Namal University, Mianwali

Department of Electrical Engineering

EE-254– Engineering Drawing

Lab Project

Design 3D model of a building with 2 floors including at least one bedroom kitchen and one washroom on each floor.

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Document History

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1.0	02-2022	Initial Draft	MB

1.1	06-2023	Revision	RS

Course Learning Outcomes

CLO1: Describe and report basic engineering drawing problems.

CLO3: Reproduce 2-D and 3-D sketches using AutoCAD by applying engineering drawing principles.

Equipment

- Software ○
  AutoCAD 2016
  Educational Version

Objectives:

- The primary objective is to create precise and comprehensive engineering drawings using AutoCAD.
- To learn how to design a specific model 3D model in AutodCad.

Introduction:

Design a two floor house using autocad. I have make a design of my Father house in which I add Two Bed Room, One family drawing room and one Drawing Room and on Room for Cow and One Washroom,One bathroom and one Kitchen and also make a small Room for Grass cutting Machine.

On Second floor I add One bed,One Kitchen and One Washroom.

Procedure:

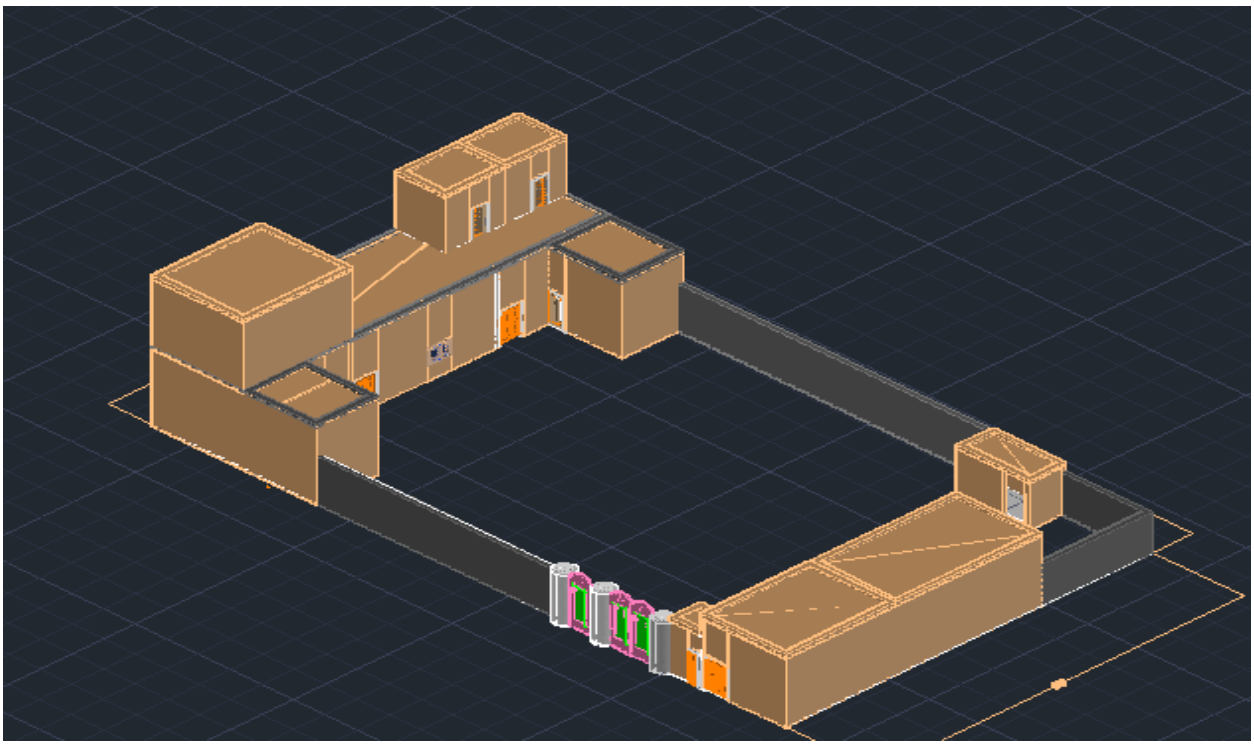
- Begin by thoroughly first make layout of building.

