandas Data Manipulation using Pandas Handling Missing Values Aggregating data using Pandas
Module 4	Data Collection and Data Extraction Generate data frame from database Extract data from JSON Extract data from different formatted data and different formatted file Working with AWS cloud data Use of Data Lakes in AWS cloud
Module 5	Understanding Data Visualization Matplotlib library Bar Charts Line Charts Scatter Plots Exploring Two dimensional data Exploring many dimensions Bubble charts representation Visualizing the content of a 2D array Adding a colormap legend to the figure Visualizing contour lines Plotting log charts for research Generating a PNG picture Generating PDF documents

Module 6	Regression Scikit-Learn EDA Correlation Analysis and Feature Selection Linear Regression with Scikit-Learn Five Steps Machine Learning Process Robust Regression Evaluate Regression Model Performance Multiple Regression Regularized Regression Polynomial Regression Dealing with Non-linear Relationships Feature Importance Data Preprocessing Variance-Bias Tradeoff Learning Curve Cross Validation CV Illustration
Module 7	Classification Logistic Regression Introduction to Classification K-Nearest Neighbor Understanding MNIST SGD Performance Measure and Stratified k-Fold Confusion Matrix Precision Recall F1 Precision Recall Tradeoff Altering the Precision Recall Tradeoff ROC
Module 8	Support Vector Machine (SVM) Concepts Linear SVM Classification Polynomial Kernel Radial Basis Function Support Vector Regression
Module 9	Tree Introduction to Decision Tree Training and Visualizing Visualizing Boundary Tree Regression, Regularization and Overfitting Gini Impurity or Entropy?

Module 10	Ensemble Learning Methods Introduction Bagging Random Forests and Extra-Trees AdaBoost Gradient Boosting Machine XGBoost Installation XGBoost
Module 11	Dimensionality Reduction Concept PCA Introduction Kernel PCA Kernel PCA Demo LDA vs PCA
Module 12	Unsupervised Learning Techniques Clustering K-Means Limits of K-Means Using Clustering for Image Segmentation Using Clustering for Preprocessing Using Clustering for Semi-Supervised Learning DBSCAN
Module 13	Natural Language Processing (NLP) Lexical Processing Syntactic Processing Syntactic Processing - Assignment Semantic Processing Case Study: Sentiment Analysis Market Basket Analysis
Module 14	Introduction of Python Web What is Flask? Example of Python web application Implementation of ML model in web app
Module 15	Project work and documentation

FULL STACK DEVELOPMENT USING MEAN STACK (PROJECT BASED)	
No	**Topics**
1	Introduction to NODEJS Application Introduction to NODE.JS Asynchronous JavaScript Concept The importance of being asynchronous Introduction to setting up a Node.js Environment Run your first NODE.JS Application The Node.js process Working in REPL Node JS Console
2	File System& File Streaming Working with built-in module Concept of File System Module Reading Directories Reading Files Working with Streams Readable stream & Writable stream
3	Building servers Creating servers with HTTP Receiving data Handling GET, POST, PUT and DELETE requests Sending requests
4	Introduction to ExpressJS Introduction to using the Express framework to set up a web server Routes, rendering, layouts, url building, express servers Configuration Views Middlewares
5	Installation of Mongo Database Store data with Mongoose and Mongodb Mongo Db connection with ExpressJs framework Sample CRUD (Create,Read,Update,Delete) operation in express
6	Introduction to Angular Angular 8 v/s 7 v/s 6 v/s AngularJS Setup of NodeJS and Angular NodeJS Introduction (NPM) Angular CLI Difference between TypeScript and JavaScript How does Angular get started? First Angular App
7	Components Overview Introduction to Components Creating components Role of AppModule & Component Declaration

	Working with Component templates Working with Component Styles Understanding Component Selector
8	Data binding and Event Binding, Directives Introduction to Modules & Data binding What is Interpolation Property & Event binding
9	Attribute Binding Class Binding Style Binding Two Way Data Binding Binding to Custom Properties Splitting Apps into Components Property & Event binding overview What is ngIf,ngFor,ngSwitch?
10	Services & Dependency Injection, Routing Concept Introduction to Dependency Injection Why do we need Services? What is Routing? Why do we need a Router? Setting up and Loading Routes Navigating with Router Links Understanding Navigation Paths Styling Active Router Links Passing Parameters to Routes Fetching Route Parameters
11	Transport Output using Pipes Introduction to Pipes Why are Pipes useful? Using Pipes Parameterized Pipes Chaining Multiple Pipes Creating a Custom Pipe Parameterizing a Custom Pipe
12	Making HTTP Requests,Http Client Introduction to Http Requests How HTTP Requests Work in SPAs Sending Requests Introduction to HttpClient Unlocking the HttpClient Request Configuration & Response Requesting Events
13	Forms and Validation Template Driven Forms Reactive Forms
14	Project Work and Documentation

FULL STACK DEVELOPMENT USING MERN STACK (PROJECT BASED)	
No	**Topics**
1	**Introduction to NODEJS Application** Introduction to NODE.JS Asynchronous JavaScript Concept The importance of being asynchronous Introduction to setting up a Node.js Environment Run your first NODE.JS Application The Node.js process Working in REPL Node JS Console
2	File System& File Streaming Working with built-in module Concept of File System Module Reading Directories Reading Files Working with Streams Readable stream & Writable stream
3	**Building servers** Creating servers with HTTP Receiving data Handling GET, POST, PUT and DELETE requests Sending requests HTTP streaming Working with TCP Working with Pipes Deals with JSON Data.
4	**Building APIs using modules, events and packages** What is NPM Installing Packages Locally Adding dependency in package.json Installing packages globally Updating packages The EventEmitter API CommonJS Modules npm Packages (nodemon command,npm install command etc)
5	**Introduction to ExpressJS** Introduction to using the Express framework to set up a web server Routes,rendering, layouts, url building, express servers Configuration Views Middlewares
6	**Installation of Mongo Database**
7	Store data with Mongoose and Mongodb. Mongo Db connection with ExpressJs framework.
8	**Mongo DB** Querying with Mongoose
9	**Mongodb CRUD operation using Express** Introduction to setting up a MongoDB database and connecting it to a Node.js server Sample CRUD(Create,Read,Update,Delete) operation in NODE.JS
10	**Authentication With Passport and JWT** Stateful vs. Stateless Authentication OAuth2 Passport JWT – JSON Web Tokens
11	**Advanced Topics** Node.js API design

	Error Handling Debugging Testing
12	**Introduction to ReactJS** Introduction Downloading and Installing ReactJS Understanding virtual DOM
13	**Componentsin ReactJS** Rendering data in ReactJS Applying css class and html content in ReactJS Component lifecycle and state Understanding state in React Creating multiple components in ReactJs Creating reusable components.
14	**Properties and Events** Working with properties Accessing Child properties Understanding events in ReactJS Exploring static methods
15	**Forms Components** Working with Forms in ReactJS
16	**Accessing DOM** Referring DOM nodes
17	Tooling Support Converting JSX to JS Using Gulp To compile and concatenate JSX files - I Using Gulp To compile and concatenate JSX files (Using Browserify) – II Component Communication Working with jQuery – Ajax DOM Event Listeners Inline Styles in ReactJS Using dangerously SetInnerHTML Major AddOns in React Two Way Data Binding Clone Elements - [cloneWithProps Deprecated - Use React.cloneElement instea Using React.cloneElement Making use of classSet to apply Conditional Styles Making use of classnames to apply conditional styling Animation using CSS Transition
18	Introduction to React Router Working with React Router Working with Links & Creating Nested Routes Refactoring Routes and Components
19	React and Remote Data Introducing Fetch Rendering Remote Data in Components
20	Project work and documentation

