



Benha University
Faculty of Engineering
Department of Architectural Engineering

AE 1111 | Architecture Design (1A) | Lecture 1

Course Introduction



DR. MONA SHEDID
*ASSOCIATED PROFESSOR , FACULTY OF ENGINEERING,
BENHA UNIVERSITY*



Lecture 1

1. About the Course

- Introduction
- Course Outline
- Staff Members
- Timeline
- Lecture & Tutorial
- Assignments

2. Drawing Tools

3. Introduction to Architectural Design



Course Introduction

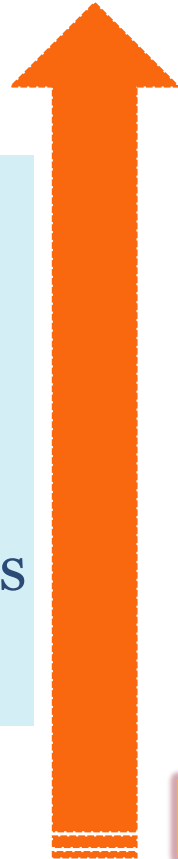
1



ABOUT THE COURSE

INTRODUCTION

This is the first
course of
ARCHITECTURE
DESIGN 1A courses
series



AE1411 - Architecture Design 4

AE13112 - Architecture Design 3B

AE1311 - Architecture Design 3A

AE12112 - Architecture Design 2B

AE1211 - Architecture Design 2A

AE1112 - Architecture Design 1B

AE1111 - Architecture Design 1A

COURSE OUTLINE

AE1111 - Architecture Design 1A

The architect's challenge is to design small project (residential projects) and characteristics of the site at the same time.

COURSE OUTLINE

Topics Include

- Course Introduction
- Introduction to Architecture Design
- How to draw an Arch. Plan
- How to Draw an Arch. Section & Elevation
- Site Analysis
- Bubble Diagram
- Presentation

COURSE OUTLINE

Course Objectives

CO1	Outline the architectural vocabulary and drawings which used in architectural design and architectural presentation.
CO2	Students will be able to display projection abilities from 3D drawings and vice versa to draw efficiently and accurately according to different scales.
CO3	Design innovative simple design projects.

COURSE OUTLINE

Course Learning Outcomes (CLO's)

CLO1	Generate new design solutions through imagination and creativity
CLO2	Identify principles of architectural design in a simple context, scales and types that satisfy both aesthetic and technical requirements.
CLO3	Produce all necessary architectural drawings that meet technical requirements.
CLO4	Analyze different similar building design solutions to obtain design criteria.
CLO5	Criticize physical models of similar buildings.
CLO6	Design simple architecture design problems that meet users' requirements

COURSE OUTLINE

Course Topics

Course Topics	Week
Introduction to course content and architecture design	1
Explain how to draw architectural plans	2
Explain how to draw architectural sections	3
Explain how to draw architectural elevations	4
Explain how to draw architectural layout.	5
Workshop (architecture presentation)	6
Introduction to 1 st project	7
Final Sketch & Physical Model	8
Diagram of relationships of spaces, shapes of buildings and movements.	9
Introduction to 2 nd design project	10
Introduction to site analysis	11
Similar project analysis (1) & Physical Model	12
Semi-final Sketch	13
Final Sketch & Physical Model	14

COURSE OUTLINE

Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design studio	*		*		*	*
3. Problem-based Learning	*			*		
4. Case Study		*		*		
5. Projects	*		*		*	*
6. Discussion	*	*		*		*
7. Modeling					*	*

COURSE OUTLINE

Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Oral Exam		*			*	
2. Midterm Exam			*			
3. Discussions	*	*		*		
4. Projects	*		*		*	*
5. Assignments		*	*	*		*
6. Presentations					*	
7. Modeling					*	
Summative Assessment Method						
Final Exam	*		*			*

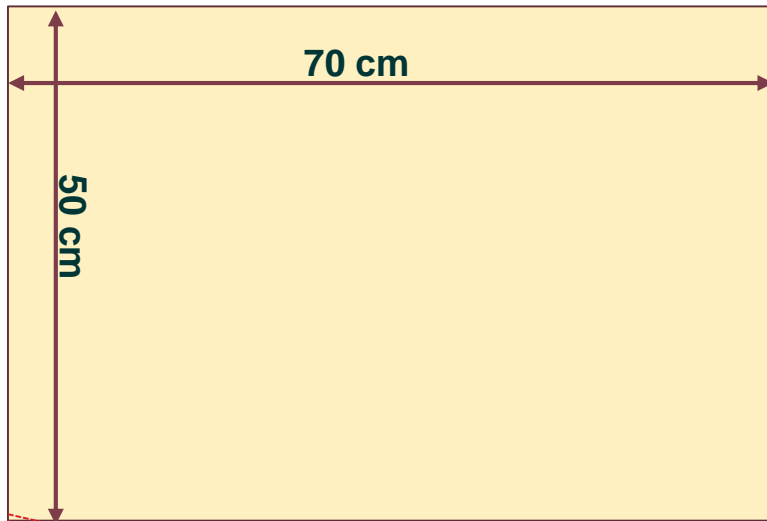
COURSE OUTLINE

Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Oral Exam	Week # 14	10%
Mid-term Exam	Week # 8	10%
Discussions	Week # 10	5%
Projects	Week # 9,13	10%
Assignments	Week # 2,3,4,5,6,7,	10%
Modeling	Week # 12	5%
Training	Preparatory year	20%
Final Exam	Scheduled by the faculty council	30%
Total		100%