- Make overall dimensions and layout of the building on rough page.
- Now, first make a ground floor with specific dimension in 2D and after using presspull or extrude command to make in 3D.
- After that make second floor with specific dimension in 2D and after using presspull or extrude command to make in 3D.
- After that using move command put second floor building on the Roof of ground floor building.

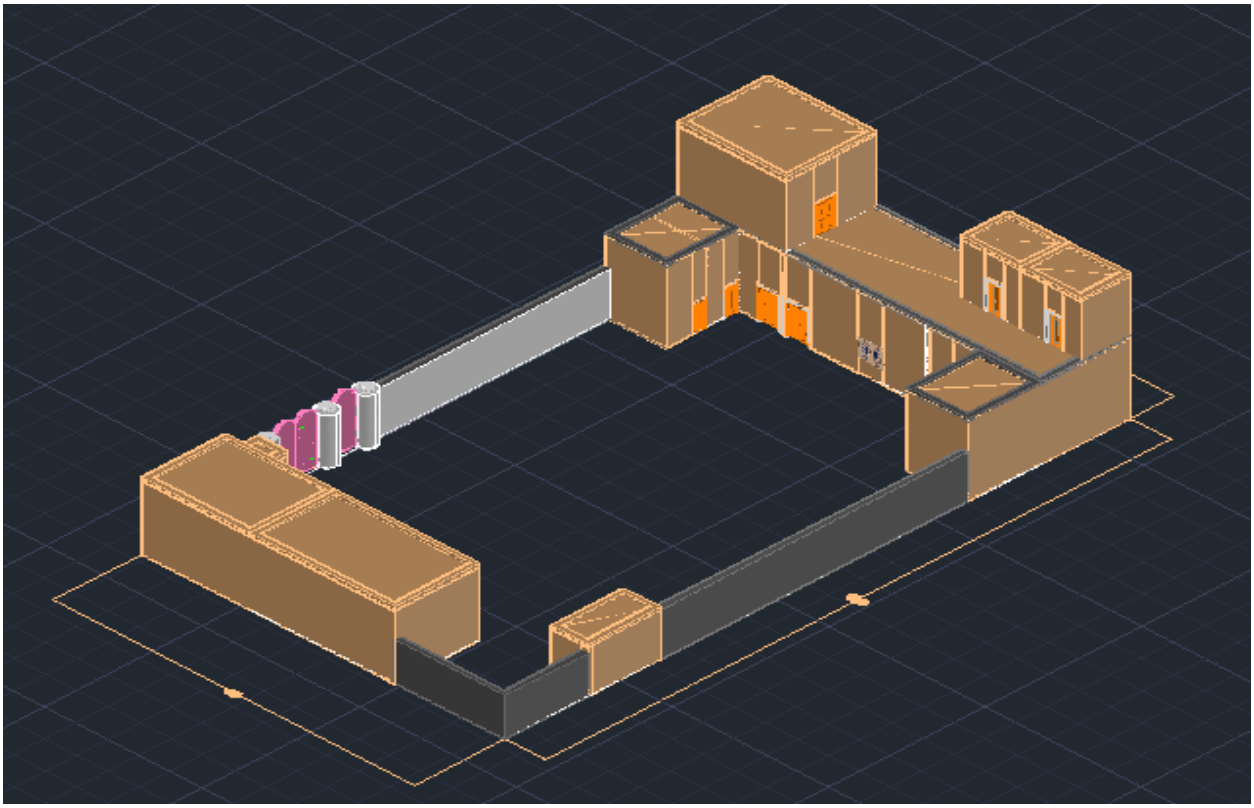
Design Project:

Here's Different Views of Design Project.