INTERNET OF THINGS (IOT) (PROJECT BASED)	
No	**Topics**
1	Introduction to IOT Scope, opportunity, application IOT PROTOCOL IOT Architecture Different IOT Devices Networking concept Introduction to arduino programming Introduction to Python programming
2	WiFi devices WiFi connection AT Command for WiFi access WiFi board setup (processor and controller) Programming with I/o ports Analog sensor interfacing Digital sensor interfacing LED and motor interfacing concept Load control using WiFi based system
3	Introduction to cloud computing Working with different cloud services Local IOT Global IOT Introduction to HTML Basic HTML code for web design Data upload into cloud WiFi based device control
4	Introduction to MIT App Inventor App design using MIT app inventor
5	Project work and documentation

INDUSTRIAL AUTOMATION USING PLC AND SCADA (PROJECT BASED)	
No	**Topics**
1	Introduction Industrial Automation i. What is PLC? ii. Brief History Of PLC
2	Actuation i. Manual ii. Electrical iii. Mechanical
3	Hardware with Assignment i. Toggle Switch ii. Push Button iii. Relay iv. Contactor v. Sensor vi. Timer
4	PLC In Details i. Siemens PLC ii. PLC Modules iii. PLC Software iv. Creating Project
5	Programing logic (solving problem with Assignment) i. NO/NC ii. SPDT, LATCHING iii. MEMORYBIT iv. COUNTER v. COMPARATOR vi. TIMER vii. Operation control of analog system
7	Familiar with Honeywell PLC i. Soft-master and how it's works ii. Pc to PLC Communication iii. Master Logic PLC iv. Applications
8	Introduction to SCADA i. Different SCADA Software and its application ii. How it works in automation industry iii. Application through creating User project iv. Communication and interfacing between PLC to PC system v. (SCADA Screen)

9	Creating Any Electrical Process Through Tag Management i. Direct Tagging ii. C-Action SCADA Operation iii. Object Hiding iv. Flashing v. Digital Display SCADA Analog operation i. Analog operation ii. Creating project window of analog signal iii. Data show for analog iv. Assignment Based on analog system v. Valve Control System vi. Monitoring Process
10	Project work and documentation

DIGITAL MARKETING (PROJECT BASED)

Search Engine Marketing

- Understand & Create Customer Journey Keyword Research & Planning
- Search & Smart Display Campaigns

Social Media Marketing

- Facebook Marketing
- Instagram Marketing
- Twitter Marketing
- LinkedIn Marketing

Email Marketing

- How to write effective content
- How to increase leads through nurturing
- Email Marketing Strategies for B2B & B2C businesses Drip Email Campaigns
- Best Email Templates for Communication

Web Analytics

- Understanding Google Analytics (Top Rated tool in Industry)
- Website tracking through Google Tag Manager

Facebook & Instagram Marketing

- Facebook Pages and Post Best Practices Facebook Ads - Optimization and Reporting Face- book Messenger, Shop, Pixel
- Building Brand Awareness
- Driving Online Sales/Lead
- Project work and documentation

ADVANCE EXCEL (PROJECT BASED)

- Data filters: AutoFilter and advanced filters
- Sorting, Customize sorting
- Subtotals
- Cell level validations
- Specifying a valid range of values for a cell
- Specifying a list of valid values for a cell
- Specifying custom validations based on formula for a cell
- Using data tables for data analysis
- Mastering PivotTables
- Using external data sources
- Multiple consolidation ranges
- Customizing PivotTable layout
- PivotTable advanced options
- Pivot Charts
- Workbook sharing, Tracking changes
- Merging workbooks
- Workbook and sheet protection
- Online collaboration (requires Microsoft NetMeeting and Microsoft Outlook)
- Scheduling meetings and web discussions
- Goal Seek
- Scenario Manager
- Creating and editing scenarios
- Merging scenarios
- Auditing
- Tracing precedents and dependents
- Tracing errors
- Managing add-ins
- Customizing toolbars and menus
- Customizing views
- Customizing calculations and iterations
- Settings, Creating custom lists
- Conditional formatting of cells
- Creating, managing and merging styles for cell formatting
- Working with functions (based on your requirements)
- Financial functions, Date and time functions, Statistical functions, Lookup and reference func- tions
- Database functions, Text manipulation functions, Logical functions
- Worksheet and cell information functions
- Project work and documentation

STAAD.PRO (PROJECT BASED)

Description

Our STAAD.PRO training course will give you all the knowledge needed to work on the STAAD.PRO software. This course will enable you to design any type of structure and share your synchronized model data with confidence among your entire design team, using STAAD.PRO. Ensure on time and on budget completion of your steel, concrete, timber, aluminum, and cold-formed steel projects, regardless of complexity. You can confidently design structures anywhere in the world using over 80 international codes, reducing your team's need to learn multiple software applications.

Expectations and Goals

- METHODS OF CREATING BEAM MODEL
- SPECIFYING MEMBER PROPERTIES
- SPECIFYING SUPPORTS
- SPECIFYING LOADS
- LOAD CASE TO BE USED IN DESIGN SPECIFYING
- DESIGN PARAMETERS SPECIFYING THE CODE
- VIEWING INPUT COMMAND FILE
- METHODS OF CREATING TRUSS MODEL
- METHODS OF CREATING RCC FRAME MODEL
- USING STRUCTURAL WIZARD SPECIFYING MEMBER
- PERFORMING ANALYSIS / DESIGN
- VIEWING OUTPUT FILES
- POST-PROCESSING TUTORIAL PROBLEMS
- PROJECT WORK

Prerequisites

- Anybody interested in STAAD.PRO can take this training. Knowledge of engineering drawing is needed.

Course Schedule

No	Topic
1	Introduction to Staad pro Why we learn staad pro Briefly about staad pro
2	Design Add space Add beam Add plate Creating model Applying many types of support Use rotation Use of pan
3	Material use Use of concrete in design Use of steel in design Calculation of thickness in design

4	Load Assigning the dead load Assigning the live load Assigning the load combinations Use of nodal load Use of member load Use of floor load Use of temperature Use of plate load
5	Design analysis Analysis the design Resolve any error of design
6	Use codes Uses of Indian codes Use of bridge codes
7	Concrete design Parameters selection Using various type of commands
8	Structural wizard Generate model Use rotation Use spin
9	Reports Generate the report of the full design
10	STAAD.PRO editor For change the load value & load direction
11	Project selection Project selection by individual or group
12	Project work and documentation

CHEMCAD (PROJECT BASED)

Description

CHEMCAD is software suit for process simulation that broadens an engineer's capabilities and increases productivity. CHEMCAD helps engineers when facing the toughest chemical process models or addressing day to day challenges. This chemical process simulation software fits into the chemical engineering workflow and supercharges an engineer's efficiency and most sufficiently. It continues to evolve to meet the ever-expanding need of chemical engineers. CHEMCAD is designed to help you drive productivity and tackle toughest chemical models

Expectations and Goals

- Process development.
- Equipment design.
- Equipment sizing.
- Thermophysical property calculations.
- Dynamic simulations.
- Process intensification studies.
- Energy efficiency/optimization.
- Data reconciliation.
- Process economics.
- Troubleshooting/process improvement.
- Microsoft Visual Basic.
- Operator training systems.
- Integrated solution generation.