ASSIGNMENTS

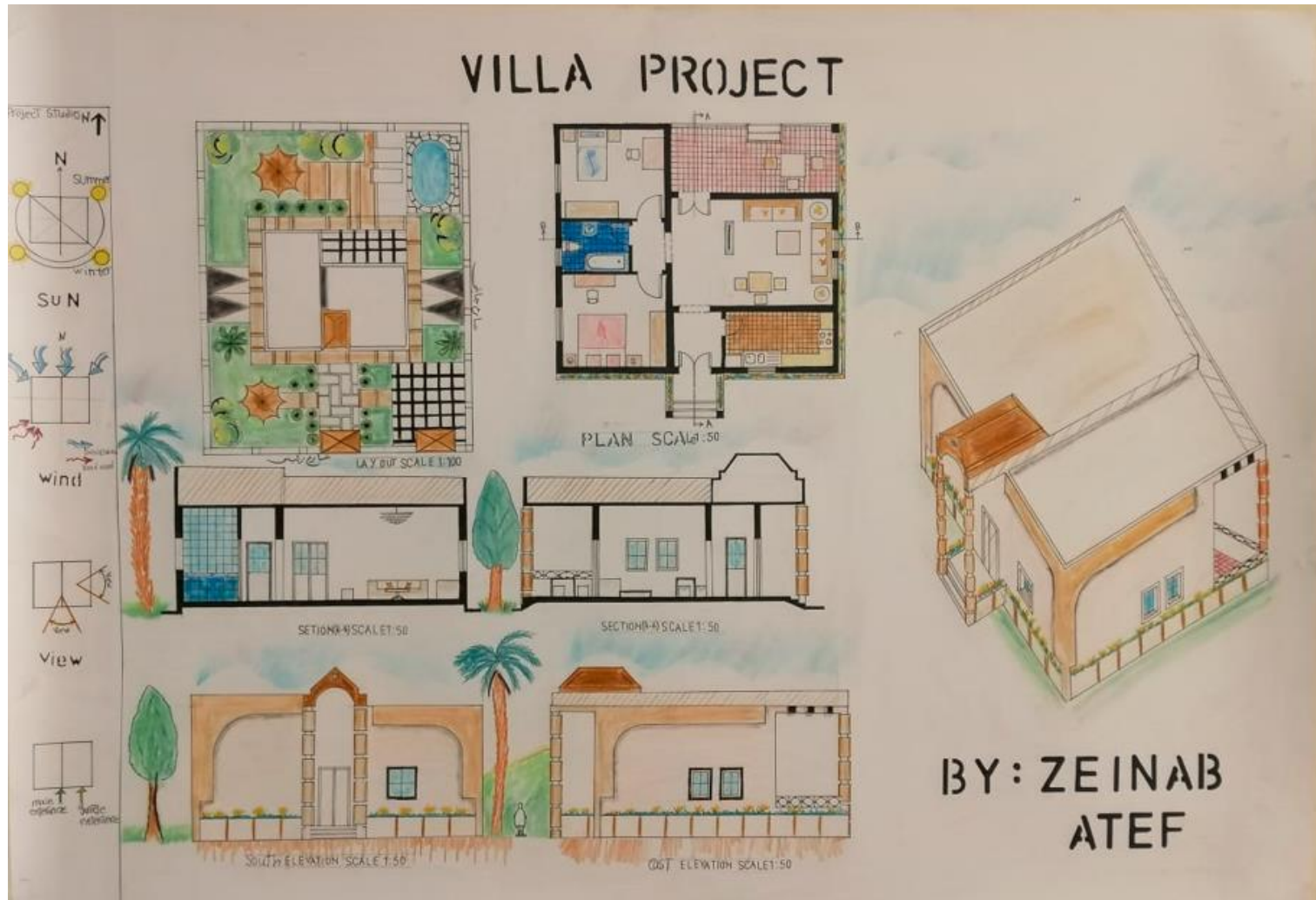
Standard Format



STUDENT NAME: STUDENT ID:	ASSIGNMENT NO.: DATE:

ASSIGNMENTS

Projects



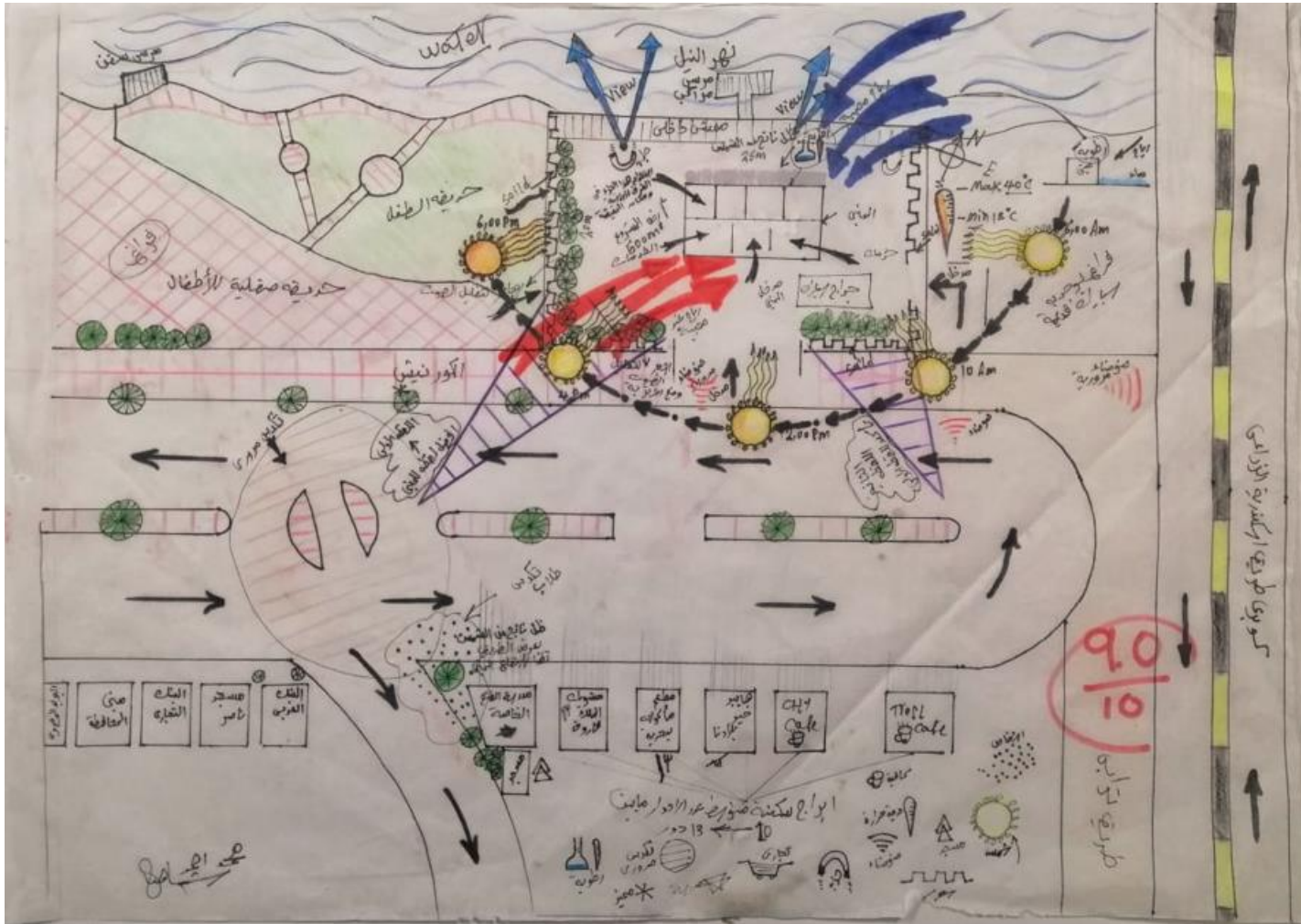
ASSIGNMENTS

Projects



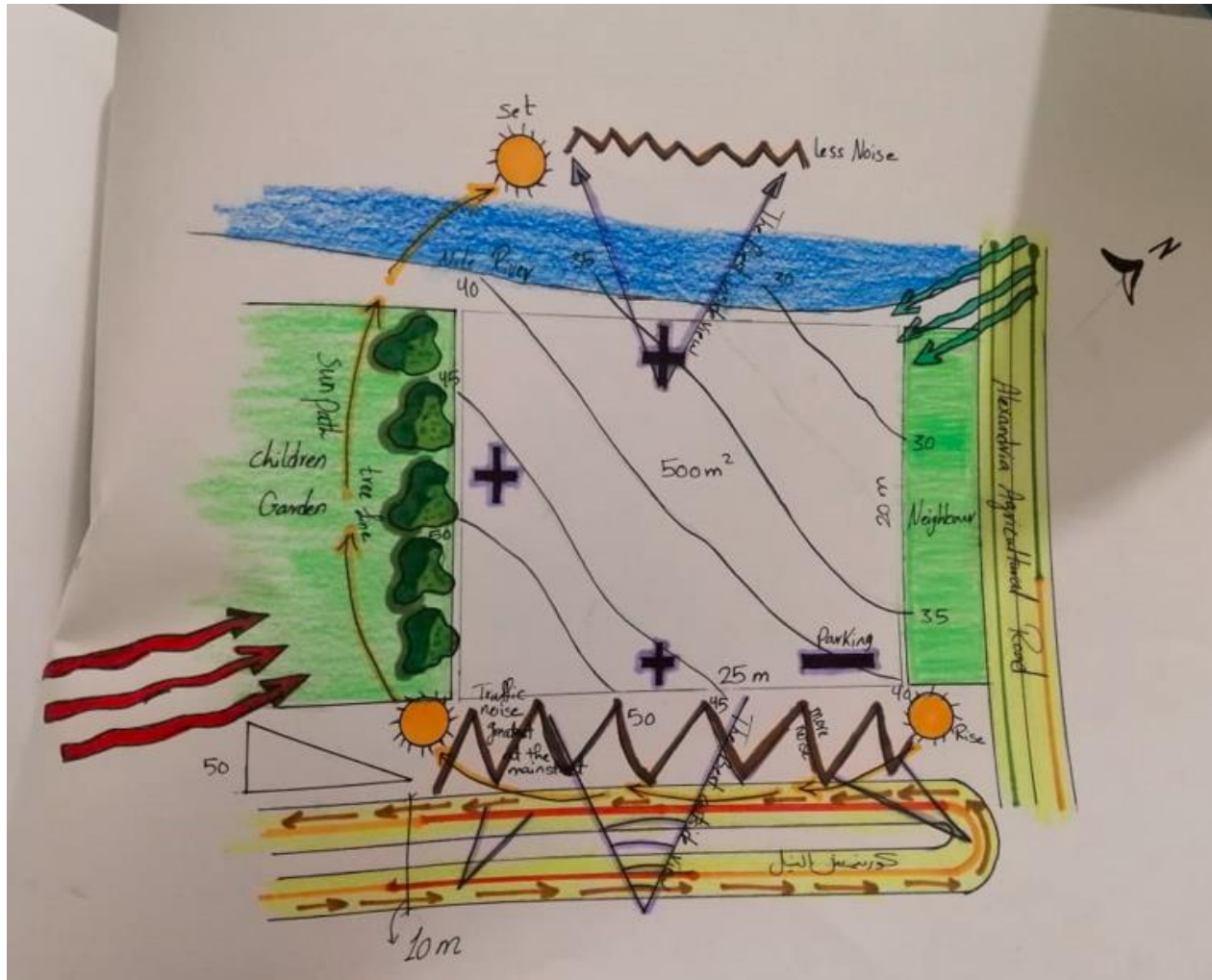
ASSIGNMENTS

Site Analysis



ASSIGNMENTS

Site Analysis



2



DRAWING TOOLS

DRAWING TOOLS



Wood-Encased Pencils



Graphite Leads

Grades of graphite lead for drawing on paper surfaces range from 9H (extremely hard) to 6B (extremely soft). Given equal hand pressure, harder leads produce lighter and thinner lines, whereas softer leads produce denser, wider lines.

Nonphoto Blue Leads

Nonphoto blue leads are used for construction lines because their shade of blue tends not to be detected by photocopiers. However, digital scanners can detect the light blue lines, which can be removed by image editing software.

Plastic Leads

Specially formulated plastic polymer leads are available for drawing on drafting film. Grades of plastic lead range from E0, N0, or P0 (soft) to E5, N5, or P5 (hard). The letters E, N, and P are manufacturers' designations; the numbers 0 through 5 refer to degrees of hardness.

4H

- This dense grade of lead is best suited for accurately marking and laying out light construction lines.
