

ADA 134

DESIGNING WITH DIGITAL MEDIA

Exercise 1

Construction Lines and Exterior Walls:

Access AutoCAD and open a new drawing file.

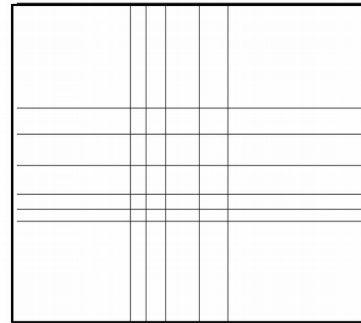
Save the file on your computer as EX1_???? where ???? refers to your surname (SAVE AS)

Locate your four vertical construction line axis at (50,0), (320,0), (660,0), (1250,0), (1750,0).

(XLINE>VERTICAL)

Locate your four horizontal construction line axis at (0,50), (0,250), (0,480), (0,950), (0,1450), (0,1865). (XLINE>HORIZONTAL).

Your drawing has to look like the figure below.



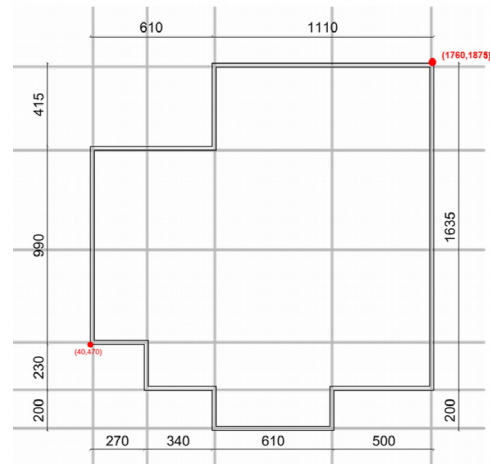
Draw the exterior walls of your building according to the dimensions given on the figure below.

Use the necessary commands (such as; LINE, POLYLINE, OFFSET, TRIM, etc.)

You can use point (40,470) or (1760,1875) as your starting point.

Take the wall thickness as 20.

Construction lines have to remain in between the two lines of the wall.



Create a new layer and call it "construction line." Adjust the color of this layer to red.

Move the construction lines to this new layer called "construction lines". See what happens when you turn off the "construction lines" layer. Be careful that walls stay on another layer.

When you finished all of the steps, save your drawing and submit your file.

Exercise 2

Doors and Windows:

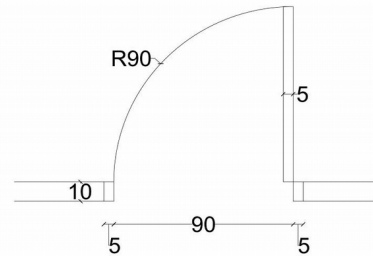
Open the drawing of exercise 1 and save the file as EX2_???? where ???? refers to your surname. Experiment with the drawing aids below.

GRID (F7): Activate GRID command ON (Either by *typing 'grid'* or *from the status bar* at the bottom of the screen. The settings for the grid can be reached by right-clicking on the grid button on the status bar. Change the grid spacing as 50).

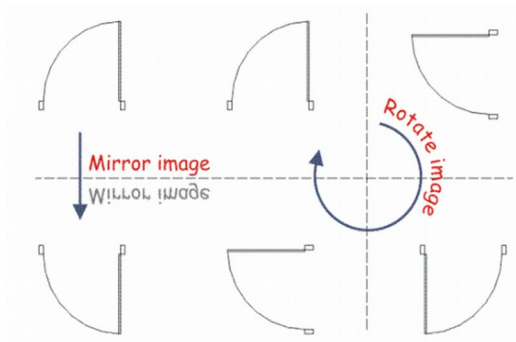
ORTHO (F8): Turn it ON (either by typing or from status bar).

SNAP MODE (F9): Activate the Snap command ON (Either by *typing 'snap'* or *from the status bar*. The settings for the grid can be reached by right-clicking on the grid button on the status bar. Change the snap spacing to 50).

