Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Course Outline

AUTOCAD 2D and 3D

Course Details

The **AutoCAD 2D & 3D Course** is designed to equip learners with the essential skills needed to create, edit, and manage professional engineering and architectural drawings. Throughout the **2-month program**, students will start with the fundamentals of 2D drawing and gradually progress to advanced 3D modeling techniques. With practical, hands-on assignments and a final real-world project, learners will gain confidence in using AutoCAD for architectural, civil, mechanical, and interior design applications.

Course Type: Certificate
Course Duration: 2 months
Class Frequency: 2 classes/week, 2 hours each
Mode of Delivery: On-Campus
Audience: Beginners, Students, Professionals, and Anyone interested in CAD Design

Course Objectives

By the end of this course, learners will be able to:

- Understand AutoCAD interface, tools, and commands.
- Create, modify, and manage 2D drawings with precision.
- Apply layers, materials, and external references effectively.
- Develop 3D models, apply rendering techniques, and finalize designs.
- Work on real-world design projects with industry-standard practices.

Week-wise Course Plan

Week	Topics Covered	Learning Objectives	Assignments
Week 1	Introduction to AutoCAD; Understanding interface; Basic Drawing & Editing commands	Get familiar with AutoCAD environment, use basic tools to create and edit shapes	Draw basic geometric shapes using line, circle, rectangle tools

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Week	Topics Covered	Learning Objectives	Assignments
Week 2	Drawing precision in AutoCAD (Coordinates, Grid, Object Snap, Ortho Mode)	Learn to control accuracy using coordinates and snapping	Create a floor plan sketch with precise measurements
Week 3	Organizing drawing with Layers (Properties, Colors, Line Types, Layer Management)	Understand the importance of layers for clarity & organization	Organize a multi-room floor plan with proper layers
Week 4	Getting Information from Drawings (Dimensions, Area, Distance, Inquiry tools)	Extract measurement and data from drawings	Apply proper dimensioning to a technical drawing
Week 5	Quick Editing Techniques & Using Materials	Improve workflow speed, apply hatching, textures & materials	Create a textured 2D layout with hatching and materials
Week 6	3D Modeling Basics (Solid, Surface & Mesh modeling techniques)	Learn fundamental 3D modeling commands	Model simple 3D objects (cube, cylinder, chair, etc.)
Week 7	Revision & Practice	Strengthen skills by revising all major commands	Redraw a professional 2D plan & convert to 3D
Week 8	Final Project Presentation	Work on a full project combining 2D & 3D skills	Submit final project: 2D Floor Plan + 3D Model

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Assessment Structure

- **Weekly Assignments:** 30%
- **Mid-Course Practical Test:** 20%
- **Class Participation:** 10%
- **Final Project (End of Course):** 40%

Final Project

Each student will complete a **real-world project** (e.g., a house plan, interior model, or mechanical part) showcasing **both 2D & 3D skills**.

Recommended Resources

- **Software:** AutoCAD (Latest Version)

- **Books:**
  - *Mastering AutoCAD* by George Omura
  - *AutoCAD 2024 for Beginners* by CadArtifex
- **Online Help:** AutoDesk Knowledge Network, YouTube AutoCAD Tutorials

Attendance Policy

Regular attendance is essential for successful course completion. Students are expected to attend at least **80% of classes**. More than **20% unexcused absences** may result in disqualification from the final project and certification.

Below Auto Desk Revit Course Outline!

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Course Outline

AUTODESK REVIT

Course Details

The **Autodesk Revit course** is designed to equip learners with essential **Building Information Modeling (BIM)** skills for architectural design, structural engineering, and construction workflows. This hands-on course covers **fundamentals to advanced features** of Revit, ensuring participants can confidently design, annotate, and document building projects.

Course Type: Certificate
Course Duration: 2 months
Class Frequency: 2 classes/week, 2 hours each
Mode of Delivery: On-Campus

Course Objectives

By the end of this course, learners will be able to:

- Understand the **interface and core functions** of Revit.
- Create **architectural drawings, models, and construction documents**.
- Apply **BIM concepts** for real-world architectural projects.
- Use **tools for walls, doors, windows, floors, roofs, and curtain walls**.
- Prepare professional **plans, elevations, sections, and 3D views**.
- Manage revisions, detailing, and annotations for project documentation.

Week-wise Course Plan

Week	Topics Covered	Learning Objectives	Assignments
Week 1	Introduction to Revit, User Interface, Basic Drawing & Editing Tools	Familiarize with Revit workspace, navigation, and essential tools for drawing & editing.	Create a simple floor plan with basic shapes and annotation.
Week 2	Setting up Levels & Grids, Drawing & Modifying Walls	Establish project levels and grids; create different wall types and modify wall properties.	Design a small building structure with levels, grids, and walls.

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Week	Topics Covered	Learning Objectives	Assignments
Week 3	Curtain Walls, Doors & Windows	Learn to insert, modify, and customize doors, windows, and curtain wall systems.	Create a floor plan with walls, windows, and doors layout.
Week 4	Creating Views & Floors	Generate 2D & 3D views; model floors with different properties.	Produce multiple views of a floor plan and model a simple floor system.
Week 5	Components & Annotations	Insert components (furniture, fixtures) and apply annotation tools.	Annotate a given plan and add required components.
Week 6	Reflected Ceiling Plans & Roofs	Develop ceiling plans, add lighting fixtures, and construct roof systems.	Design a ceiling plan and roof model for the assigned project.
Week 7	Detailing in Revit	Learn detailing tools, section drawings, and construction documentation.	Create detailed sections and add construction detailing to drawings.
Week 8	Revision, Final Project Briefing, Q&A	Review core concepts, prepare final project guidelines, answer queries.	Start working on **Final Project** – full building model.

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*

Assessment Structure

- **Weekly Assignments:** 30%
- **Mid-Course Practical Test:** 20%
- **Class Participation:** 10%
- **Final Project (End of Course):** 40%

Final Project

Learners will design a **complete small residential/commercial building model** in Revit, including:

- Levels, grids, and walls
- Doors, windows, floors, roofs, and ceiling plans
- Annotated construction drawings and 3D views
- Proper detailing and revisions

Recommended Resources

- *Autodesk Revit Official Guide* (Autodesk Press)
- Lynda.com / LinkedIn Learning – Revit Tutorials
- RevitCity.com – Free Revit Families & Components
- YouTube: Autodesk Revit Learning Channel

Attendance Policy

Regular attendance is essential for successful course completion. Students are expected to attend at least **80% of classes**. More than **20% unexcused absences** may result in disqualification from the final project and certification.

Note: *This course outline and schedule are tentative and may be adjusted by the instructor depending on class progress and circumstances.*