

Overview

The **Autodesk® Advanced Steel** software is a powerful 3D modelling application that streamlines the fabrication process through the use of a 3D model. This is used to create fabrication drawings, Bill of Materials (BOM) lists, and files for Numerical Control (NC) machines.

Features and Benefits

1. This is a recognized Autodesk course, as The CAD Corporation (Pty) Ltd is a **registered Autodesk Training Provider**.

2. Get **12 months** access to your course via our **myWay Learning Platform** that includes video lectures, extra resources, questionnaires and much more.
3. Take full advantage of our new **Hybrid Learning** by attending on **campus** or **virtually**. Have all your classes ready to be **downloaded** and **watched**, anytime, anywhere.

4. Attendees will **gain confidence** and enhance their practical skills and knowledge in this field.

Course Prerequisites

No previous CAD experience is necessary, however before using this courseware the student should have working knowledge of the following:

- Design, drafting or engineering principles

Course Outline

Module 1: Module 1: Introduction to Advance Steel

This exercise comprises of three parts and provides practical examples of working with the interface to open, view and save several models.

- Getting Started
- Exploring the User Interface
- Info Center
- Tool Palettes
- Viewing the Mode

Module 2: Starting a New Project

In this exercise, we will explore the topics covered earlier in more detail. We will first start a new project in a folder created with the same name as the model (.dwg) file using a template file containing default settings such as the current coordinate system, the orientation, object snap settings and layer assignment.

- Start a New Project

Module 6: Trusses and Hip Roofs

In this exercise we will insert a truss in the 3D model using the Truss generator macro, then create the hip rafters and finally, insert and connect the cold rolled purlins.

- Roof Trusses
- Placing a Truss
- Define the Truss
- Hipped Roofs
- Purlins

Module 7: Mezzanine Floor, Stair and Handrails

In this exercise we introduce the Mezzanine Floor – Insert macro to create the cold rolled mezzanine floor steelwork.

- Mezzanine Floor
- Primary Members
- Place a Stair
- Secondary Steelwork
- Flooring

Duration

In Class/Virtual Class, Hybrid Learning

3 Days (08:30 – 16:00) Classes are presented via our **Hybrid Learning** allowing learners the **flexibility** to attend on campus or in the comfort of their home or workplace.

Online, Mentored Learning

12 Months (Self-paced, access anytime, anywhere via our myWay Learning Platform)

Payment Options

Full course fee payable upfront or apply for our 3 Month Finance Option (Deposit R2000 upfront, 3 Months' payment terms)

An **additional fee** is payable for accredited courses & exam vouchers.

Course Accreditations

- Registered Autodesk Training Provider

What you get

On completion the learner will earn:

- **Certificate of Completion** from **Autodesk**

Note: All certificates are electronically issued.

Delivery Methods

- Campus-based
- On-Site
- Virtual Live
- Online Self-paced

- Project Information
- Creating the Building Grid
- Levels
- Placing Construction Elements
- Automatic Steel Connections

Module 3: Project Documentation

In this exercise, we will explore the topics outlined in the previous section in greater detail. First, we will use the checking tools to check for hard clashes, tool clearances and errors such as bolt edge distances. We will then number the model and create general arrangement and shop drawings. Finally, we will create the bill of materials.

- Perform a Model Clash Check
- Number the Model Elements
- General Arrangement & Shop Drawings
- Create Bill Of Materials (BOMs)
- Instance and Type parameters

Module 4: Explaining Network Applications and Storage Services

This exercise looks at the creation of stairs and handrailing. After specifying the model views, we will first create a straight stair using two points, then define the handrailing. Next, we will insert a spiral staircase in the 3D model, then create a vertical caged ladder. Finally, we will create some different types of grating.