Benefits

- All modules work within a single graphical user interface for seamless interaction
- Easily integrates into chemical engineering computing environment
- Highly customizable, flexible and affordable

Course Overview

- Overview of CHEMCAD functions
- Overview and navigation of the physical property database
- Adding a new component to the database
- Overview of thermodynamic options
- Building a flowsheet for design purposes
- Modeling an existing process
- Quantitative and qualitative use of simulation
- Using simulation for day-to-day tasks
- Using plant data in process flowsheets
- CHEMCAD for transient and static problems
- Simulation as an extension of your engineering thought process
- Modeling plant utilities (steam, process water, etc.)
- Course covers:

- Recycle loops
- Distillation
- Reactors
- Heat exchangers
- CHEMCAD controllers
- CHEMCAD plots and reports
- Solid components
- Electrolytes
- Component binary interaction parameters (BIPs)

3DS MAX (PROJECT BASED)

Objectives of Our 3DS Max Design Courses

- Autodesk 3ds Max Interface and Workflow
- Assembling Files by importing, linking, or merging
- 3D Modeling with Primitives and 2D objects
- Using Modifiers to create and modify 3D objects
- Materials and Maps
- Autodesk 3ds Max Lighting
- Working with Cameras and Exposure Control
- Rendering using various renderers such as Scanline, ART, and Arnold
- Animation for Visualization

DETAILS OF SYLLABUS

Introduction to Autodesk 3ds Max:

- Overview
- Visualization Workflow
- The Autodesk 3ds Max Interface
- File Commands
- Viewport Display and Labels

Autodesk 3ds Max Configuration:

- Viewport Navigation
- Viewport Configuration and Settings
- Viewport Configuration and Navigation
- Object Selection Methods
- Units Setup
- Object Properties
- Copy, rotate, scale, move etc.

Modeling From 2D objects:

- 3D Modeling from 2D Objects
- The Lathe, lattice Modifier
- 2D Booleans
- The Extrude Modifier
- 3D Boolean Operations
- Using Snaps for Precision
- The Sweep Modifier

2D shape & 2D shape modifier:

- Trim and extend
- Chamfer & fillet
- Outline, refine, insert
- Attach, weld, break, fuse
- Line, rectangle, circle, star, Arc, Text etc.

3D modifier:

- Bend, Tapper, Twist, Wave, Squeeze, Skew, Noise etc.

Standard Primitives:

- Box, sphere, cylinder, plane, cone etc.

Extended Primitives:

- Hedra, chamfer box, ring wave hose etc.

Compound objects:

- Morph, scatter, blob mesh, shape merge, connect, procutter

Edit poly:

- BEVEL
- EDIT vertices, chamfer edge, connect edge, bridge, edit border, extrude edge, outline, flip
- Soft selection, create shape from selection, hinge from edge

Materials:

- Understanding Materials and Maps
- Material Shaders
- Managing Materials
- General Materials
- Assigning Maps to Materials
- Opacity, Bump, and Reflection Mapping

Lighting and Cameras:

- Photometric Light Objects
- Arnold Lights
- Cameras
- Background Images

Exposure Control, Daylight and Rendering:

- Daytime Lighting
- Rendering Options

Different types of 3D modeling

Project work and documentation

ELECTRICAL SYSTEM DESIGN WITH CAD (2D AND 3D) (PROJECT BASED)

No	Topics
1	**Basic concept on Auto-cad** Cartesian Co-Ordinate System 1.1 Absolute Co-Ordinate System 1.2 Relative Co-Ordinate System 1.3 Polar Co-Ordinate System
2	**Auto-cad 2d** 1.1 line 1.2 Circle 1.3 Polygon 1.4 Ellipse 1.5 Text 1.6 Point
3	**Using modify command** 1.1 Copy 1.2 Move 1.3 Mirror 1.4 Array 1.5 Offset
4	**Introduction of electrical circuit** 1.1 Introduction to project manager 1.2 Working with projects 1.3 Adding a drawing
5	**Inserting the various Electrical Equipment in OLD/SLD** 1.1 Designing of single phase 1.2 3 phase diagram with control & power circuit 1.3 Inserting components 1.4 Inserting wires
6	**PLC modules** 1.1 Inserting PLC modules 1.2 Designing ladder logic using cad 1.3 Component tagging
7	**Schematic report** 1.1Generate a schematic report 1.2Generate a panel report
8	Project work and documentation

JAVA AND ITS APPLICATIONS (PROJECT BASED)

Description

This course on java aims to provide learners both classical and modern features of the language of Java and their practical use.

Expectations and Goals

Learning programming and core Java concepts Introduction to Inheritance, Threads and Collections Deploy JDBC for connecting various applications Understand Method Overriding and Overloading Use Array and Hash Map for storing dynamic data Create Threads in Java by Implementing Runnable In- terface. Work on live projects for hands-on experience.

Prerequisites

Anybody can take this Training Course to be a Java Developer.

Course Schedule

No	Topics
1	Object Oriented Programming – Core Concepts
2	**Introduction to java** Primary components of a Java program: Class, Interface, Enum and Annotation Writing, compiling and running a Java program from command line What is Java byte-code? JVM and JRE Java bytecode interpreter and JIT compiler How to work with Eclipse, Netbeans and IntelliJ IDE
3	**Class and Object** What is an object: object properties and operations What is a class How does a class describe properties of objects: private fields, accessor and muta- tor methods How does a class describe operations using methods Method overloading The 'this' keyword
4	**Constructors** What is a constructor Default constructor Constructor overloading Constructor chaining
5	**Static or class variables and methods** Static variable Static method
6	**Some advanced class concepts** Static and non-static field initializers Static and non-static initialization blocks Order of initializations Private constructors and singleton class**
7	**Nested classes**** Static member nested classes Member inner classes Local inner classes Anonymous inner classes

8	**Packages in Java** Package concept and its advantages How to place a class inside a package How to import a class The default access modifiers Compiling and running java classes in packages: concept of java classpath Creating jar packed libraries in java** Java extension mechanism** Creating executable jar files**
9	**Inheritance** What is inheritance: java inheritance mechanism Inheriting fields and methods from superclass Adding fields and methods in subclass Upcasting, downcasting and instanceof operator Method overriding, dynamic binding and runtime polymorphism Use of 'super' keyword Constructor chaining using 'super' keyword Inheritance and access modifiers Final classes Concept of single rooted class hierarchy in java: the 'Object' class
10	**Abstract classes and interfaces** Abstract method Abstract class Abstract class and inheritance Interfaces and its implementation Interfaces and multiple inheritance Interfaces and loose coupling Field declarations within an interface Marker interfaces Default implementation of methods within interface** Functional interfaces and lambda expressions**
11	**Exception handling** Why do we need exception handling in java Exception handling mechanism in java using try, catch and finally Stack unwinding Difference between Exceptions and Errors 'Throwable' class Checked and unchecked exceptions Exception chaining Custom exceptions Catching multiple exceptions in java 7** Try with resources** Suppressed exceptions***
12	**Multithreading** Concept of processes and threads Multithreading by extending Thread class Multithreading by implementing Runnable interface Life cycle of a thread Thread synchronization: concept of monitor, synchronized blocks and synchronized methods Inter thread communication by guarded blocks: wait, notify and notifyAll Deadlock, starvation and livelock** Lock objects** Executors**
13	**Generics** Why use Generics? Generic Types Raw Types Generic Methods Bounded Type parameters Generics, Inheritance and

	Subtypes Type inference Wildcards Type Erasure Restrictions on generics
14	**Java collection framework** Introduction to Java collection framework Core collection interfaces and their implementations: Collection, Set, List, Queue,Deque, Map, SortedSet and Sorted- Map Aggregate operations: Reduction and Parallelism** Algorithms: Sorting, Shuffling, Routine data manipulation, Searching, Composition and finding extreme value
15	**Basic I/O** Concept of Input and Output in Java Byte Streams and Character Streams Buffered Streams Scanning and Formatting Command Line I/O Data and Object Streams File I/O: Nio.2**
16	**Annotations** Annotation Basics Declaring an Annotation Type Predefined Annotation Types Type Annotations and Pluggable Type Systems** Repeating Annotations**
17	**Sub Language Commands** Data Definition Language (DDL) Data Retrieval Language (DRL) Data Manipulation Language (DML) Transaction Control Language (TCL) Database Security and Privileges (DCL) Oracle Pre Defined Datatypes DDL Commands Create, Alter (add, modify, rename, drop)Columns, Rename, truncate, drop DML-Insert, update, delete DQL-SELECT Statements using WHEREclause Comparison and Conditional Operators Arithmetic and Logical Operators Set Operators (UNION, UNION ALL, INTERSECT, MINUS) Special Operators – IN (NOT IN), BETWEEN (NOT BETWEEN), LIKE (NOT LIKE), IS NULL (IS NOT NULL) Working with DML, DRL Commands
18	**JDBC** Introduction to JDBC JDBC architecture java.sql Package Connection, Statement, ResultSet Prepared Statement Callable Statement Scrollable and Updatable ResultSet Batch Updates ResultSetMetaData Simple Transaction Management Four Levels of JDBC drivers, their pros & cons Features of JDBC 3.0
19	**Java Swing Desktop application Java applets, Java Swing Swing control, Design GUI**
20	Project work and documentation

