ARCHITECTURE | PORTFOLIO

Selected Works | Ahmad Melhem

WHAT'S INSIDE !!

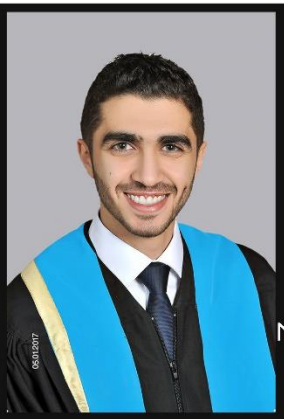
CURRICULUM VITAE (CV)

GRADUATION PROJECT

INTEGRATION SYSTEMS PROJECT

3D-MAX RENDERING V-RAY

Architect Curriculum Vitae



Ahmad Kamel Melhem

Contact Info.
+962791302702
arch.melhem@gmail.com

Personal Data.
December-1993
Nationality:Jordanian
Amman-Jordan

Inerested in Sustainable architecture philosophy that advocates sustainable energy sources, the conservation of energy, and the siting of a building with considration of its impact on the environment.

Education

sep 2010 - May 2011
General secondary certificate (Tawjihi)

sep 2011 - Jan 2017
Bachelor of Architecture (BArch)
Jordan University Of Science & Technology

Work Experience

Feb 2016 - May 2016
*Trainee at "Great Irbid Municipality"
-Architectural detailed drawings
-Landscape Design
-Modeling & Rendering

Feb 2017- June 2017
*Junior architect at "Rani Shaheen Architects"

Prefessional Skills

-Excellent experience in programs : (Autocad- 3DMax - Revit Architecture- Photoshop - SketchUp)

-Good experience in Shop Drawings
-Awareness of integrated design and Sustainablility.

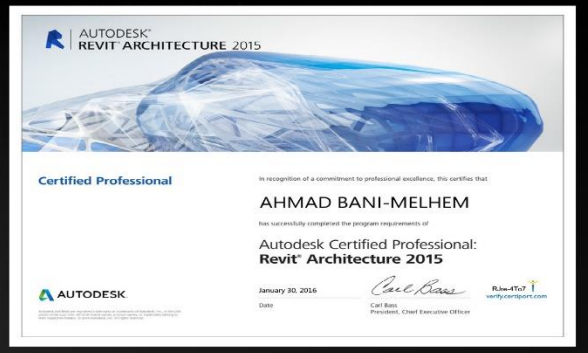
3D-Max	75%
Revit	80%
Autocad	90%
Lumion	63%
SketchUp	72%
Photoshop	95%
Microsoft Office	85%

Personal Skills

-Team work and oral communication
-Computer software (Windows)

Certification

-Certified Revit Architecture



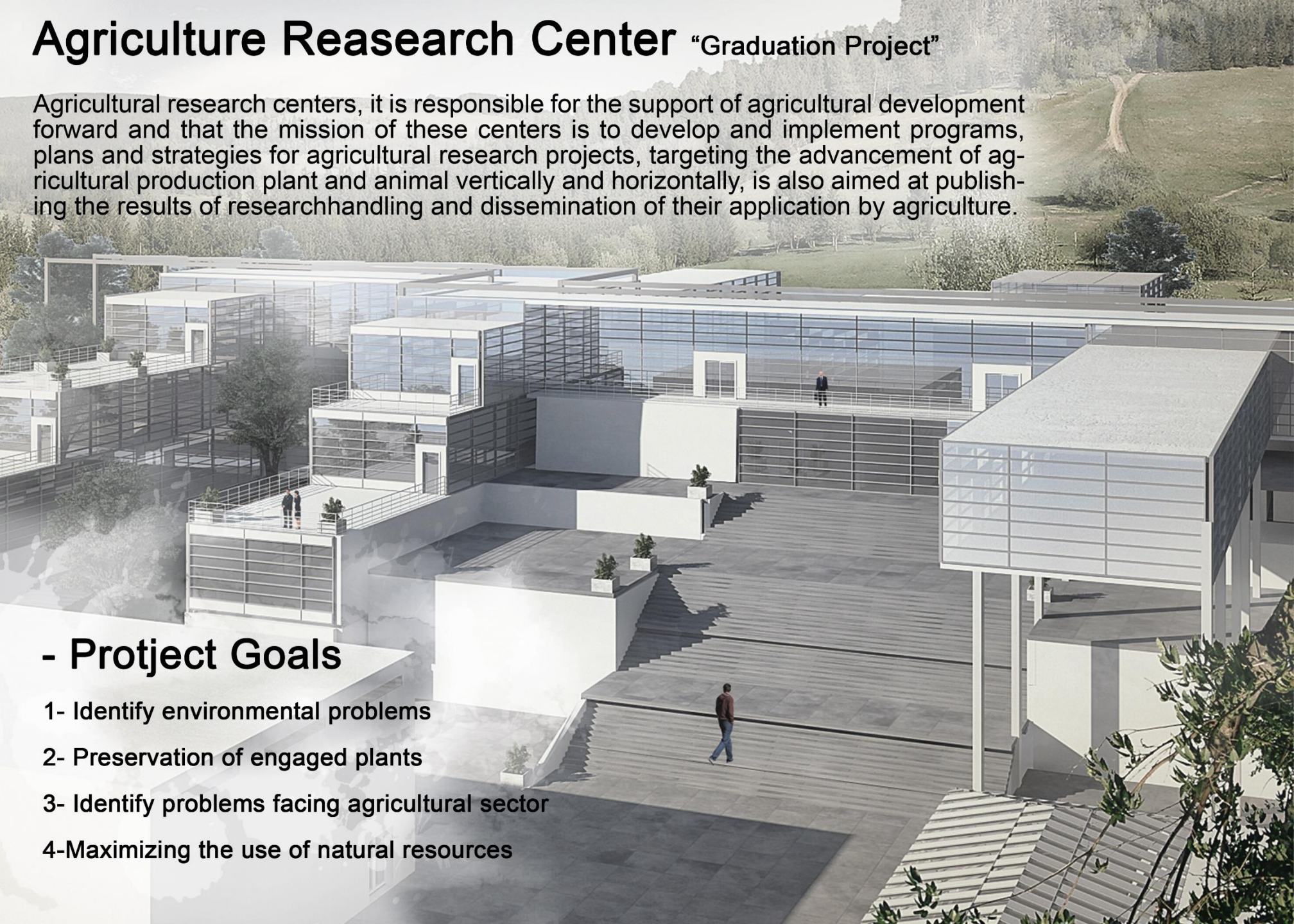
Languages

-Arabic (Native)
-English (Good Conversation & Writing)


GRADUATION
GRADUATION PROJECT

Agriculture Reasearch Center "Graduation Project"

Agricultural research centers, it is responsible for the support of agricultural development forward and that the mission of these centers is to develop and implement programs, plans and strategies for agricultural research projects, targeting the advancement of agricultural production plant and animal vertically and horizontally, is also aimed at publishing the results of researchhandling and dissemination of their application by agriculture.