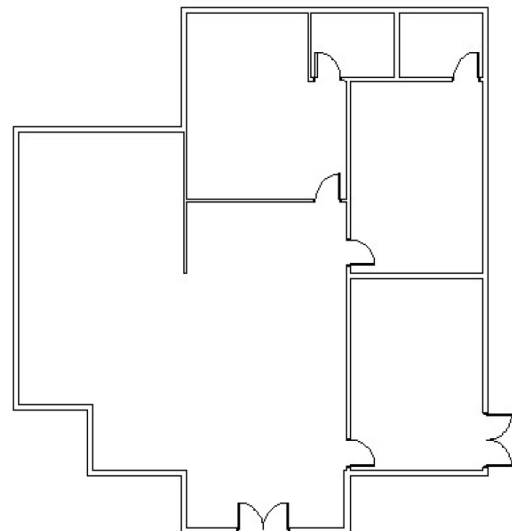
Using the LINE and ARC commands draw a door related to the dimensions given below.



Copy, mirror and rotate the door to obtain different orientations of doors.

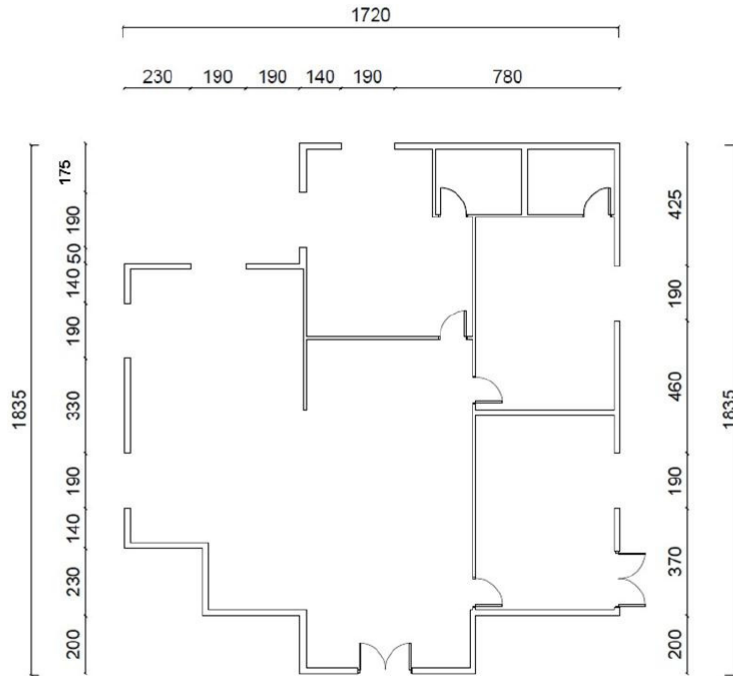


Locate them to appropriate locations as shown in figure below.

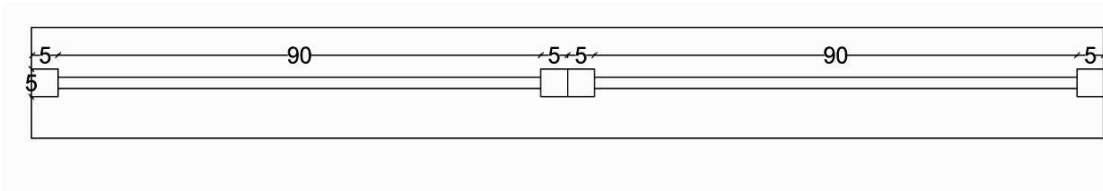


Double doors: Create the other openings similarly with the given dimensions below and mirror that door and locate them to the appropriate locations

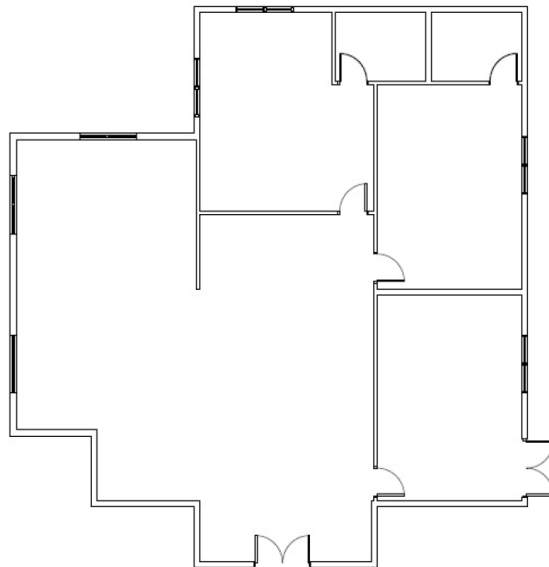
Trim the walls according to the dimensions given below to create the openings for the windows.