Python AND ITS APPLICATIONS (PROJECT BASED)	
No	**Topics**
1	**Introduction to Python** ● History of Python ● Using Python Interpreter ● The Interpreter and its Environment ● Using Python as Calculator ● First Step towards Programming
2	**String Handling** ● Assigning Values to Variables ● Multiple Assignment ● Standard Data Types ● Python Strings ● Data Type Conversion
3	**Control Flow Tools** ● If/else ● Elif ● Iterative statement
4	**Function** ● Defining a Function ● Calling a Function ● Default Attribute Function
5	**Python Data Structures** ● Introduction to List ● Work on Tuples ● Sets ● Dictionary
6	**Module and Packages** ● Locating Modules ● Creating Modules ● Creating Packages ● Using Packages
7	**List , Set, Dictionary Comprehension** ● List Comprehension ● Set Comprehension ● Dictionary Comprehension
8	**Files I/O** ● Printing to the Screen ● Reading Keyboard Input ● The input Function ● Opening and Closing Files ● The open Function ● The file Object Attributes

	• The close() Method • Reading and Writing Files • The write() Method • The read() Method
9	**Introduction to OOP** • Introduction to OOP • Class and Objects • Class Diagram • Constructor
10	**Encapsulation** • Need for Encapsulation • Private Attributes • Getting Setter Methords
11	**Using Objects** • Reference Variable • Pass by Reference • Self • Need for Static • Static Attributes • Static Methods
12	**Inheritance** • Need for Inheritance • Overriding • Super ant Types
13	**Abstract Class** • Need for Abstract • Abstract Methods
14	**Exception Handling** • Introduction • Raise • Custom Exception
15	**NumPy & Data Science** • Arrays • Array indexing • Datatypes • Array math • Slicing and numeric functions • Feature of NumPy in Data Science

16	**Pandas** ● How To Create a Pandas DataFrame ● How To Select an Index or Column From a DataFrame ● How To Add an Index, Row or Column to a DataFrame ● How To Delete Indices, Rows or Columns From a DataFrame ● How To Rename the Columns or Indices of a DataFrame ● Data processing using pandas for Data Science
17	**Data Visualisation** ● Principles of Information Visualisation ● Basic Charting (line chart, Bar chart, Pie chart, etc.) using Matplotlib ● Graph customization, Annotation and formatting ● Using Plotly & seaborn generate images ● Image processing
18	**Project work and documentation**

PROFESSIONAL C++ (PROJECT BASED)	
No	**Topics**
1	Introduction Introduction to C++. Procedural vs. Object Oriented Programming(OOP) Benefits of OOPs Different OOPs Features Basic Components of C++ Compiling and Executing C++ program
2	Fundamental of C++ Tokens, Keywords, Identifiers and Constants Data Types, Type Compatibility and Variables Operators in C++ Operator precedence Control State- ment. Iteration and Loops
3	**Function in C++** Type of Function, Function Prototyping Call by Reference and Call by value Scope and Visibility of variables in Functions Inline Function, Friend Function
4	**Variadic Function in C++** What is Variadic Function Use of Variadic Function Types of Variadic Function A C++ Program to implement a variadic function
5	**Basic Concept in OOPs** Objects and Classes Encapsulation Abstraction This pointer Polymorphism Inheritance Dynamic Binding Message Passing
6	**Object and Classes** Access Specifier Specifying a Class and Create an Object Defining Member Function A C++ program with Class
7	**Constructors and Destructors** Default Constructor, Parameterized Constructor, Copy Constructor, Dynamic Constructor Constructor Overloading How to define a Destructor
8	**Inheritance** Introductions and Benefits Access Specifiers Base and Derived Class Types of

	Inheritance Function Overriding
9	**Polymorphism** What is Polymorphism Run-time and Compile-time Polymorphism Function Overloading Operator Overloading Virtual Function
10	**Files and Exception Handling** Classes for File Stream Operations Opening and Closing a File File Modes, File Pointers Input-Output Operations Updating a File Types of Error and Exceptions Try-Catch-Throw mechanism
11	**Templates** Template Class Template Function Implementation of Templates using C++
12	**Standard Template Library (STL)**
13	Project work and documentation

PROFESSIONAL C (PROJECT BASED)	
No	**Topic**
1	**Programming Logic and Technique** Introduction to Programming language What is Procedural Programming Language Algorithm and Flow Chart Some examples using Flow Chart Deals with Expression Introduction to C What is Compiler and Interpreter
2	**C Language preliminaries** Data types (Primary, Secondary, User Defined) What is variable and constant Identifiers and Keyword Declarations and expressions Different C compilers(gcc/tcc)
3	**Input Output and Pre-Processor Statement** Pre-processor Directives getchar, putchar, scanf, printf gets, puts Header File and #include Different types preprocessor directives A small C program example
4	**Storage classes in C** What is storage class? Different types of storage Classes (Auto, static, register, extern) Different features of a variable(memory, default initial value, scope, life time)
5	**Operators and Control Statements** Different types of operators (arithmetic, logical, relational etc.) If, else, else – if with some examples Conditional operator (? :) Switch case with example Use of Break, Continue
6	**Loop** What is iterations Different types of loops For, while, do-while with some examples Nesting of loops Pattern printing using nested for loop
7	**Array, String** What is array Different types of array (both 1D and 2D) Examples of 1D array, and 2D array (matrix addition) Introduction to character array and string
8	**Function** What is function Declarations, definitions and calling of a function Arguments and parameters Recursive function Passing array to a function String library function
9	**Pointers**

	Definitions of pointer Declaring and accessing a pointer Passing pointer to a function Operations on pointer, pointer arithmetic Pointer and array
10	**Structures** What is structure Processing and accessing structure variable Array of structure Union, typedef Pointer to structure
11	**File** File handling in C Text file, binary file File creation, opening Reading and writing to a file File copy
12	**C99, C11, C17 specification additions**
13	Project Work and Documentation

CNC PROGRAMMING (PROJECT BASED)	
No	**Topics**
1	Overview of NC &CNC Machining System Fundamental Aspect of CNC Machine Control Major Units & Components of CNC Lathe and its function Major Units & Components of CNC Milling and its function Demonstration of CNC Lathe & Milling Machine and its function
2	Feedback system used in CNC Lathe and CNC Milling Machine Axis Identification in CNC Machine Dimensioning System Types of Interpolation
3	Tools and Equipment used in CNC Lathe Tool and Equipment used in CNC Milling Fundamentals of Part Programming
4	Specification of CNC Lathe Reference points to be Considered for programming & different operations Different codes used for Programming in CNC Lathe Tool Offset Different cycles used for programming in CNC Lathe Programming practice for CNC Lathe Practical training on CNC Lathe
5	Specification of CNC Milling Machine Reference points to be Considered for program- ming & different operations Different codes used for Programming in CNC Milling Tool Offset Different cycles used for programming in CNC Milling Programming practice for CNC Milling Practical Training on CNC Milling
6	Project work and documentation

CLOUD COMPUTING WITH AMAZON WEB SERVICES (PROJECT BASED)

Description

AWS Certification Training from us is designed to provide in depth knowledge about AWS architectural principles and its services. Cloud computing jobs are hot commodities in IT, as more companies adopt cloud. From managing big data to cracking down on security, a cloud career can head in a number of different directions.