- Protject Goals

1- Identify environmental problems

2- Preservation of engaged plants

3- Identify problems facing agricultural sector

4-Maximizing the use of natural resources

- Design Brief

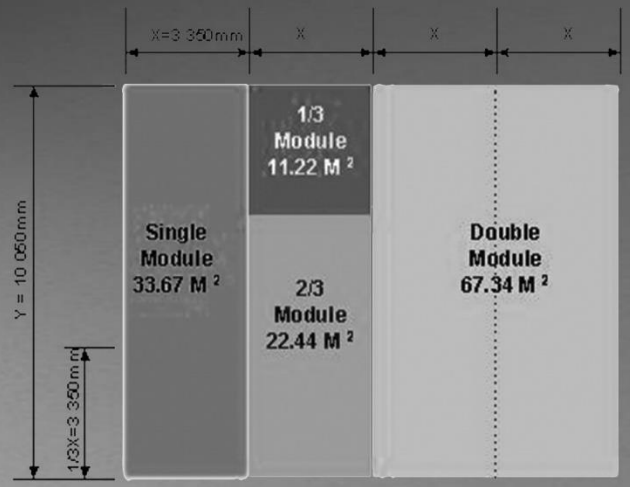
Title : Modern Scientific Agriculture Research Center

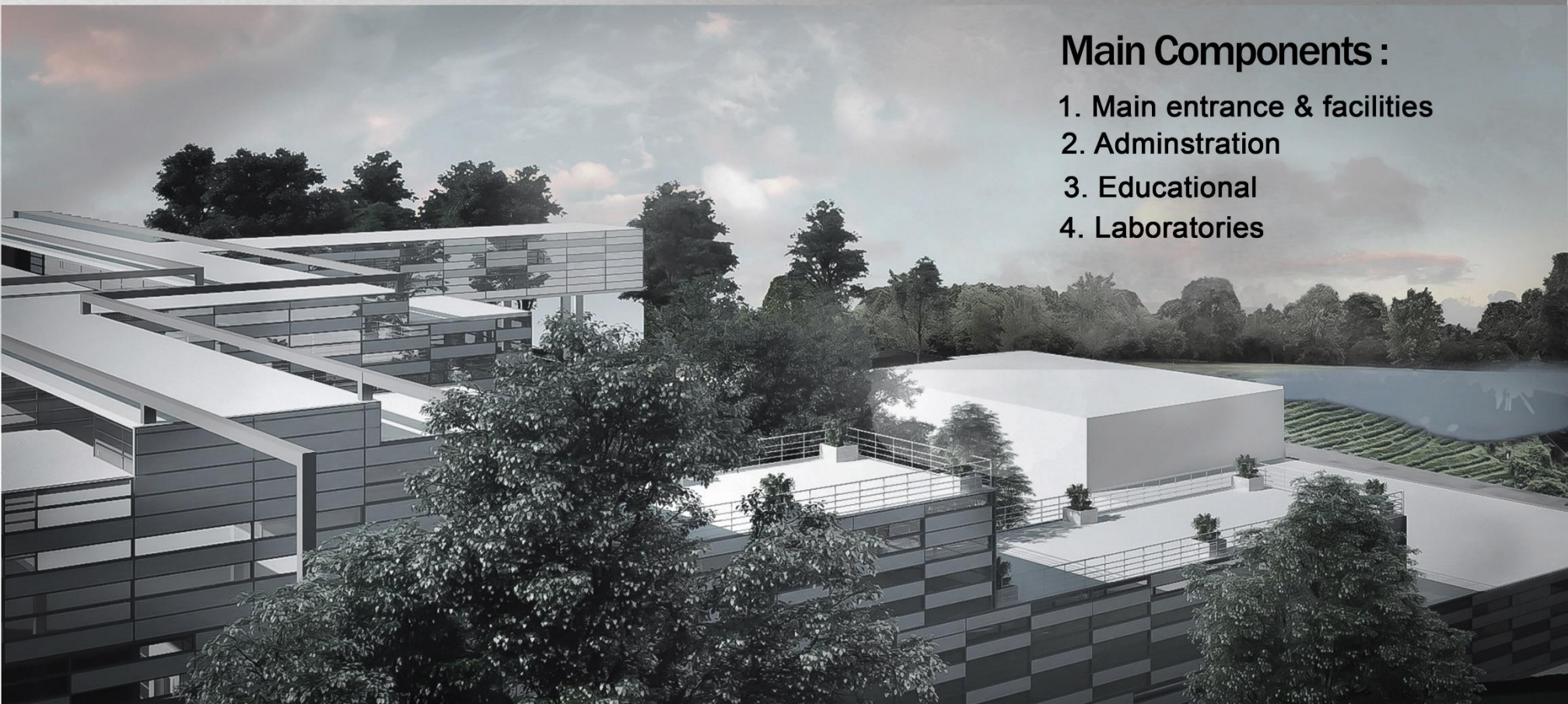
Size Of Site : 30,000 Sqm

Location : Malka - Irbid/Jordan

Users : Farmers , Researchers , Students , Staff

No. Of Users : 80

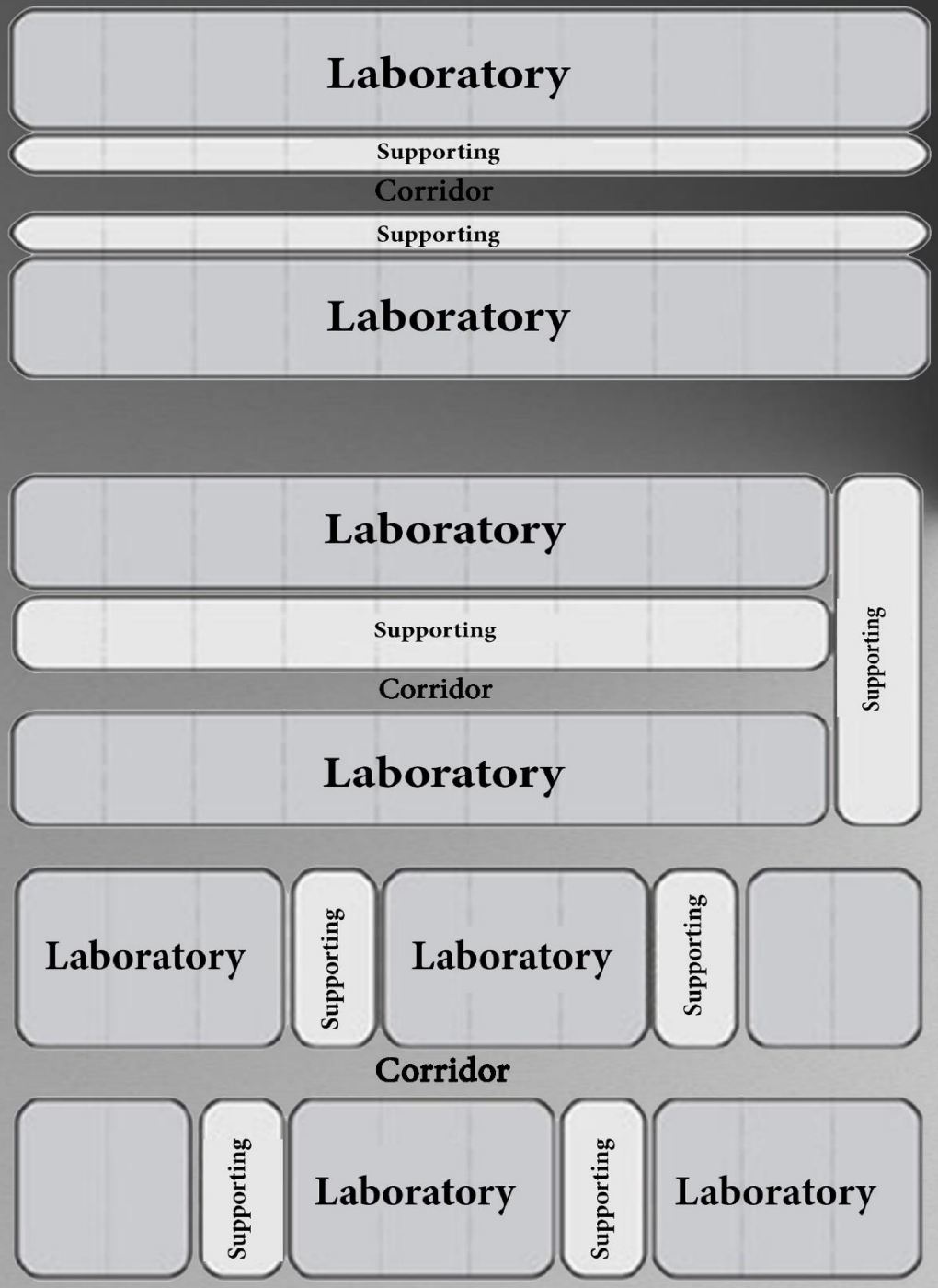




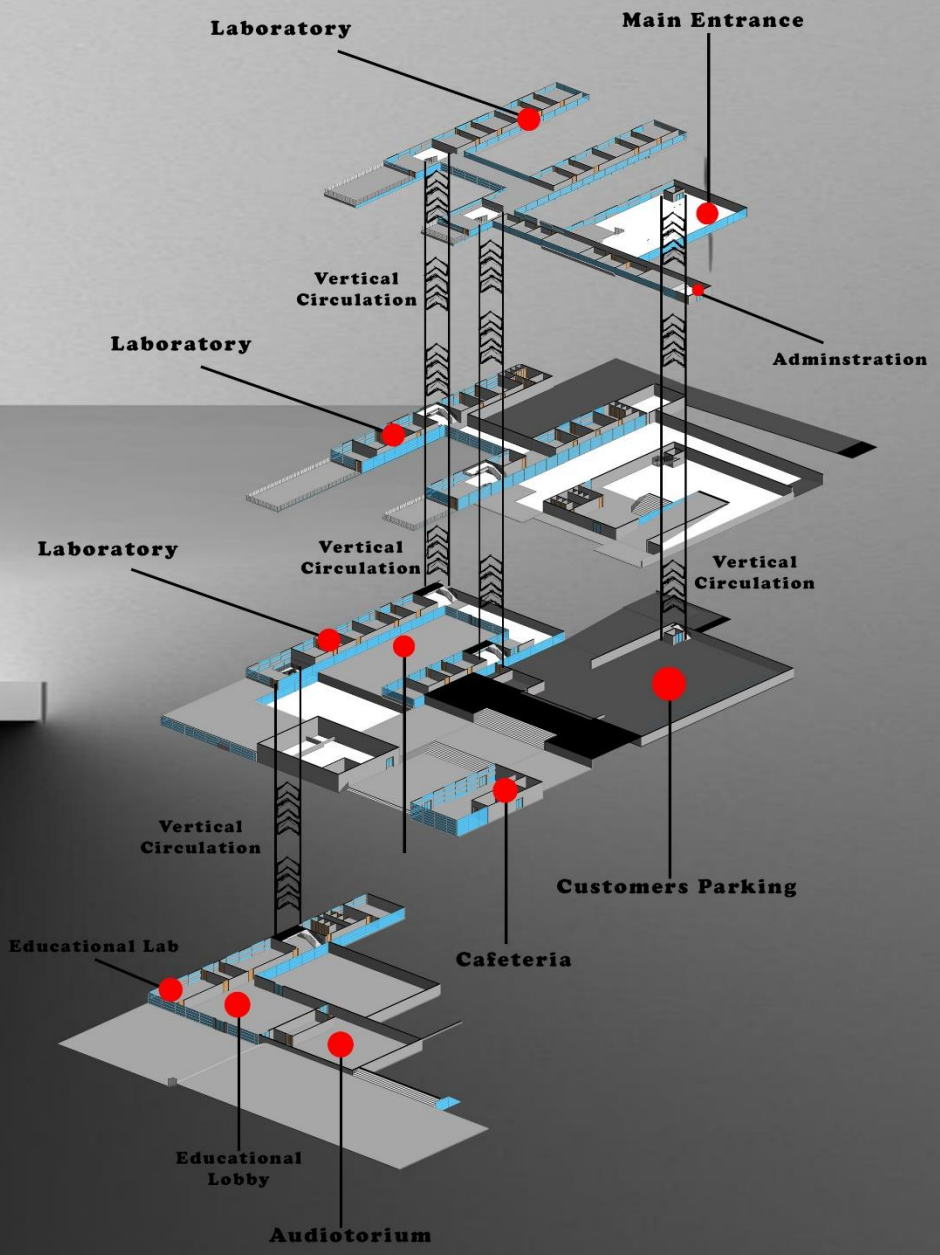
Main Components :