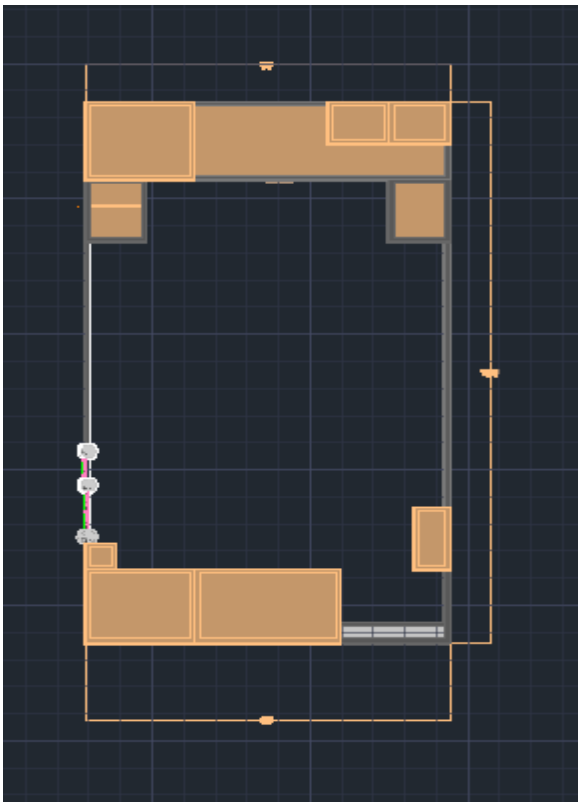
SW_View:



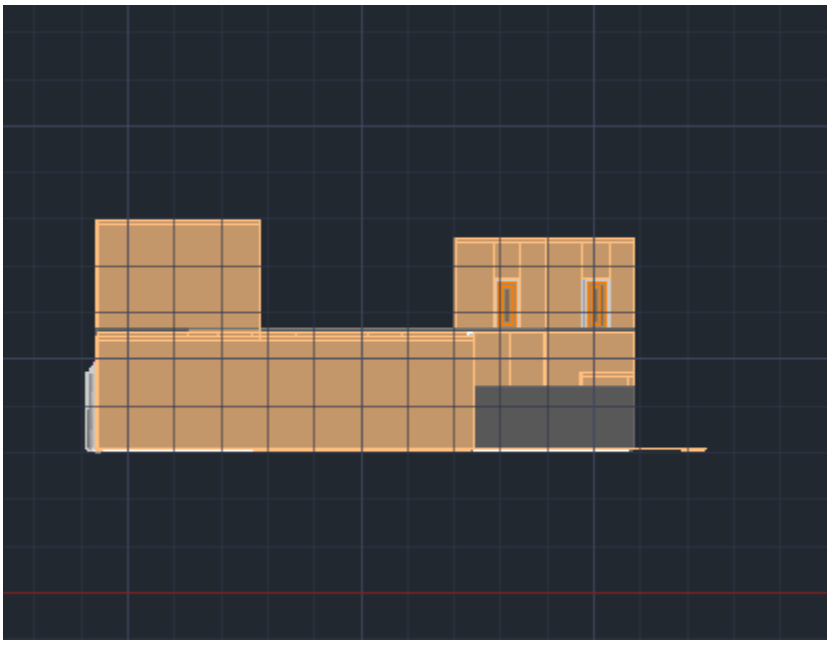
SE_View:



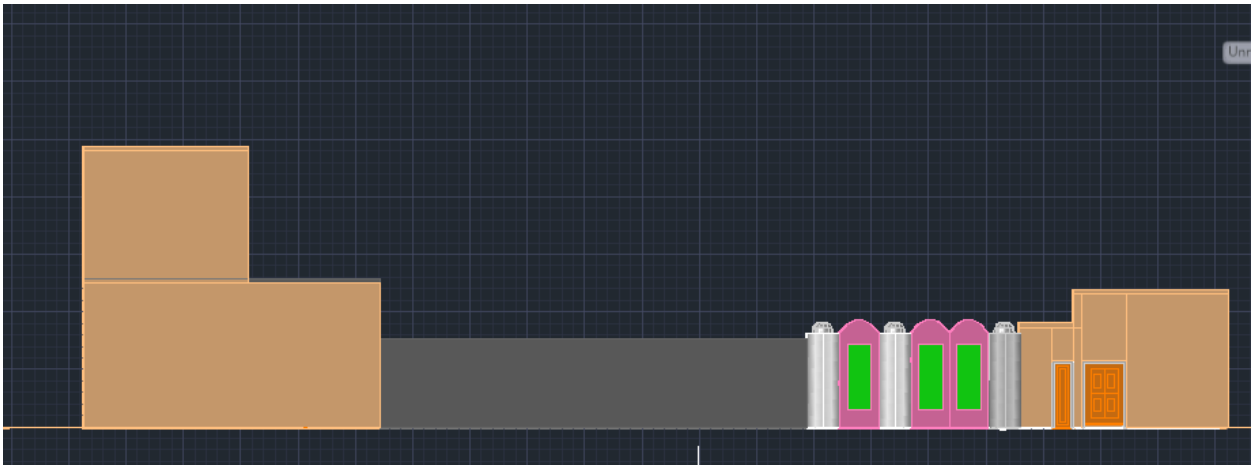
Top_View:



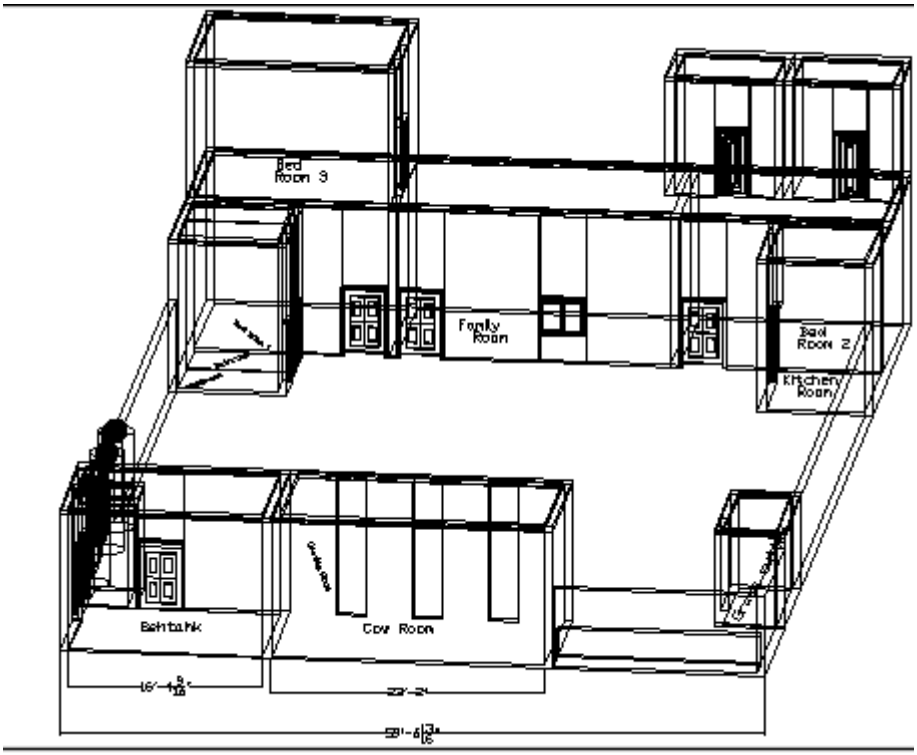
Front_View:



Left side_View:



2D Wireframe Picture:



Commands:

Opening an AutoCAD 2013 format file.

AutoCAD menu utilities loaded.*Cancel*

Command:

Autodesk DWG. This file is a TrustedDWG last saved by an Autodesk application or Autodesk licensed application.

Command:

Command:

Command:

Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command:

Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]:

Command:

Command:

Command: _copyclip 7 found

Command: _.erase 7 found

Command:

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]:

Command:

Command:

Command: _copyclip 84 found

Command: _.erase 84 found

Command:

Command:

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: *Cancel*

Command:

Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]:

Command:

Command:

Command: _copyclip 75 found

Command: _.erase 75 found

Command:

Command:

Command: _.erase 1 found

Command:

**** MOVE AND ALIGN ****

Specify origin point or align to face, surface, or mesh:

Command:

**** MOVE AND ALIGN ****

Specify origin point or align to face, surface, or mesh:

Command: FLATSHOT

Command:

Command:

Command: _open

Command:

Automatic save to C:\Users\namal\appdata\local\temp\ED_project_recover_1_1_6603.sv$ ...

Command:

Command:

Command: DIM

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Too many objects selected for INTERSECT

Specify second extension line origin or [Undo]:

Resuming DIM command.

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:*Cancel*

Command: DIMSTY

DIMSTYLE

Dimension disassociated.

Command: DIMSTY

DIMSTYLE

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: *Cancel*

Command: *Cancel*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: *Cancel*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: *Cancel*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: *Cancel*

Command:

Command:

Command: _3drotate

Current positive angle in UCS: ANGDIR=counterclockwise ANGBASE=0

Select objects: 1 found

Select objects:

Specify base point:

1 was not parallel to the UCS.