Expectations and Goals

- Students are able to understand AWS Architecture and different models of Cloud Computing
- Compute Services: AWS EC2, Auto Scaling and Load Balancing, AWS Lambda, RDS, Cloud watch
- Student can host cloud based static website

Prerequisites

Anybody interested in Cloud Computing can take this Training but one international credit/debit card mandatory to register with AWS cloud.

Course Schedule

No	Topic
1	Introduction to cloud computing Different cloud service provider Cloud computing application and future scope Working with different instances(windows, Linux) Putty configuration EC2 volume, image Snapshot
2	Introduction to S3 S3 version Security AWS Cloud Watch Alarm SNS SMS Billing alert Corn expression, arn
3	IAM User, Role, Policy, group, MFA Cognito, CloudFront Route53 VPC Lambda
4	ELB Auto Scaling RDS Dynamo DB AWS IOT Machine Learning tool
5	Project work and documentation

FULL STACK DEVELOPMENT WITH JAVA (PROJECT BASED)

Description

Our JEE course is designed for students and professionals who want to be a web Developer in Java Domain. This course will cover topics like JSP and Servlet and some advanced concepts like Servlet Filter, Servlet Listener JSP EL etc. We will also learn how these tools help in developing a robust Web Application using Servlet & JSP.

Expectations and Goals

Through expert-led discussion and interactive, hands-on exercises, participants will learn how to, Implement the concept of Web Server, Application Server. Have a clear concept of JEE architecture. Understand the importance of Servlet, Filter, ServletListener, JSP and its tags. Implement MVC Architecture in JEE. Connect your Application with Oracle using JDBC drivers. Concepts of JSTL, EL, Java Beans etc.

Prerequisites

All those who are looking forward to develop secured Web Application or Enterprise. Application using Servlet & JSP are welcome to enrol for this course.

- Basic knowledge of Java is needed for this course.

Course Schedule

No	Topic
1	An Introduction to Web Development Fundamentals How web works The client server architecture Understanding the URL Different types of protocols (HTTP/HTTPS) Web request response cycle
2	Front End Design using HTML, CSS, JavaScript & JQuery Basic tags of HTML HTML require tag and its uses HTML table and form tag Design of HTML page using CSS Different types of CSS An introduction to JavaScript & JQuery Difference between Client side validation & Server side validation Form validation using JavaScript
3	Introduction to RDBMS and Backend development using Oracle 11g/MySQL What Is A Database? What Is SQL? Overview of RDBMS Entity Relationship Model Entity Attributes Relationship Database keys(Primary key, Foreign key) Introduction to Oracle 12c DML,DDL,DCL statements

	insert, update, delete and select operation data types in Oracle
4	Introduction to JEE architecture Different types of Java Application Two, three and multitier application advantages and disadvantages of above architecture MVC and MVC 2 architecture JEE architecture, components and container of JEE Web and Application server Introduction to Tomcat Server, installing and configuration with Eclipse Path setting of Tomcat Create a simple web application in Eclipse and run in Tomcat server
5	Introduction to Servlet Technology Servlet and its Architecture How servlets work, role of Deployment descriptor (web.xml) Deployment descriptor vs Annotation Servlet API (Javax.servlet and javax.servlet.http) Servlet Life cycle and its method How to create Servlet(Servlet interface, GenericServlet class, HttpServlet class) Writing service method, Constructing Responses Describe doGet() and doPost() method Deploy servlet in eclipse
6	Working with Database (JDBC) using Servlet Introduction to JDBC, JDBC drivers How to connect any java application to any database using JDBC Insert, delete, update. Select operation DriverManager class, Statement, PreparedStatement interface ResultSet interface and its different methods to access data from database Access database from Servlet A simple registration page example
7	RequestDispatcher and Session Management in Servlet RequestDispatcher and forward() & include() method difference between forward() and sendRedirect() Session Tracking using HttpSession, Cookie, URL rewriting and Hidden form field how to create session and set and get session HttpSession methods like getSession, setAttribute(), getAttribute() etc how to create cookie and set and get cookie data management using URL rewriting and Hidden form field
8	Servlet Filter, Event and Listeners Introduction to Event Classes and Interfaces Listeners interface Servlet Filter and Filter API concepts of Filter Chain Server side validation using Filter
9	Introduction to JSP (Java Server Pages) What is JSP Advantages of JSP over Servlet JSP architecture

	JSP life cycle Some JSP tags like Scriplet Tag, declaration tag, Expression tag JSP implicit object JSP directives A simple example in JSP JSP Action elements [jsp:forward(), jsp:include()]
10	Java Beans and jsp:useBean What is Java bean Setter, getter method and serialization Jsp:useBean tag to access a bean Jsp:setProperty and jsp:getProperty Use of bean as a model of MVC
11	Scopes and Attributes Different scopes in servlet and JSP Request, session and Application scope Access those scope using servlet and JSP Attributes and different methods(setAttribute, getAttribute) Difference between ServletContext and ServletConfig
12	JSTL and JSP Expression Language (EL) What is JSTL and JSTL LIBRARY Core tag, Functional tag, Formatting tag and SQL tag of JSTL A simple example showing all tags Introduction to EL Implicit objects in EL Scopes in EL Basic operator in EL
13	Advance Topics Introduction to ORM tools Hibernate and its advantages Connect hibernate with Servlet A simple example to connect servlet/JSP with Hibernate
14	Project work and documentation

ADVANCE AUTOMOBILE APPLICATION IN COLLABORATION WITH AUTHORIZED TATA MOTORS WORKSHOP (PROJECT BASED)

No	Topics
1	• Workshop technology and soft skill
2	• Basic Course on industry safety
3	• Automobile aggregates & pre-delivery inspection(PDI)
4	• Basic in I C engine & hands on job on various heavy and small CL engines
5	• Advance course on EDC electronic diesel control system & onboard diagnostic system
6	• Advance course on CRDI system
7	• Tipping system
8	• Ac system
9	• Advance course on various clutch system-hydraulic clutch, Mechanical clutch
10	• Advance course on various transmission system and hands on job on heavy and medium transmission system
11	• Advance course on fully floating and semi floating axles
12	• Hands on job on different system(Banjo and Salisbury)type inter axle and inter wheel lock system
13	• Advance course on air and vacuum assisted hydraulic brake system with ABS
14	• Hands on job on mechanical and power steering system
15	• Advance course on auto electrical, Body Electrical system, Starting system charming system
16	Project work and documentation

REVIT (PROJECT BASED)

Description

The course 'Autodesk Revit Bim training' is based on my personal experience as an Autodesk Authorized Instructor, it starts with a preliminary tutorial so that you can become familiar with the graphic interface of the program Autodesk Revit Architecture, and then we will learn how to set up a project from scratch, establish structural grid lines and reference lines and start setting up structural columns.

The next step will be installing walls, controlling their wall assembly, and learning how to customize elements, you will learn how to use the curtain wall tool and create slabs and stairs.

A tutorial focuses on roofs, building them, and giving the proper slope. Later you will learn how to use the area command, which will allow you to quickly and effectively calculate the area for your project and how to generate schedules and area takeoffs.

Expectations and Goals

You are interested in automated drawing, design, or architecture, this is the right course for you! Drawing time will be radically reduced and more realistic.