Draw the window frame as shown below.



Activate BLOCK command and create a block named "window" out of the window figure. (You may pick the lower left-hand side corner of the figure as the insertion base point). Create a new layer called "openings." Change the color of this layer. Select the door and window elements and change the layer of these selected objects to this new layer: "openings." Activate INSERT command and insert the other windows as shown in the figure below.



When you finished all of the steps, save your drawing and submit your file.

Exercise 3

Layout and Furniture:

Draw the plan of your computer lab 11.00m x 6.00m, with window openings 0.90 m and 1.80m and the door 0.90m.

Make arrangements to accommodate 15 students. Design and draw tables, chairs, computers, etc. Use the BLOCK command and the DIMENSION command.

When you have finished your drawing, save and submit your file.

Exercise 4

Elevation:

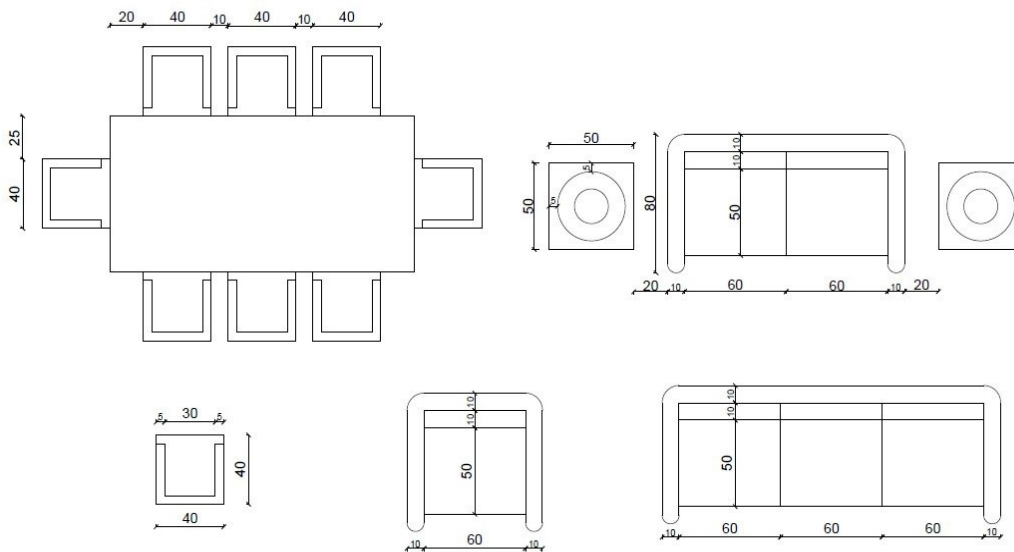
Draw two elevations of your designed computer lab (transverse and longitudinal). Use the DIMENSION command.

When you have finished your drawing, save and submit your file.

Exercise 5

Hatch Pattern and Gradient:

Draw the furniture below.



Fillet radius : 5

Inner circle diameter : 20

Outer circle diameter : 40

Make proper arrangement for the furniture, copy all furniture to create a second set.

Apply the Hatch command. Use in one set hatch patterns to indicate color and texture and in the other set gradient hatch for color and texture.

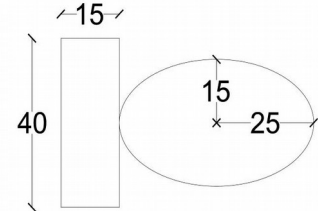
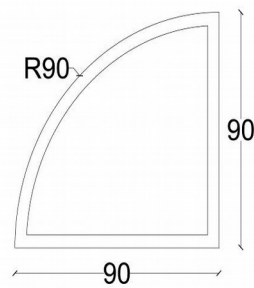
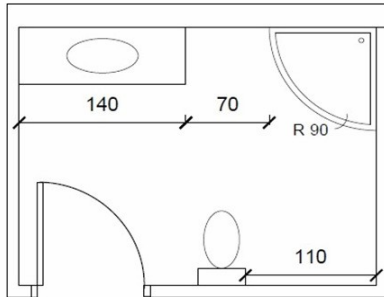
Exercise 6