1. Main entrance & facilities
2. Adminstration
3. Educational
4. Laboratories

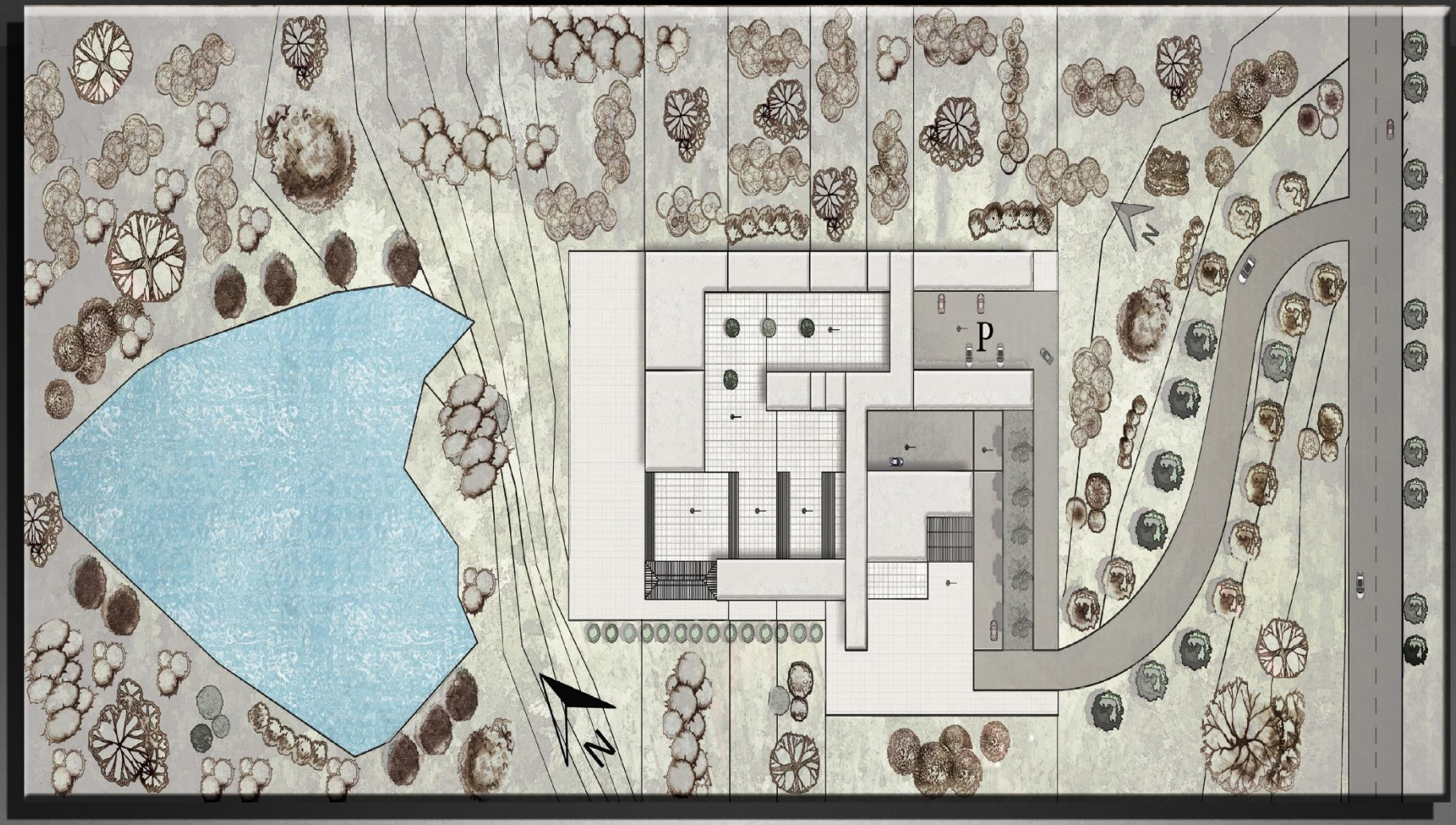
Design Module

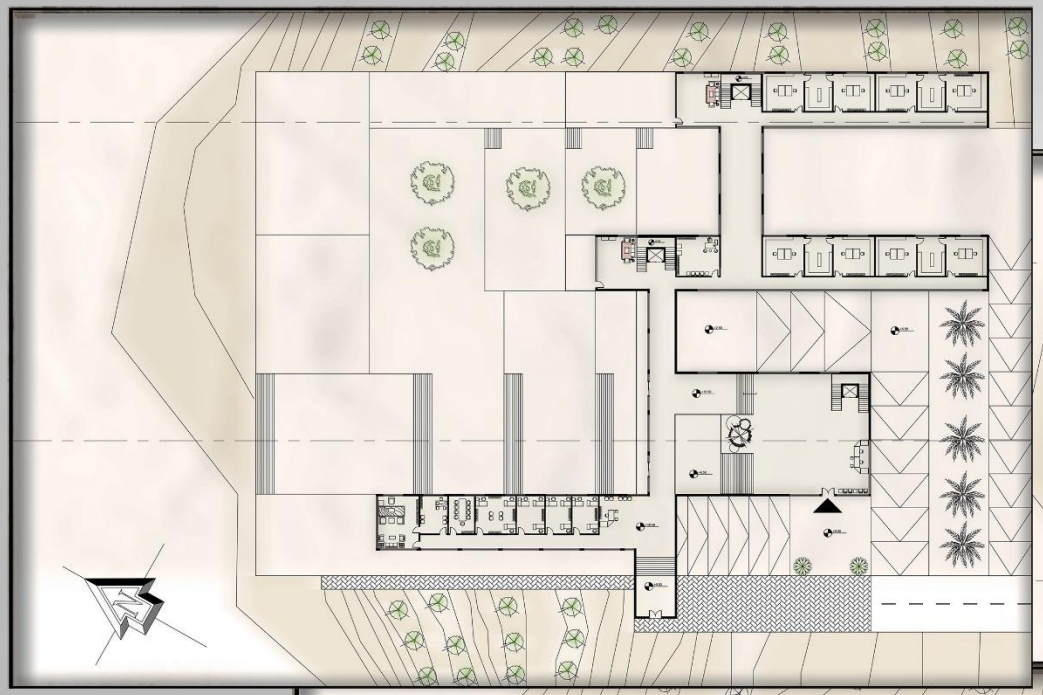


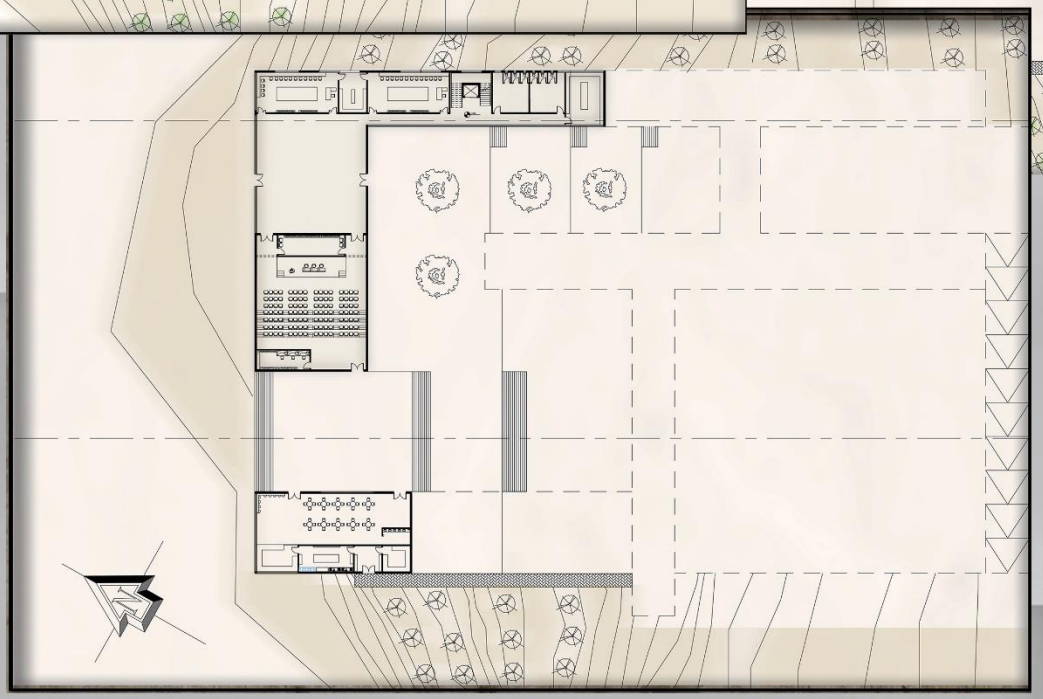
Vertical Zoning



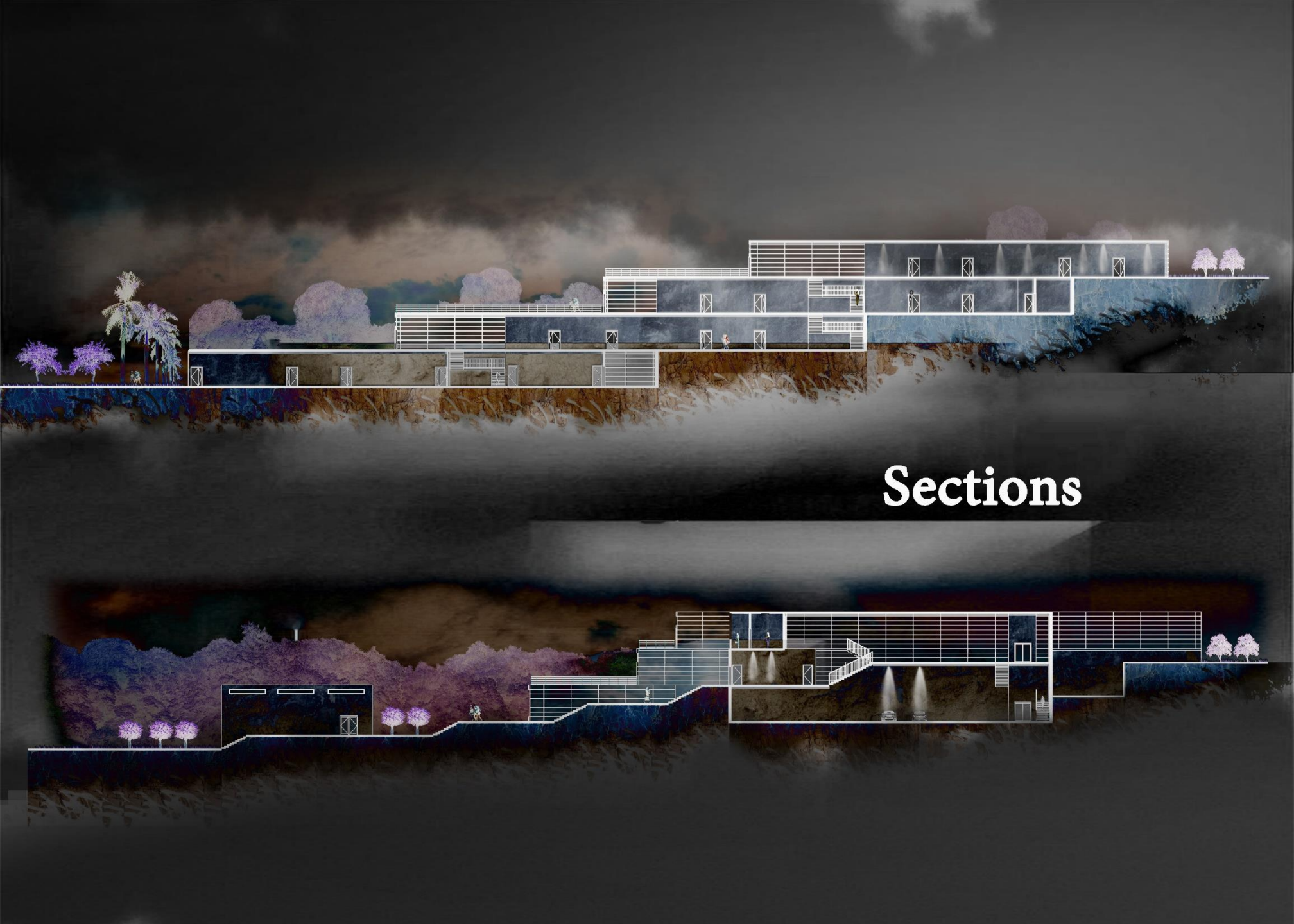
Surrounding Area





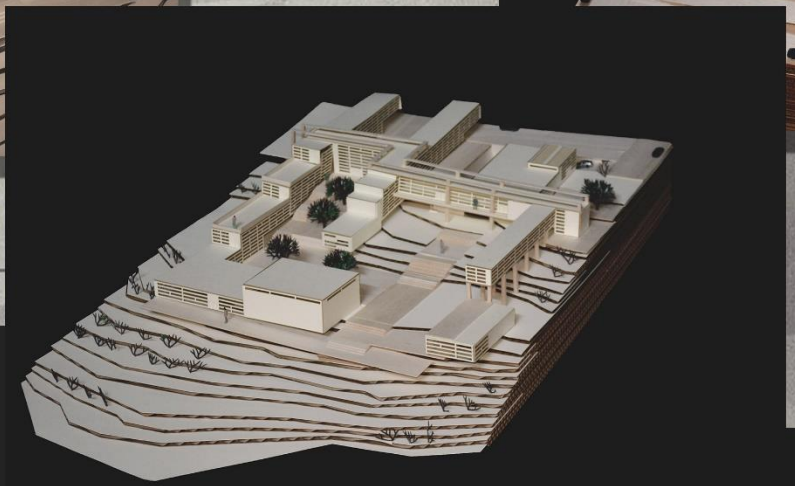


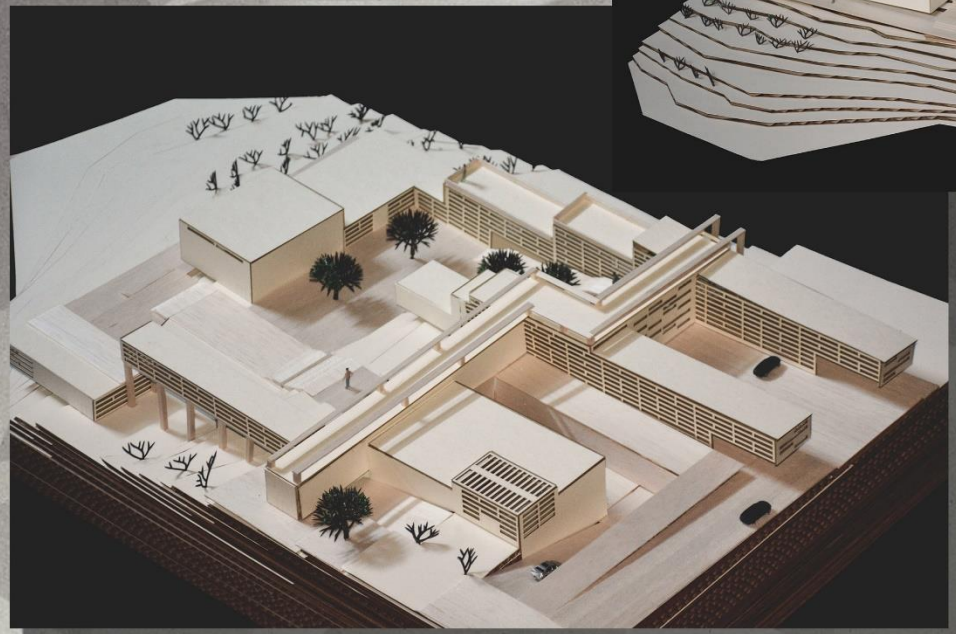
Plans


Sections

ARCHITECTURE

Physical Model





Final Poster Presentation

Agriculture Research Center

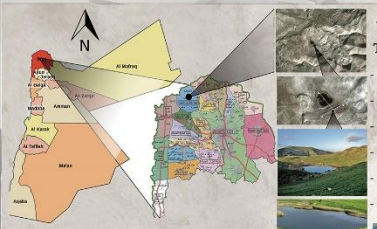
Jordan University Of Science & Technology
Department Of Architecture
Graduation Project 2 Arch592
1st Semester 2016/2017
Done By: Ahmad Bani Melhem
Instructor: Prof.Ahmad Attia - Dr.Hussain Al-Zoubi

- Project Overview & Need Of The Project

Agricultural research centers, it is responsible for the support of agricultural development forward and that the mission of these centers is to develop and implement programs, plans and strategies for agricultural research projects, targeting the advancement of agricultural production plant and animal vertically and horizontally, is also aimed at publishing the results of researchhandling and dissemination of their application by agriculture.