Course Schedule

Module	Topic
Module 1	**Introduction** Introduction to Autodesk Revit Architecture, user Interface. BIM and Autodesk Revit Overview of the Interface Starting Projects Viewing Commands
Module 2	**Uses Of Basic Sketching and Modify Tools** Using General Sketching Tools Editing Elements Working with Basic Modify Tools Working with Additional Modify Tools Modifying Walls Adding Room Elements

Module 3	**Techniques about Working with Door and Windows** Inserting Doors and Windows Loading Door and Window Types from the Library Creating Additional Door and Window Sizes Creating Curtain Walls Adding Curtain Grids Working with Curtain Wall Panels Attaching Mullions to Curtain Grids
Module 4	**Extended Features about Working with Views** Setting the View Display Duplicating Adding Callout Creating Elevations and Sections **Concepts about Adding Components:** Adding Components Modifying Components **Extended Facts about Modeling Floors:** Modelling Floors Creating Shaft Openings Creating Sloped Floors

Module 5	**Modeling Ceilings into Building Project:** Modelling Ceilings Adding Ceiling Fixtures Creating Ceiling Soffits **Application about Modeling Roofs:** Modelling Roofs Creating Roofs by Footprint Establishing Work Planes Building Roofs by Extrusi**on** **Modeling Stairs, Railing and Ramps:** Creating Component Stairs Modifying Component Stairs Working with Railings Building Ramps
Module 6	**Techniques about Creating Construction Documents:** Setting Up Sheets Placing and Modifying Views on Sheets Printing Sheets **Annotating Construction Documents:** Working with Dimensions Work with Dimensions Working With Text Adding Detail Lines and Symbols Creating Legends **Adding Tags and Schedules:** Adding Tags Working with Schedules **Creating Details into The Project:** Setting Up Detail Views Adding Detail Components Annotating Details

Module 7	Project work and documentation

Project Topics:

- DESIGN AND MODELING OF A RESIDENTIAL BUILDING USING REVIT
- CREATING A BIM MODEL FOR A COMMERCIAL OFFICE SPACE
- REVIT-BASED ENERGY ANALYSIS FOR SUSTAINABLE BUILDING DESIGN
- PARAMETRIC DESIGN EXPLORATION IN REVIT FOR ARCHITECTURAL FORM GENERATION
- CLASH DETECTION AND COORDINATION IN A REVIT MODEL FOR CONSTRUCTION PROJECTS
- CREATING A REVIT MODEL FOR A HEALTHCARE FACILITY, SUCH AS A HOSPITAL OR CLINIC
- REVIT-BASED STRUCTURAL ANALYSIS AND DESIGN OF A BUILDING
- REVIT-BASED INTERIOR DESIGN FOR A RESIDENTIAL OR COMMERCIAL SPACE
- CREATING A REVIT MODEL FOR A TRANSPORTATION INFRASTRUCTURE PROJECT, SUCH AS A BRIDGE OR TUNNEL
- REVIT-BASED VISUALIZATION AND RENDERING TECHNIQUES FOR ARCHITECTURAL PRESENTATIONS
- 3 STOREY DESIGN AND PLANNING USING REVIT

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CYBER SECURITY AND ETHICAL HACKING

Description

A Certified Ethical Hacker is a skilled professional who understands and knows how to look for weaknesses and vulnerabilities in target systems and uses the same knowledge and tools as a malicious hacker, but in a lawful and legitimate manner to assess the security posture of a target system(s). The CEH credential certifies individuals in the specific network security discipline of Ethical Hacking from a vendor-neutral perspective.

Expectations and Goals

The Purpose of the CEH credential is to:

- Establish and govern minimum standards for credentialing professional information security specialists in ethical hacking measures.
- Inform the public that credentialed individuals meet or exceed the minimum standards.
- Reinforce ethical hacking as a unique and self-regulating profession.

Prerequisites

- None

Course Schedule

Module	Topic
Module 1	Introduction to Ethical Hacking Information Security Overview Information Security Threats and Attack Vectors Hacking Concepts Ethical Hacking Concepts Information Security Controls Penetration Testing Concepts Information Security Laws and Standards
Module 2	Footprint & Reconnaissance Footprinting Concepts Footprinting through Search Engines Footprinting through Web Services Footprinting through Social Networking Sites Website Footprinting Email Footprinting Competitive Intelligence Whois Footprinting DNS Footprinting Network Footprinting Footprinting Through Social Engineering Footprinting Tools Footprinting Countermeasures Footprinting Penetration Testing
Module 3	Scanning Network Network Scanning Concepts Scanning Tools Scanning Techniques Scanning Beyond IDS and Firewall Banner Grabbing Draw Network Diagrams Scanning Pen Testing
Module 4	Enumeration

	Enumeration Concepts NetBIOS Enumeration SANP Enumeration LDP Enumeration SMTP and DNS Enumeration Other Enumeration Techniques Enumeration Countermeasures Enumeration Pen Testing
Module 5	Vulnerability Analysis Vulnerability Assessment Concepts Vulnerability Assessment Solutions Vulnerability Scoring Systems Vulnerability Assessment Tools Vulnerability Assessment Reports
Module 6	System Hacking System Hacking Concepts Cracking Passwords Escalating Privileges Executing Applications Hiding Files Covering Tracks Penetration Testing
Module 7	Malware Threats Malware Concepts Trojan Concepts Virus and Worm Concepts Malware Analysis Countermeasures Anti-Malware Software Malware Penetration testing
Module 8	Sniffing Sniffing Concepts Sniffing Technique: MAC Attacks Sniffing Technique: DHCP Attacks Sniffing Technique: ARP Poisoning Sniffing Technique: Spoofing Attacks Sniffing Technique: DNS Poisoning Sniffing Tools Countermeasures Sniffing Detection Techniques Sniffing Pen Testing
Module 9	Social Engineering Social Engineering Concepts Social Engineering Techniques Insider Threats Impersonation on Social Networking Sites Identity Theft Countermeasures Social Engineering Pen Testing
Module 10	Denial-Of-Service DoS/DDos Concepts DoS/DDos Attack Techniques Botnets

	DDoS Case Study DoS/DDos Attack Tools Countermeasures DoS/DDos Protection Tools DoS/DDos Penetration Testing
Module 11	Session Hijacking Session Hijacking Concepts Application Level Session Hijacking Network Level Session Hijacking Session Hijacking Tools Countermeasures Penetration Testing
Module 12	Evading IDS, Firewall & Honeypot IDS, Firewall and Honeypot Concepts IDS, Firewall and Honeypot Solutions Evading IDS Evading Firewalls IDS/Firewall Evading Tools Detecting Honeypots IDS/Firewall Evasion Countermeasures Penetration Testing
Module 13	Hacking Web Server Web Server Concepts Web Server Attacks Web Server Attacks Methodology Web Server Attack Tools Countermeasures Patch Management Web Server Security Tools Web Server Pen Testing
Module 14	Hacking Web Application Web App Concepts Web App Threats Hacking Methodology Web App Hacking Tools Countermeasures Web App Security Testing Tools Web App Pen Testing
Module 15	SQL Injection SQL Injection Concepts Types of SQL Injection SQL Injection Methodology SQL Injection Tools Evasion Techniques Countermeasures
Module 16	Hijacking Wireless Networks Wireless Concepts Wireless Encryption Wireless Threats Wireless Hacking Methodology Wireless Hacking Tools Bluetooth Hacking Countermeasures

	Wireless Security Tools Wireless Pen Testing
Module 17	Hacking Mobile Platforms Mobile Platform Attack Vectors Hacking Android OS Hacking iOS Mobile Spyware Mobile Device Management Mobile Security Guidelines and Tools Mobile Pen Testing
Module 18	Recommended Machine Configurations What makes a good computer forensic examiner? Computer Forensics vs. E Discovery Forensic Examination Procedures Determining Scope of Examinations Hardware and Imaging Issues USB and Optical Media Examination Limited Examinations Forensically Sterile Examination Media ASCII Table General Overview of Boot Process and Operating Systems FD Tracks, Hard Disk Drives BIOS History Networked Computers Media Acquisition Acquisition Documentation Chain of Custody
Module 19	Project work and documentation

MOBILE APPLICATION DEVELOPMENT USING FLUTTER

Description

App Development using Flutter is designed in a way that on learning one can gain the experience of developing an app serving different domain. Flutter helps to develop cross platform applications for Android, iOS, Linux, Mac, Windows, Google Fuchsia, and the web from a single codebase.