Layout Design:

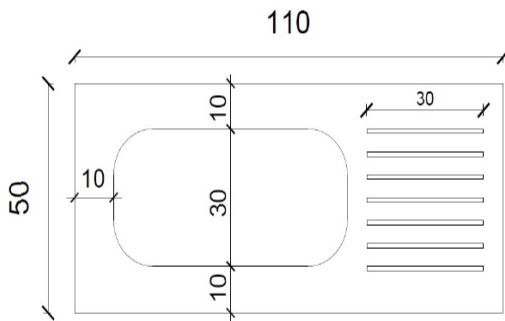
You are given a space of 8.00m x 6.00m. Design this space for a single person, with kitchen bathroom, living room, bedroom and entrance area.

Identify openings, such as doors and windows, furnish the spaces, write their names and give dimension information.

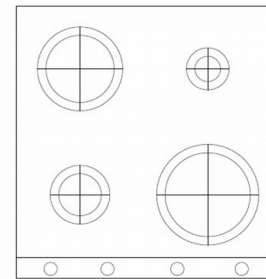
Bathroom:



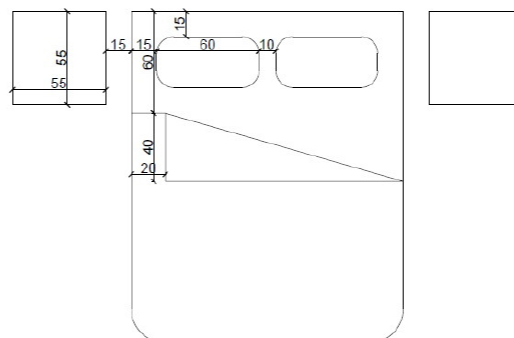
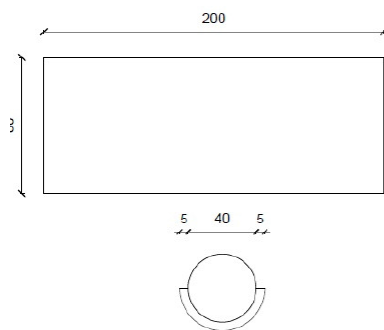
Kitchen:



fillet radius = 10 cm



Bedroom:



Bed fillet radius : 20
Pillow fillet radius : 10

Exercise 7

Layering and Plot:

Use your drawing from exercise 6.

Finish your drawing (dimension, text, ...), use the hatch command to render your plan.

Create different layers. Put walls, doors, windows, furnisher, dimension, hatch, each on separate layers.

Take plots of your drawing with all layers on in a scale 1:100 and 1:50 on an A4 sheet.

Turn off the layer with dimension information and take a plot, scale 1:50, A4.

Turn on the layer with dimension information and turn off the layer with render information, take a plot, scale 1:50, A4.

Pre-Midterm Exercise

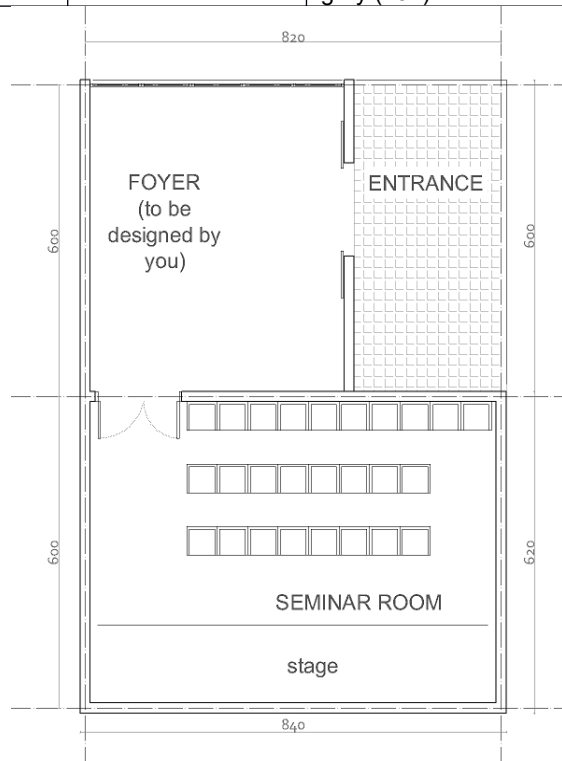
A SEMINAR MODULE ON CAMPUS

You are to draw the plan of an architectural structure which is dedicated to seminars and small meetings to be held in a campus.