- The thin, light lines are difficult to read and reproduce and should therefore not be used for finish drawings.
- When applied with too much pressure, the dense lead can engrave paper and board surfaces, leaving grooves that are difficult to remove.

2H

- This medium-hard lead is also used for laying out drawings and is the densest grade of lead suitable for finish drawings.
- 2H lines do not erase easily if drawn with a heavy hand.

F and H

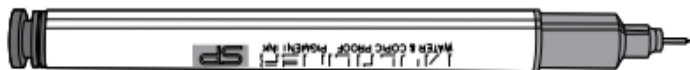
- These are general-purpose grades of lead suitable for layouts, finish drawings, and lettering.

HB

- This relatively soft grade of lead is capable of dense linework and lettering.
- HB lines erase and print well but tend to smear easily.
- Experience and good technique are required to control the quality of HB linework.

B

- This soft grade of lead is used for very dense linework and lettering.

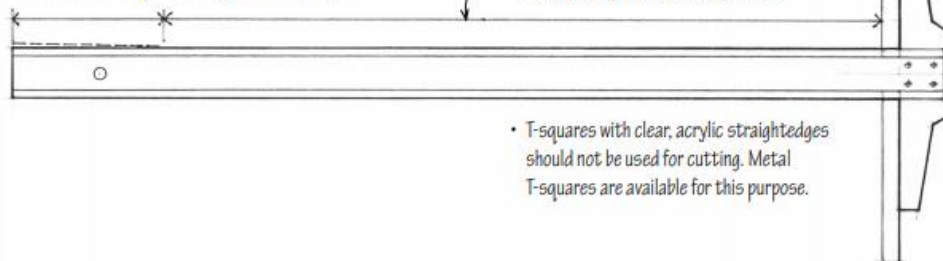


DRAWING TOOLS

T-Squares

T-squares are straightedges that have a short crosspiece at one end. This head slides along the edge of a drawing board as a guide in establishing and drawing straight parallel lines. T-squares are relatively low in cost and portable but require a straight and true edge against which their heads can slide.