- Site Location "Berket Al-Arayes"

Berket Al-Arayes,is Lake located in Malka village of Bani Kinana Brigade in the northern city of Irbid, located 33 km northen of irbid , about 1 km to south of Yarmouk River near to the Jordanian Hamma and Dam Jordanian unity, and locaed opposite the Golan Heights and separates them from the Golan Heights in the Yarmouk River.

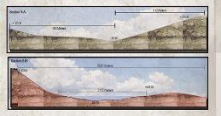


- Site Analysis

- Why This Site ?

There are reasons for prefer this site

- The existence of a water in the site.
- Agricultural lands
- Easy accessibility to the site
- There is a lot of livestock
- A suitable climate
- Multiple topography



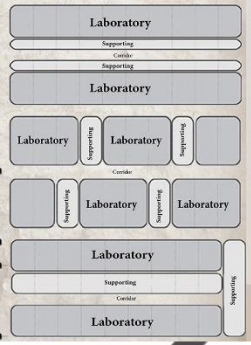
Design Brief

Title : Modern Scientific Agriculture Research Center
The Site Area: 15000 Sqm
The Project Area : 6500 Sqm
Location : Malka - Irbid / Jordan
Users : Farmers , Researchers , Students , Staff , Visitors
No . Of Users : 80

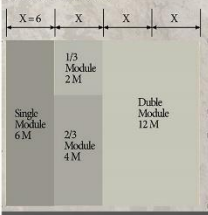
Main Components

1. Main Entrance & Facilities
2. Adminstration
3. Educational
4. Laboratories
5. Audiotorium
6. Cafeteria

Module Types

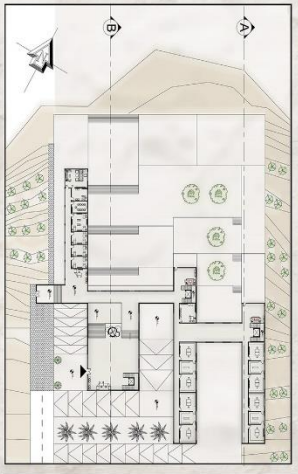


Module Dimensions

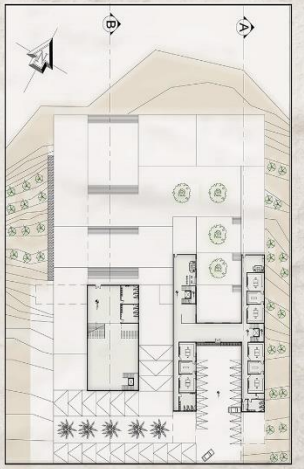


Structure Grid

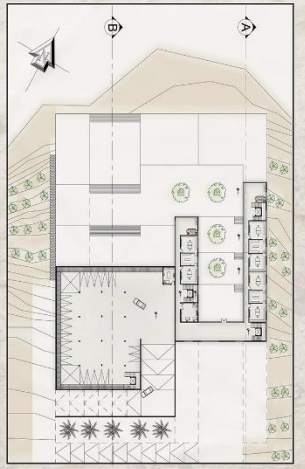
Level 0 Scale 1/200



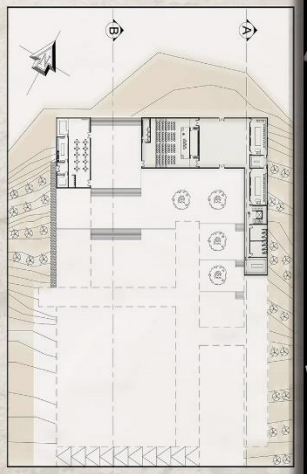
Level -1 Scale 1/200

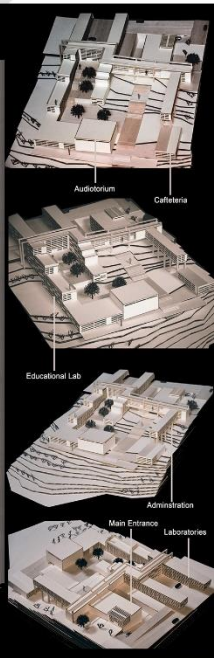