Expectations and Goals

The course is designed for participants who are interested in developing hybrid app but don't have any prior knowledge of technology(s). On learning this framework, one will be able to build hybrid app and deploy it in targeted device.

Prerequisites

Trainee(s) with no prior knowledge in any technology can easily enroll themselves for the course. Basic knowledge of programming language will be sufficient.

Course Schedule

Module No	Topic
Module 1	**Introduction of mobile Apps** **Discussion on different technology and framework** **Introduction to Flutter** **Flutter Definition** **Flutter Architecture** **Introduction to Dart**
Module 2	**Installation of IDE(s), tools, packages** **Flutter SDK** **Setting up of device**

	Enabling web support
Module 3	What is Dart How to write code in dart? Oops concept in details Implementation using online editor
Module 4	Different ways of creation of Flutter project Understanding the file structure of a project Writing of Flutter code using Dart Running into targeted device
Module 5	Introduction to widgets Use of different widgets and its implementation Explanation of Widget tree
Module 6	Types of Widgets Use of stateful widgets and lifecycle Use of stateless widgets Implementation
Module 7	Different layouts and its use Designing the screen with different layout Use of different designing tools/libraries Handling events and functions
Module 8	Creation of customized widgets Different states and widgets connection Styling and theming Use of external package and upgrading the project Implementation
Module 9	Screens and routing Different routing techniques Different navigation widgets Linking with the tabs, menus and options
Module 10	Data Listing Multiline text/input in the view and its management Understanding List, Grid, Stack and implementation
Module 11	Data and Backend Different Storage forms and usage Adding external dependency for suitable storage Relevant Coding
Module 12	Images and media Camera and Gallery usage Handling multimedia support Creation of supported Apps
Module 13	Packages and Plugins

	Discussion on essentials packages and plugins **Implementing platform specific changes**
Module 14	**Project Development and Documentation Report preparation**

Academy of Skill Development
Module – 103, SDF Building,
Sector -V, Salt Lake,
Kolkata – 700091
www.asd.org.on

Ref:

Subject: INTERNSHIP CONFIRMATION LETTER

Dear

Your application for the **Industrial Training and Internship** is accepted. The details are below:

College/University:

Technology Domain:

Internship Start Month:

Duration: 4 to 6 weeks (36 to 50 Hours)

This is a project based program. You will have to develop a project, prepare project report and project presentation.

📌 **INTERNSHIP MILESTONES:** TRAINING ON THE TOPIC/TECHNOLOGY ➞ PROJECT ALLOCATION ➞ PROJECT IMPLEMENTATION ➞ PROJECT REPORT PREPARATION /PPT PREPARATION ➞ ASSESSMENT ➞ CERTIFICATE DISBURSAL.

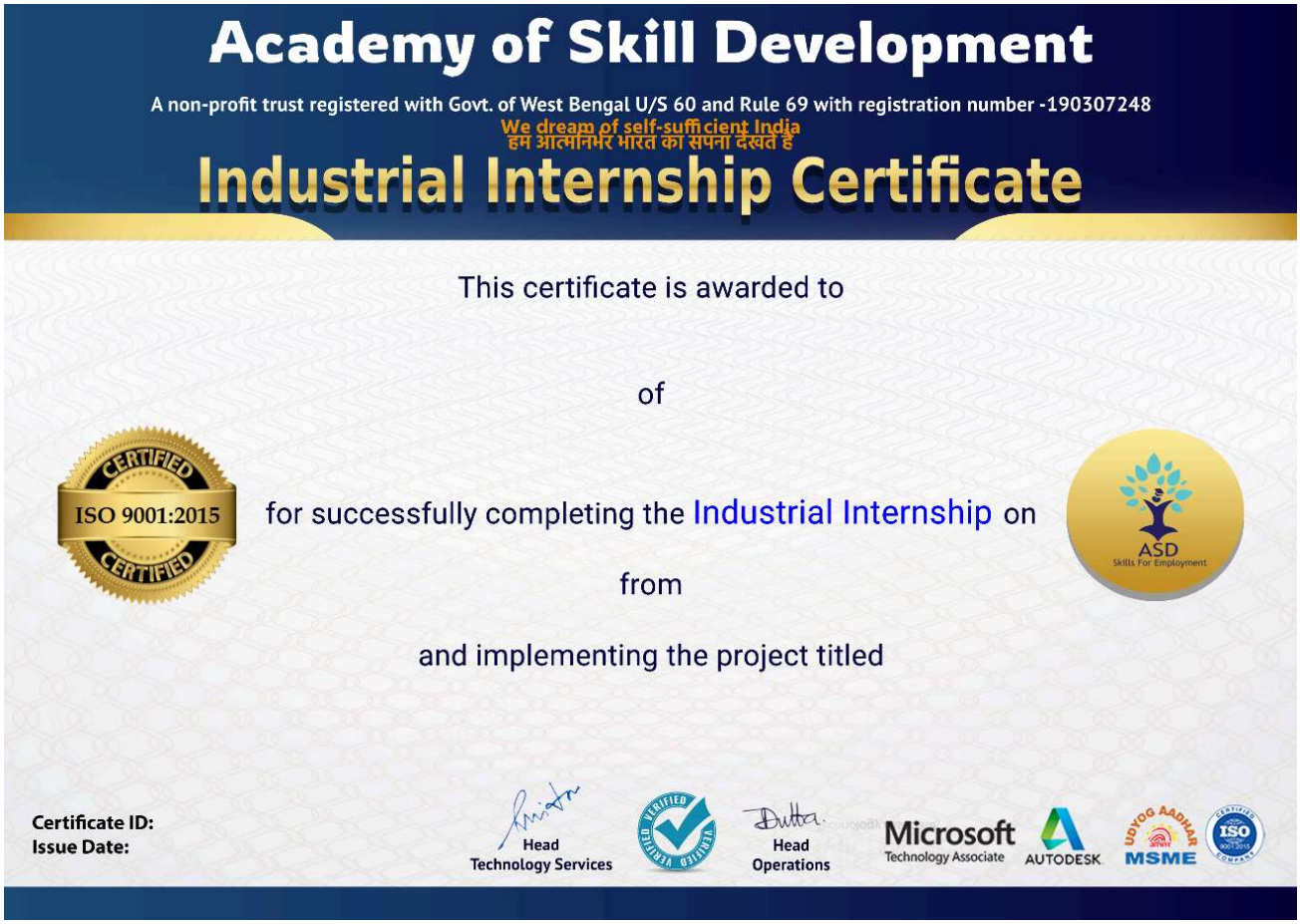
Wish you a progressive learning journey with us.