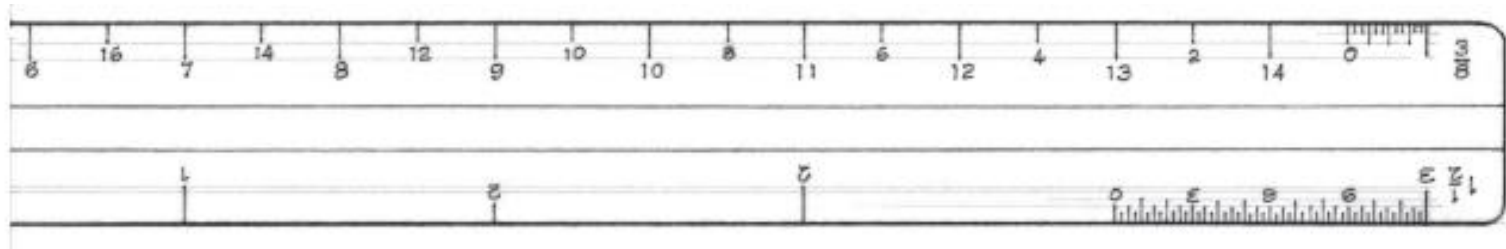
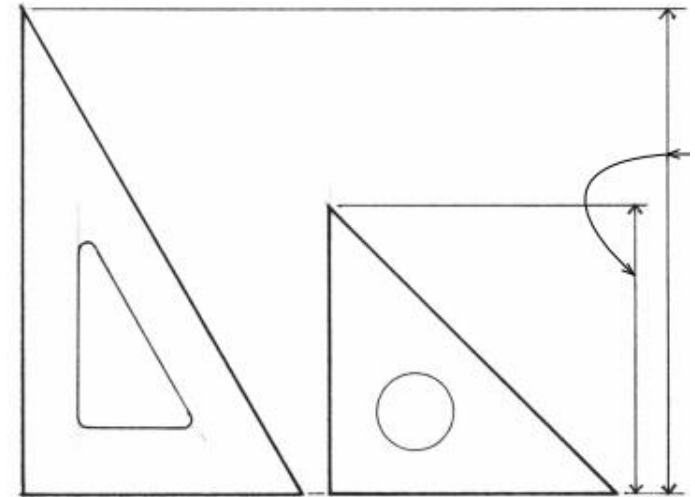
- This end of a T-square is subject to wobbling.



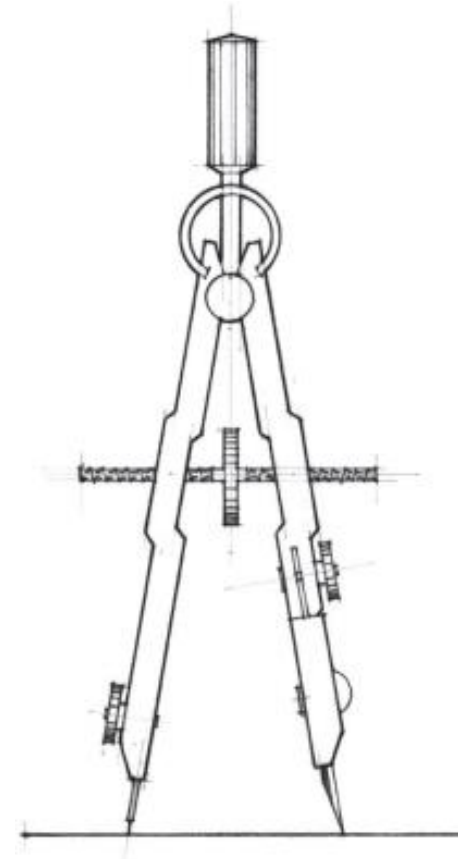
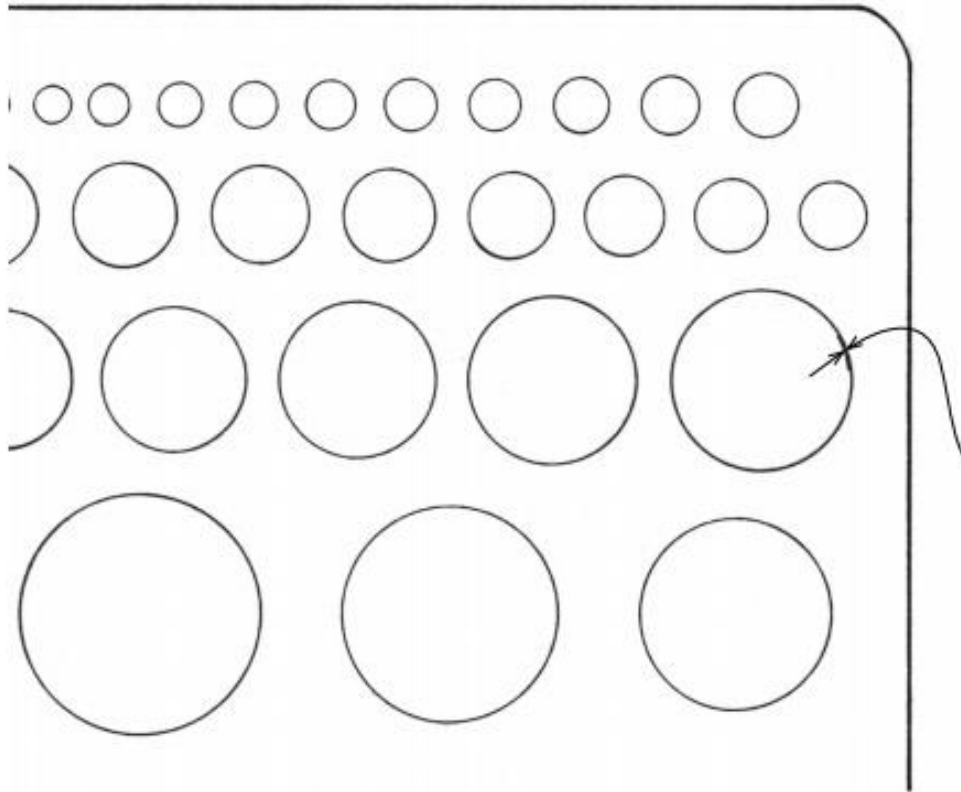
- T-squares are available in 18", 24", 30", 36", 42", and 48" lengths. 42" or 48" lengths are recommended.