Open a new drawing file, name your file as: XXXXMID (XXXX being your surname, MID referring to midterm exam) and save it on the "D" drive.

Create the required layers as indicated below:

OBJECT	LAYER NAME	LAYER COLOR	LINETYPE	LINEWEIGHT
Walls	wall	green	continuous	0.40
Openings	opening	blue	continuous	0.20
Furniture	furniture	magenta	continuous	0.20
Floor elements	floor	white	continuous	0.13
Text	text	grey (250)	continuous	0.25
Dimensions	dim	grey (251)	continuous	0.25
Hatch	hatch	grey (252)	continuous	0.13



Draw the plan of the given structure according to the given requirements using the layers you have created.

Draw the plan according to the given dimensions.

The foyer space on the plan is left empty. Design the space by adding furniture. Arrange and locate this space as you deem appropriate for a foyer.

Render your plan by using the hatch command.

Missing dimension information can be decided by you.

Exercise 8 as Homework

3D Modeling

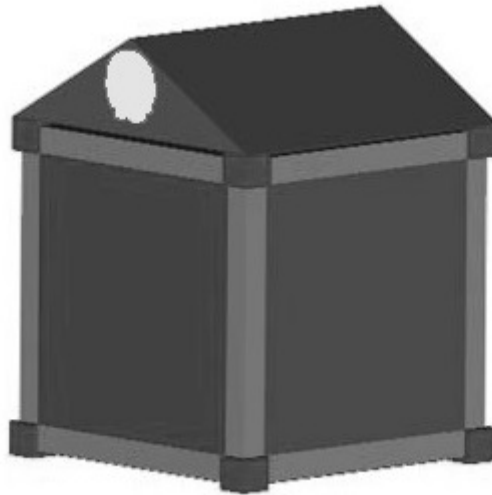
Open a drawing file in AutoCAD named "SCULP".

Design and draw a sculpture to reflect the integration of your character with your profession as a designer. Use commands to create solids or surfaces or both. Apply materials to your sculpture while you are using the render command. The imaginary volume you can use for your design is based on a square 50cm x 50cm with a height of 1.00m.

Exercise 9

Draw the structure below, using the following elements:

Cubes: 25 cm x 25 cm x 25 cm
Beams: 20 cm x 20 cm cross section and 200cm length
Circle: 25 cm radius
Panels: 10 cm thicknes



Exercise 10

Use the plan of the "BOOK STORE", designed for the Midterm and draw two section-elevations.

The ceiling height is 3m, floor and ceiling thickness should be taken as 30cm.

Render both drawings using the Hatch pattern and gradient options.

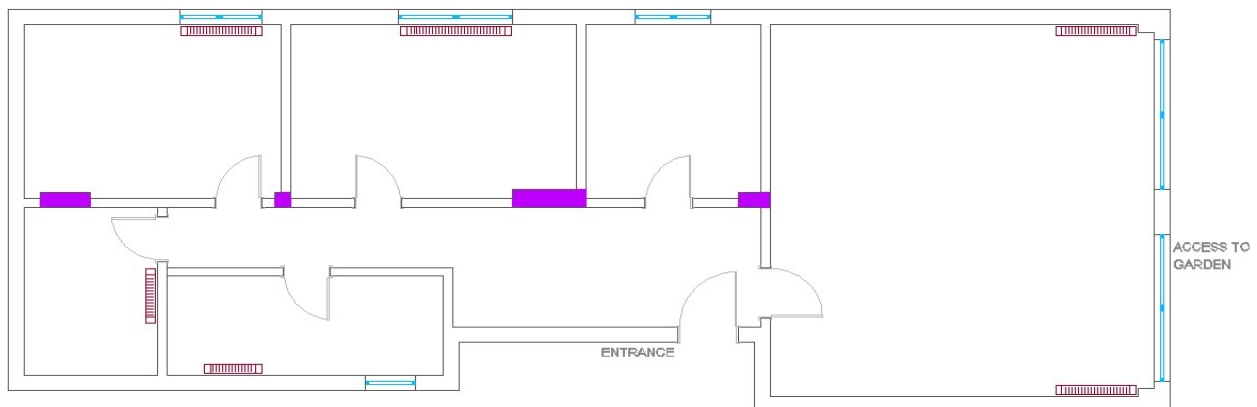
Final Presentation

Submission of the final folder will be the latest on Friday, 25.07.2014, at 14:00 p.m. in room FFA 410!