Thanking you,

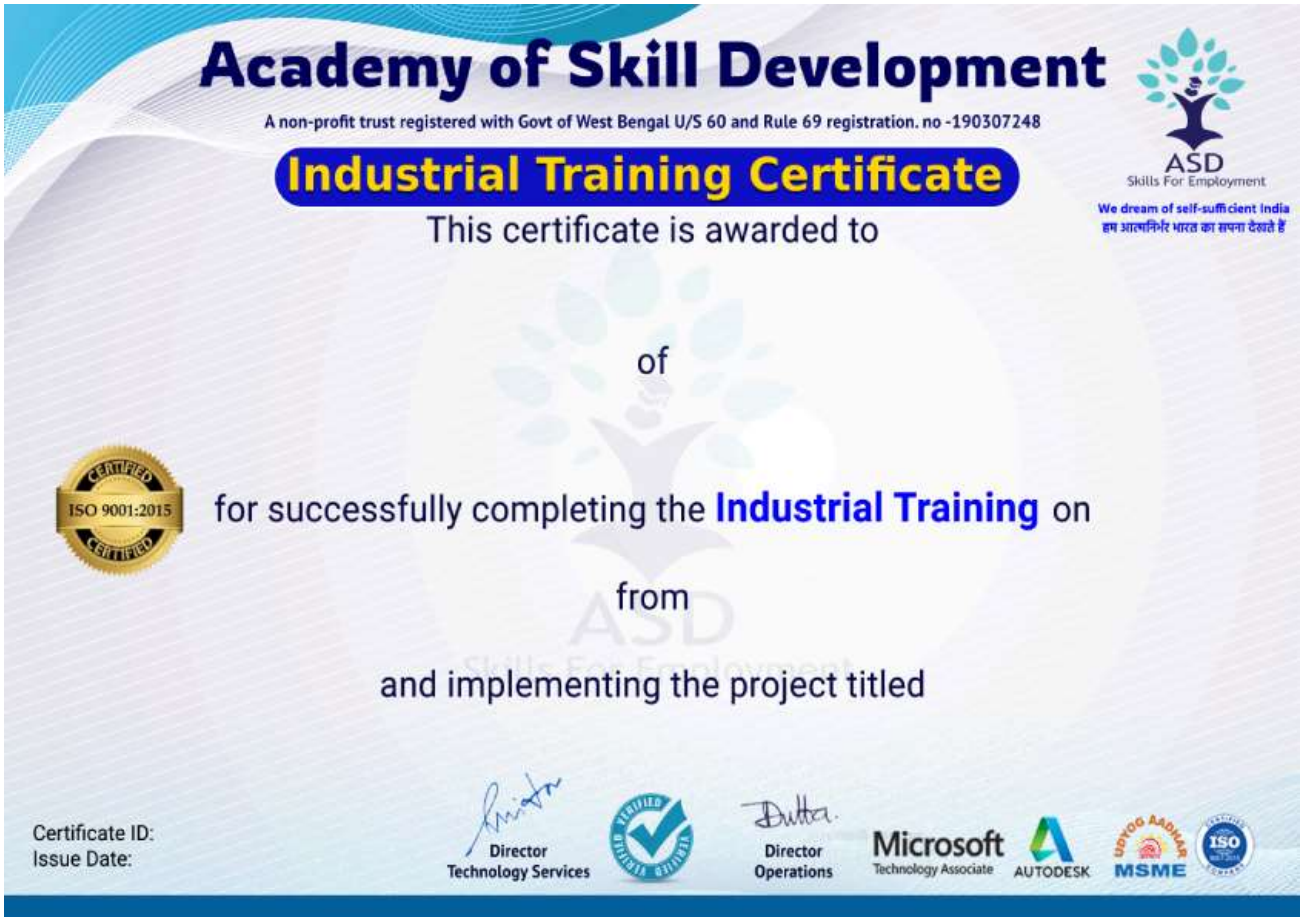
Best Wishes,

Mahendra Datta
Head – Learning and Development
Academy of Skill Development

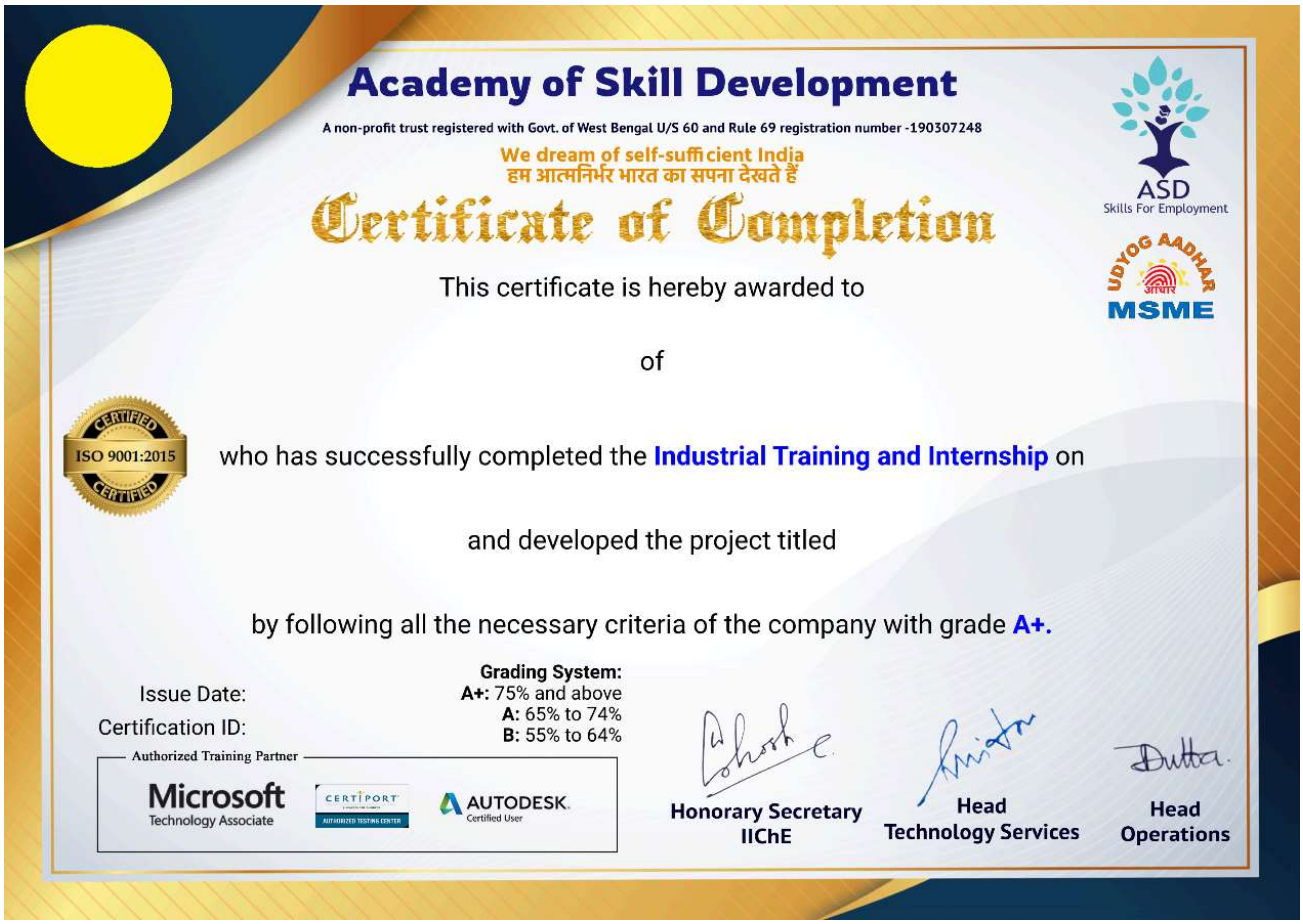
INTERNSHIP CONFIRMATION LETTER



INDUSTRIAL INTERNSHIP CERTIFICATE



INDUSTRIAL TRAINING CERTIFICATE



COMPLETION CERTIFICATE

ASD
Skills For Employment

ISO 9001:2015

Industrial Internship & Project Letter

Date -

This is to certify that

has completed the project titled

using

to fulfill the requirement of

INDUSTRIAL TRAINING AND INTERNSHIP

under the guidance of the technical team of

ACADEMY OF SKILL DEVELOPMENT

We observed that the work carried out is satisfactory and deserves appreciation.

Head
Technology Services

Microsoft
Technology Associate

AUTODESK

UDYOG AADHAR
MSME

Head
Operations

INTERNSHIP AND PROJECT LETTER

Academy of Skill Development
Module – 103, SDF Building,
Sector -V, Salt Lake,
Kolkata – 700091
www.asd.org.on

Ref:

Subject: Acknowledgement of Attendance

Dear

Below is the status of your attendance during the internship:

College/University:

Technology Domain:

Attendance Percentage (%):

Thanking you,

Best Wishes,

Mahendra Datta
Head – Learning and Development
Academy of Skill Development

ATTENDANCE CERTIFICATE