- A metal angle secured to the drawing board can provide a true edge.

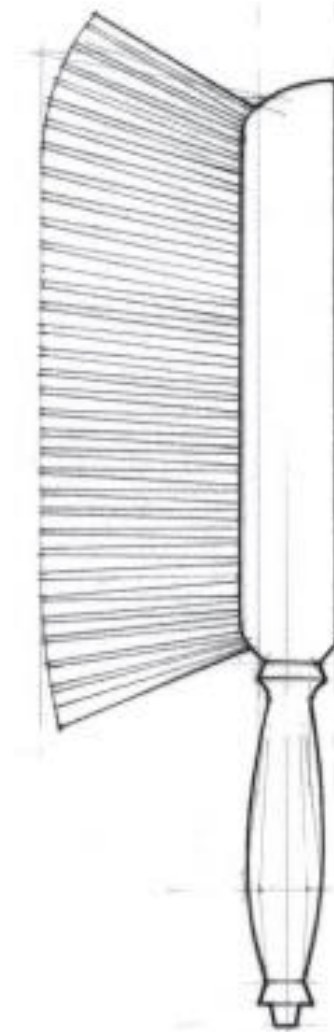
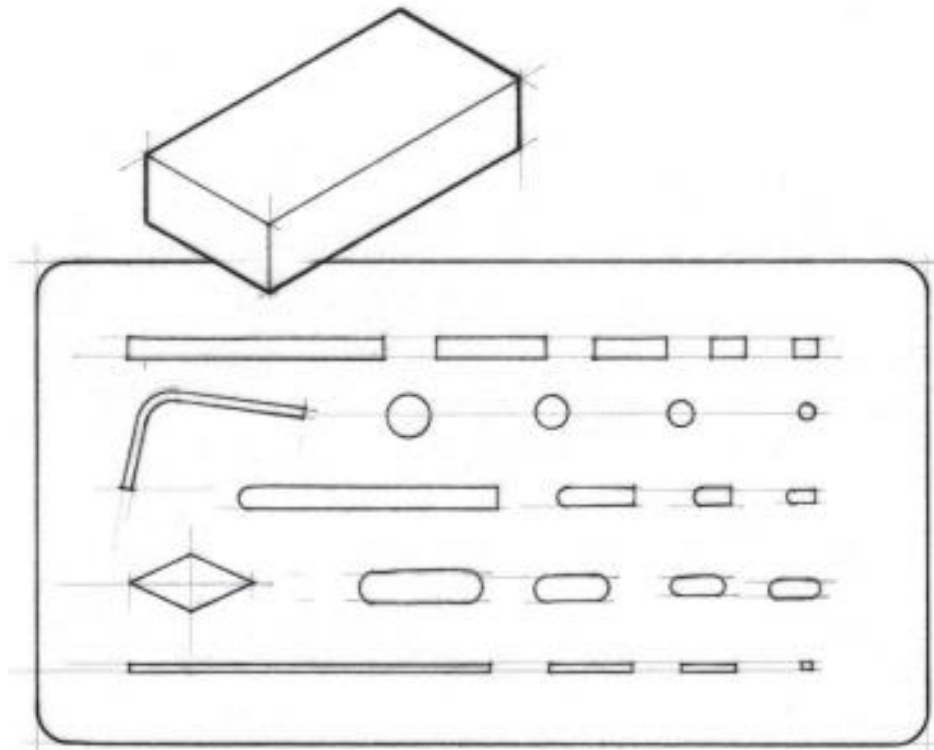
- T-squares with clear, acrylic straightedges should not be used for cutting. Metal T-squares are available for this purpose.