for IAED

Design for a family of 3, father, mother and 6 year old child.

While drawing and designing present your abilities as an interior architect, who is using the computer media. Start analyzing the users and design the space according to their needs and expectations. Think about materials and products that you are planning to use to create and furnish the space, and how color, light, texture and other factors will interact within the space.



The overall height is 2.85m, thickness of your walls are 25cm for the outer walls and 15cm for the inner walls, ceiling and floor have a thickness of 30cm. You are not allowed to make any changes on the facade of the building. Nevertheless the opening height for the windows can be decided by you. Arrangement of spaces can be redecided according to your design decisions.

Submission requirements:

Prepare a A3 folder with:
Working files on a CD
Concept information to express your design idea
Plan with immediate surrounding (1/50)
Two sections (1/50)

All drawings should be rendered.

Do not forget to add to your print-out/s title block/s consisting of your name, course details.

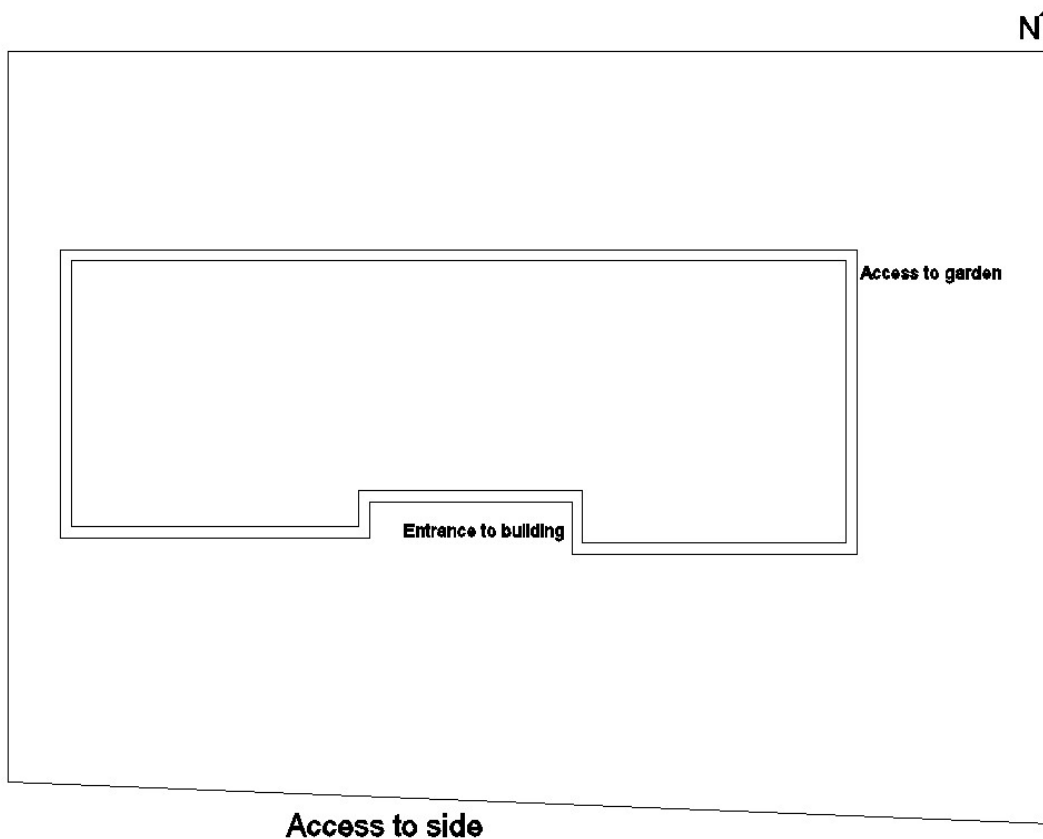
for LAUD

Design the garden area of this one story house.