Command: 3DROTATE

Current positive angle in UCS: ANGDIR=counterclockwise ANGBASE=0

Select objects: 1 found

Select objects:

Specify base point:

1 was not parallel to the UCS.

Command:

Command:

1 was not parallel to the UCS.

Command: *Cancel*

Command: *Cancel*

Command: *Cancel*

Command: *Cancel*

Command: *Cancel*

Command: 3DROTATE

Current positive angle in UCS: ANGDIR=counterclockwise ANGBASE=0

Crossing Lasso Press Spacebar to cycle options0 found

Select objects: *Cancel*

Command: 3DPAN

Command: DIMLIN

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 104'

Command: DIMSTY

DIMSTYLE

Command:

Command:

Command: _extrude

Current wire frame density: ISOLINES=4, Closed profiles creation mode = Solid

Select objects to extrude or [MOde]: _MO Closed profiles creation mode [SOlid/SUrface] <Solid>: _SO

Select objects to extrude or [MOde]: 1 found

Select objects to extrude or [MOde]:

Cannot sweep or extrude an object of this type.

1 object removed from selection set.

Select objects to extrude or [MOde]: MO

Closed profiles creation mode [SOlid/SUrface] <Solid>: SU

Select objects to extrude or [MOde]: 1 found

Select objects to extrude or [MOde]:

Cannot sweep or extrude an object of this type.

1 object removed from selection set.

Window Lasso Press Spacebar to cycle options0 found

Select objects to extrude or [MOde]: *Cancel*

Command:

Command: *Cancel*

Command: *Cancel*

Command:

Command:

Command: _.undo Current settings: Auto = On, Control = All, Combine = Yes, Layer = Yes

Enter the number of operations to undo or [Auto/Control/BEgin/End/Mark/Back] <1>: 1 '.VIEWCUBEACTION

Command: 3DO

3DORBIT Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command: PAN

Command: DIMLIN

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 60'

Command: 3DO

3DORBIT Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command: PAN

Command:

Command:

Command: _qsave

Command:

Command:

Command:

Press ESC or ENTER to exit, or right-click to display shortcut-menu.

Command:

Command:

Command:

Command:

**** STRETCH ****

Specify stretch point or [Base point/Copy/Undo/eXit]: *Cancel*

Command:

Command:

Command: *Cancel*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]:

Command: *Cancel*

Command:

Command:

Command:

Command: _-VIEW Enter an option [?/Delete/Orthographic/Restore/Save/sEttings/Window]: _SWISO

Automatic save to C:\Users\namal\appdata\local\temp\ED_project_recover_1_1_5982.sv$ ...

Command:

Command:

Command:

Command: _-VIEW Enter an option [?/Delete/Orthographic/Restore/Save/sEttings/Window]: _SEISO

Command:

Command:

Command:

Command: _-VIEW Enter an option [?/Delete/Orthographic/Restore/Save/sEttings/Window]: _TOP

Command:

Command:

**** MOVE AND ALIGN ****

Specify origin point or align to face, surface, or mesh:

Command:

Command:

Command:

Command: _-VIEW Enter an option [?/Delete/Orthographic/Restore/Save/sEttings/Window]: _FRONT

Command:

**** MOVE AND ALIGN ****

Specify origin point or align to face, surface, or mesh:

Command:

Command:

Command:

Command: _-VIEW Enter an option [?/Delete/Orthographic/Restore/Save/sEttings/Window]: _LEFT

Command:

Command:

Command: *Cancel*

Command: *Cancel*

Command: <Switching to: Layout1>

Regenerating layout.

Command: *Cancel*

Command: *Cancel*

Command: <Switching to: Layout2>

Regenerating layout.

Command: *Cancel*

Command: *Cancel*

Command: <Switching to: Model>

Restoring cached viewports.

Command:

Command:

Command: _ai_selall Selecting objects...done.

Conclusion:

In conclusion after making House design I learn lots of commands and features of Autocad. After that we have design any design any circuit or shape in Autocad in Electrical Engineering Point of view. The design of the two-floor building with bedrooms, kitchens, and washrooms on each level has been successfully achieved using AutoCAD. The project objectives of producing accurate engineering drawings, ensuring structural integrity, and incorporating sustainable design principles have been met. The 3D model and detailed engineering drawings serve as effective tools for construction implementation.

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