DRAWING TOOLS



DRAWING TOOLS



3

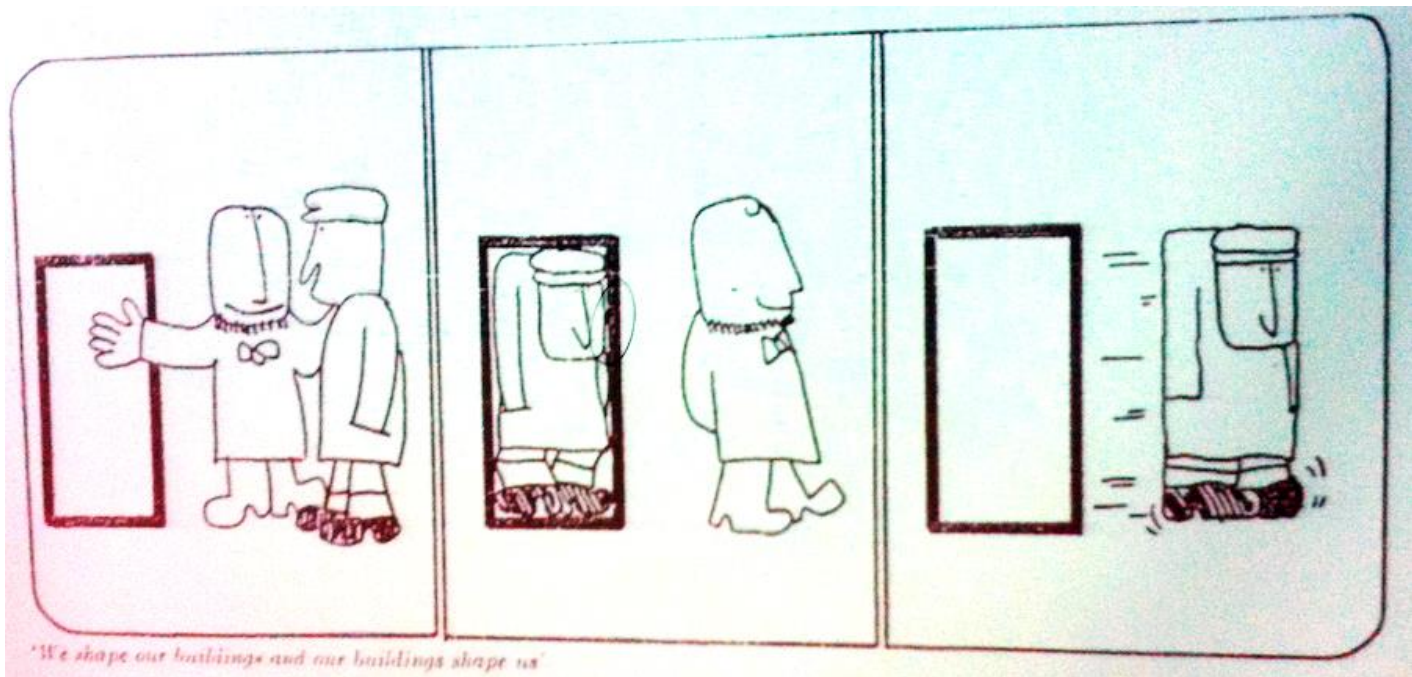


INTRODUCTION TO ARCHIECTURAL DESIGN

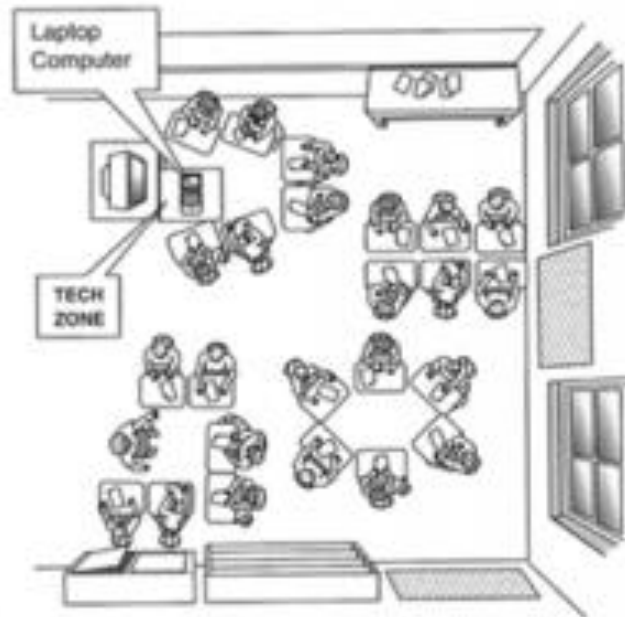
QUOTE

We shape our buildings, and afterwards our
buildings shape us.