Level -2 Scale 1/200

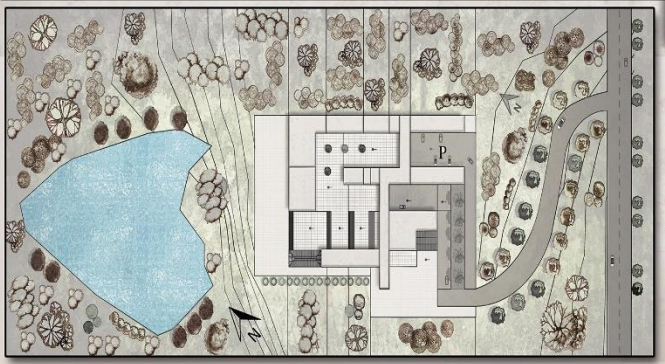


Level -3 Scale 1/200

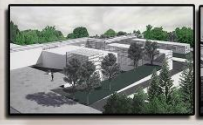




Site Plan Scale 1/400



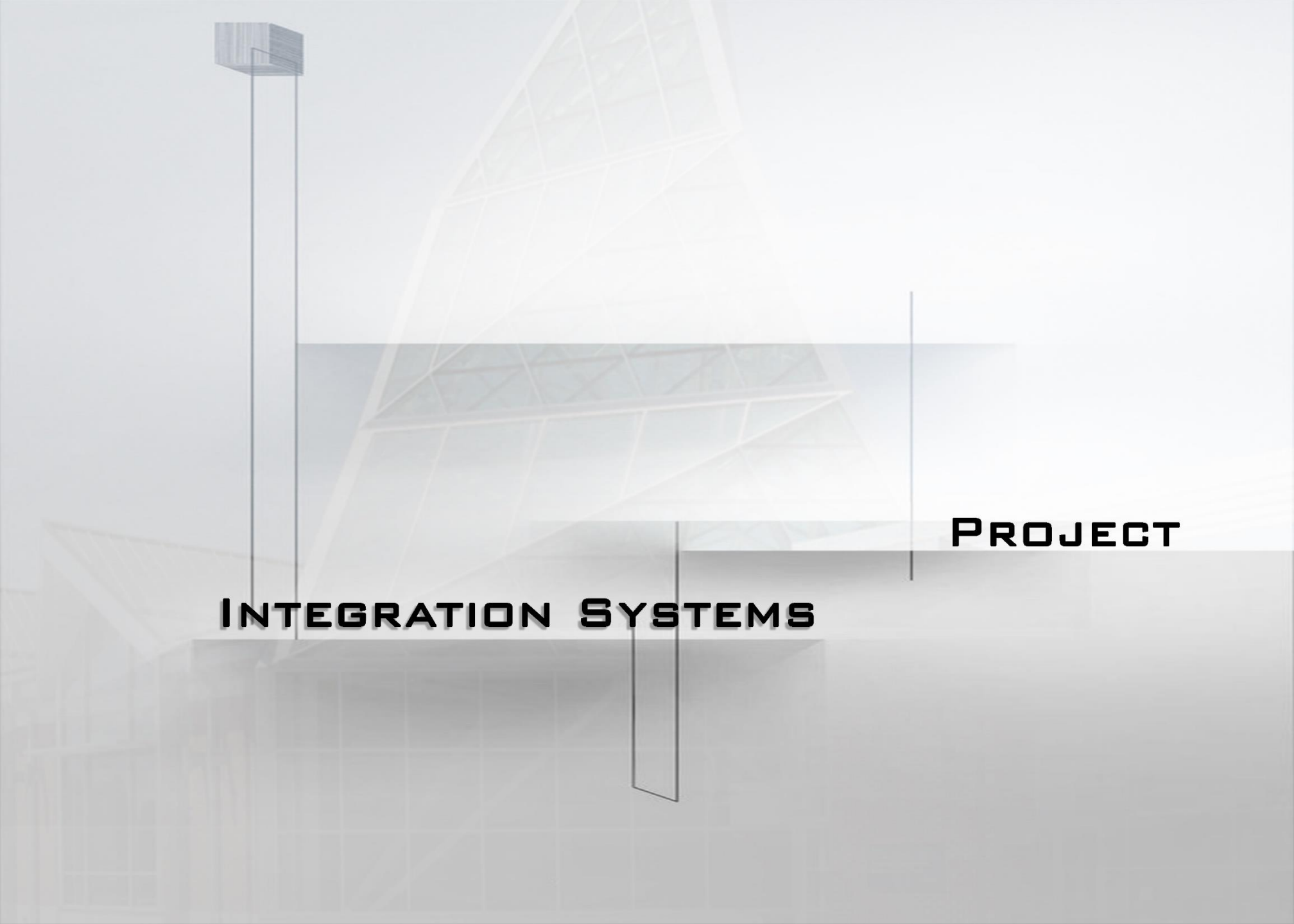
3D Shots



Elevations Scale 1/200

Section A-A Scale 1/200

Section B-B Scale 1/200


Project
Integration Systems

Bio Research Center "Integrated system"

Integration :

The design of buildings requires the integration of many kinds of information into an elegant, useful, and durable whole .

Type Of Integration Design Process :

1- Physical (shared space)

Building components (layers) – ex: structure ,

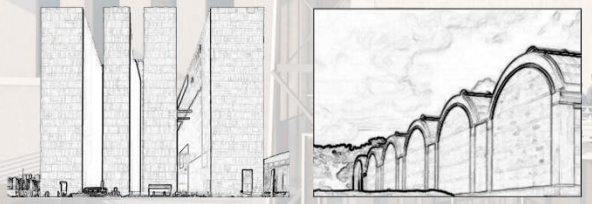
HVAC Provide adequate space for each

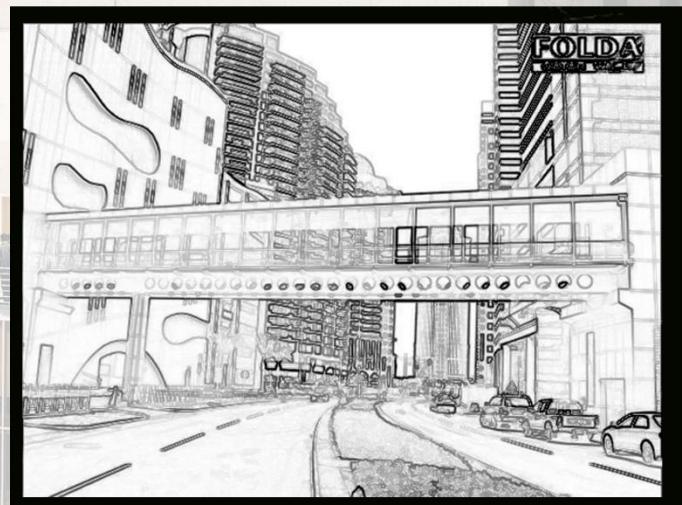
Prevent interference

2- Visual (shared image)

color, size, shape, placement , manipulated to

achieve desired effect

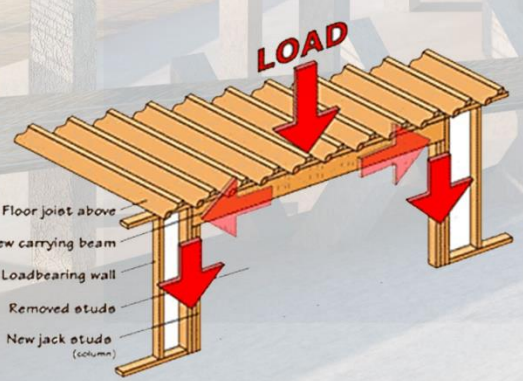


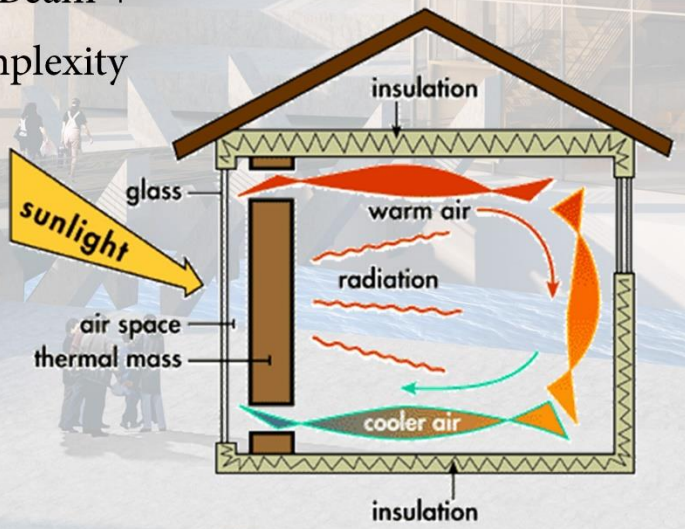


3- Performance (**shared function)**

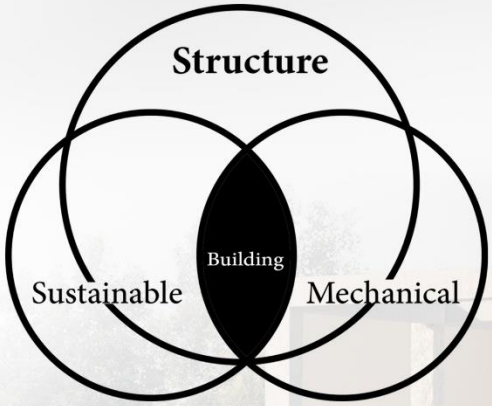
ex: load bearing walls , **2** columns, Beam +

Exterior wall Save cost, reduce complexity





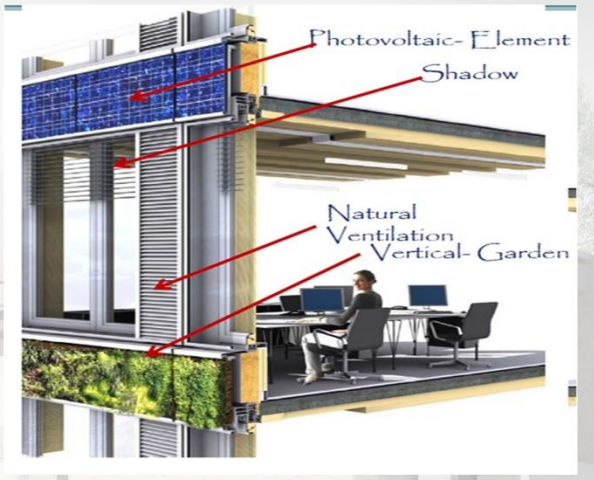
Integration Systems :



1-Structural With Structural :

Truss and **Cable** structure

tower heights are approximately one-fourth of the main span length. The most economical end spans are approximately one-half the length of the main span.