User is a young women living with her 4 year old daughter and having a dog.

Analyze the users and design the space according to their needs and expectations. There's much more to garden design than growing plants.

Think about materials and products that you are planning to use. Walls, fences and pergolas are important structural elements, they can be purely decorative or serve a practical purpose, such as shade, screening or support. Using light and water features might create a unique ambience in your garden.



Submission requirements:

Prepare a A3 folder with
Working files on a CD
Concept information to express your design idea
Plan (1/100)
Two elevations (1/100)

All drawings should be rendered.

Do not forget to add to your print-out/s title block/s consisting of your name, course details.

for ARCH

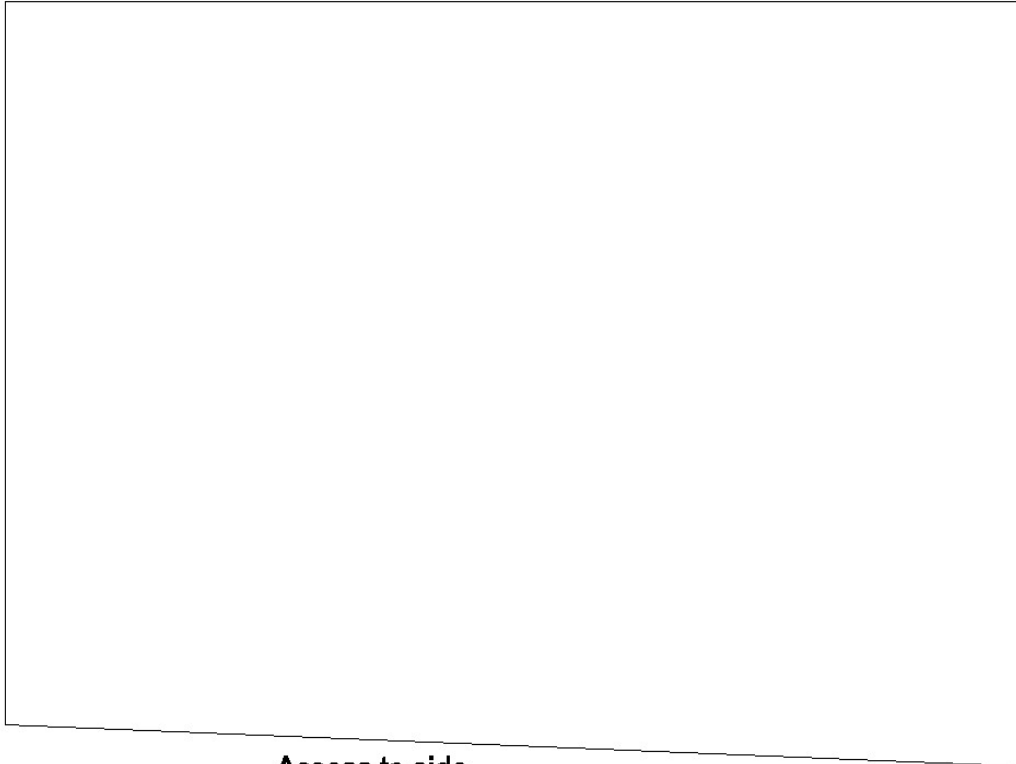
Design a one story house for two brothers going to university.

On the given side you are allowed to use min 100 m² and max 120 m² for the house.

Analyze the users and design the space according to their needs and expectations.

Decide from where to enter the house and begin your design with both interior considerations and exterior appearance concerns simultaneously. You are free to decide on the size and location of your openings. But remember, to minimize apertures on the East and especially the West. Low sun angles for these orientations make shading extremely difficult without blocking the entire window. Decide on the structure of your building, and on materials and products that you are planning to use.

N↑



Access to side

Submission requirements:

Prepare a A3 folder with:
Working files on a CD
Concept information to express your design idea
Plan (1/100)
Two sections (1/100)
Four exterior elevations (1/100)

All drawings should be rendered.

Do not forget to add to your print-out/s title block/s consisting of your name, course details.