- Create Model Views
- Create a Straight Stairs Between Selected Points
- Create Handrailing Between Selected Points
- Insert a Spiral Staircase in the 3D Model
- Insert a Vertical Caged Ladder
- Create Rectangular Gratin

Module 5: Create a Portal Frame Building

In this exercise, we will create a portal frame then apply the connections. We will copy the frame to create the bays, then add the bracing, purlins, sheeting rails and cladding panels.

- The Portal Frame
- The Frame Connections
- Vertical Bracing
- Roof Bracing
- Purlins and Sheeting Rails
- Cladding

- Handrailing

Module 8: NC File Creation

In this exercise we will number the model prior to creating NC and DXF files for hot and cold rolled steelwork. We will then modify the Management Tools to change the output name to include the project number and also place the reference on a component as a hard stamp.

- Create NC-DSTV and DXF Files
- Generate Cold Rolled CNC
- CAM Data
- Management Information Systems (MIS)
- File Exchange Formats

Module 9: Custom Connections

In the exercise we will create a custom connection using objects from the Connection Vault, then apply the connection to another situation before modifying it. Next, we will define a connection using manually created objects such as bolts, plates, clip angles, welds etc.

- Create a User Connection
- Insert a User Connection
- Modify a User Connection

Module 10: Drawing Customisation

In this exercise we will create custom general arrangement, assembly, and single part drawing styles in our project. We will define the custom drawing prototype to be used and update the title block with a company logo, then use the Management Tools to modify the properties of the drawing's elements.

- Drawing Styles
- The Drawing Style Manager
- Drawing Prototypes
- The Title Block
- Management Tools

Module 11: Interoperability

In this exercise we will import a series of SMLX files to Advance Steel which was created in Revit using the Advance Steel Extension for Revit add on. We will then apply connections, export the updated model, and synchronise it with the Revit model.

- Element Transfer between Advance Steel and Revit
- Structural Columns and Framings Transfer
- Steel Fabrication Element Transfer Structural Connection Transfer and Synchronisation
- Analysis Results Transfer from Revit to Advance Steel Level Import and Export
- Grid Transfer and Synchronisation
- The GTC Mapping Database

Outcomes and Objectives

- How to perform a basic setup of the modelling environment, get to know the ribbon and user interface terminology
- Identify the panels and the tools & using the tools and properties palettes
- Navigate around the drawing using commands such as Start a New Project & Project Information
- Create the Building Grid & Levels
- Place Construction Elements & Automatic Steel Connections
- Create Model Views – and their use by Cameras for GA creation & Straight Stairs Between Two Points
- Create Handrailing Between Selected Points & Insert a Spiral Staircase in the 3D Model
- Insert a Vertical Caged Ladder and Monowills & Create Rectangular Grating
- Create the Portal Frame & Connect the Frame & Copy the Frame and Connections
- Apply Bracing & Insert Cold Rolled Purlins and Sheeting Rails & Insert Cladding Panels
- Create a Roof Truss and apply the Connections, Hip Rafters & Purlins to the hip roof, apply connections and insert Eaves beams
- Create the Platform Support Steelwork & Create a Stair
- Insert the Mezzanine Floor Cold Rolled Steelwork & Create Flooring Panels
- Apply Handrailing to the Stairs and Platform & Different information management systems and Exchange formats
- Configure Numbering and Marking prior to creating NC Files & Add Project Information to the NC Files
- Produce DXF files for plates with Hard Stamping & Generate Manufacturer Specific Cold Rolled CAM Data
- Create User Connections & Insert User Connections
- Modify User Connections & The Drawing Style Manager
- Drawing Prototypes & The Title Block
- The Drawing Frame & BOM's and Revision Tables
- The Management Tools application & Element Transfer between Advance Steel and Revit
- Structural Columns and Framings Transfer & Steel Fabrication Element Transfer
- Structural Connection Transfer and Synchronisation & Analysis Results Transfer from Revit to Advance Steel
- Level Import and Export & Grid Transfer and Synchronisation & The GTC Mapping Database

For more information, please contact a student advisor:

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