(Winston Churchill)

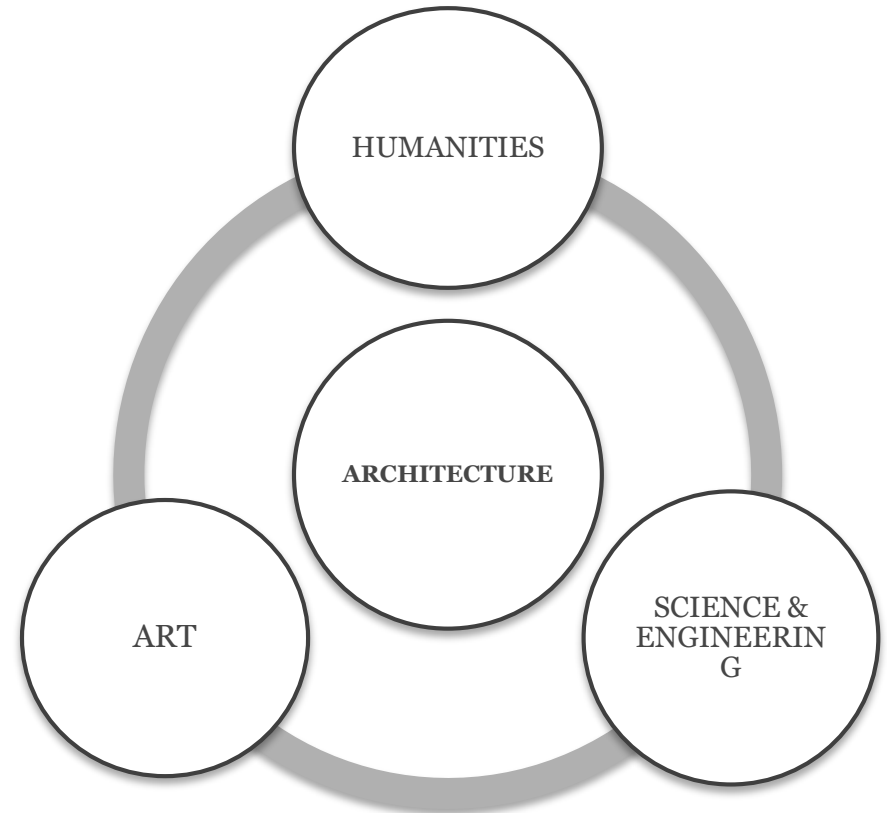


QUOTE



DEFINITION OF ARCHITECTURE DESIGN

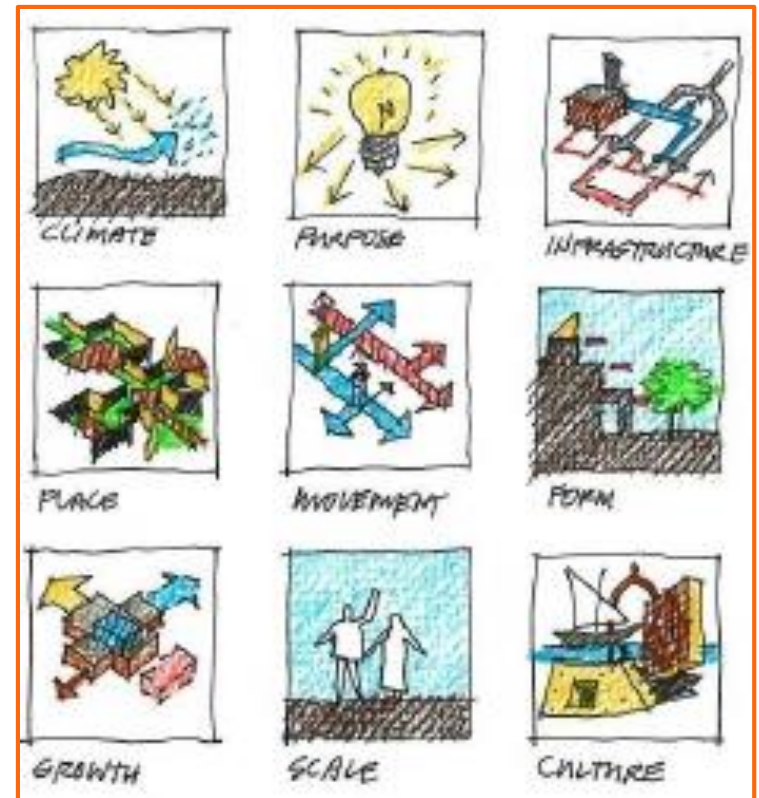
- Architecture, the art and technique of designing and building, as distinguished from the skills associated with construction.



DEFINITION OF ARCHITECTURE DESIGN

Is Design a Process or a Product??

- Design is both: A **process & a product**
- The process of designing and product that is designed.



REFERENCES

The references to multiple sources are text & figures
(sketches, drawings, pictures, photos,..etc.)

**ALL THE RIGHTS BELONG TO ORIGINAL
AUTHORS**

ANY QUESTIONS???

THANK YOU...