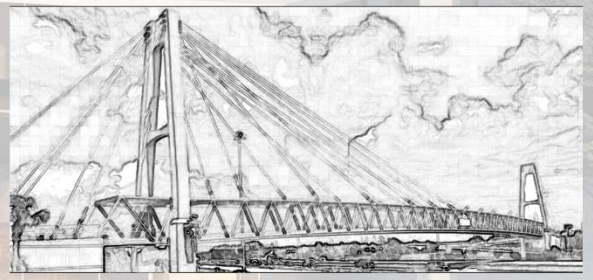


Cable-Stayed Pedestrian Truss

2-Structural With Sustainable :

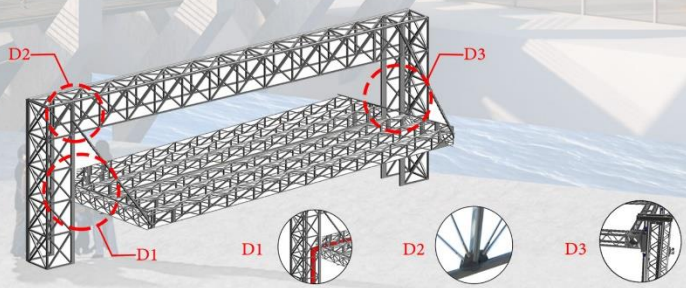
Truss with Photovoltaic cell and Greening

can provide the base or structure for panels and green vertical wall for free.This integration must study the angles of truss's members depends on altitude in our site.



3-Structural With Mechanical:

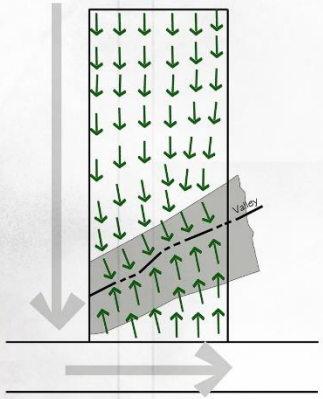
Truss provide us vertical and horizontal lost space which can use it in , lighting supplies , plumbing and other engineering service and it will be easy to maintain .



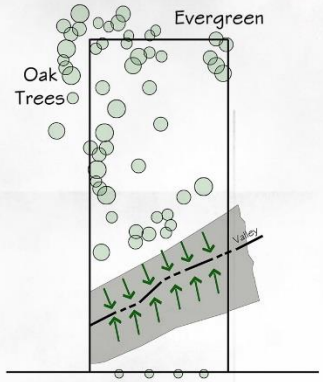
Architecture Response

Site Conditions

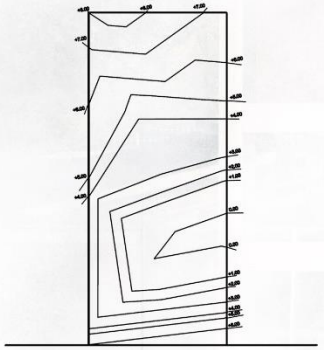
Drainage



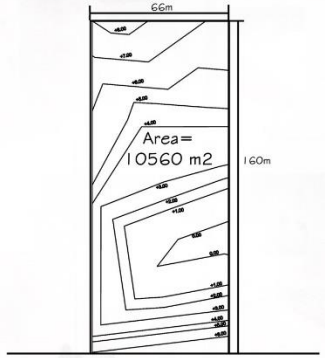
Trees



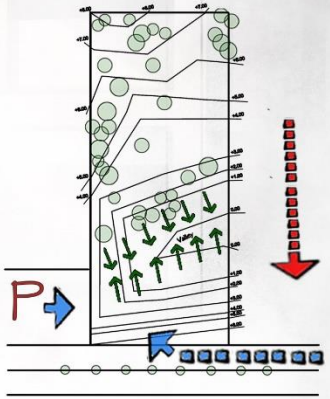
Contours



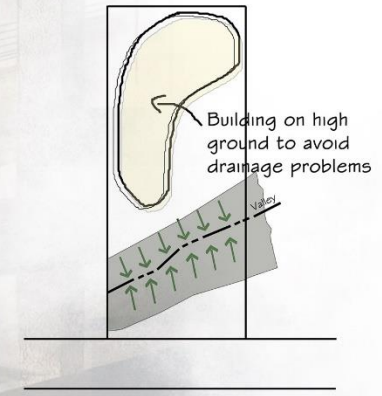
Site/area

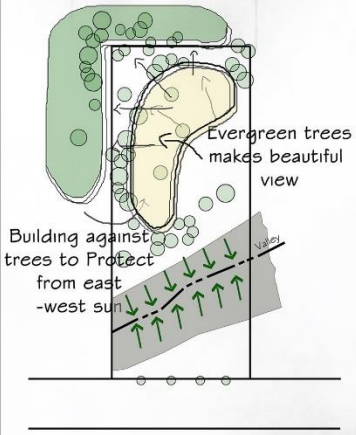


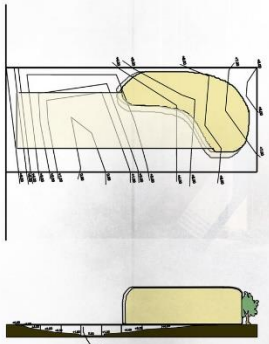
Accebility

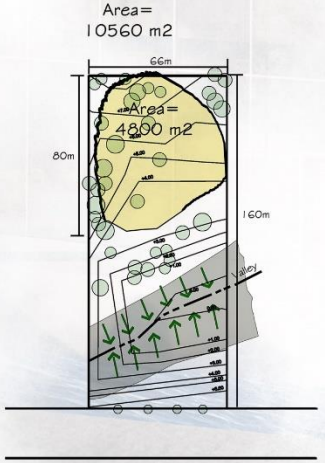


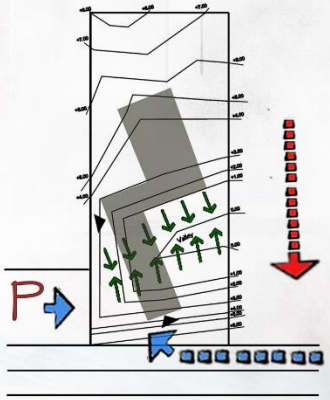
Design Response











Design Brief :

Aim and Objectives

Bio Technology Research Center (BTIC) / Future Of Medicine

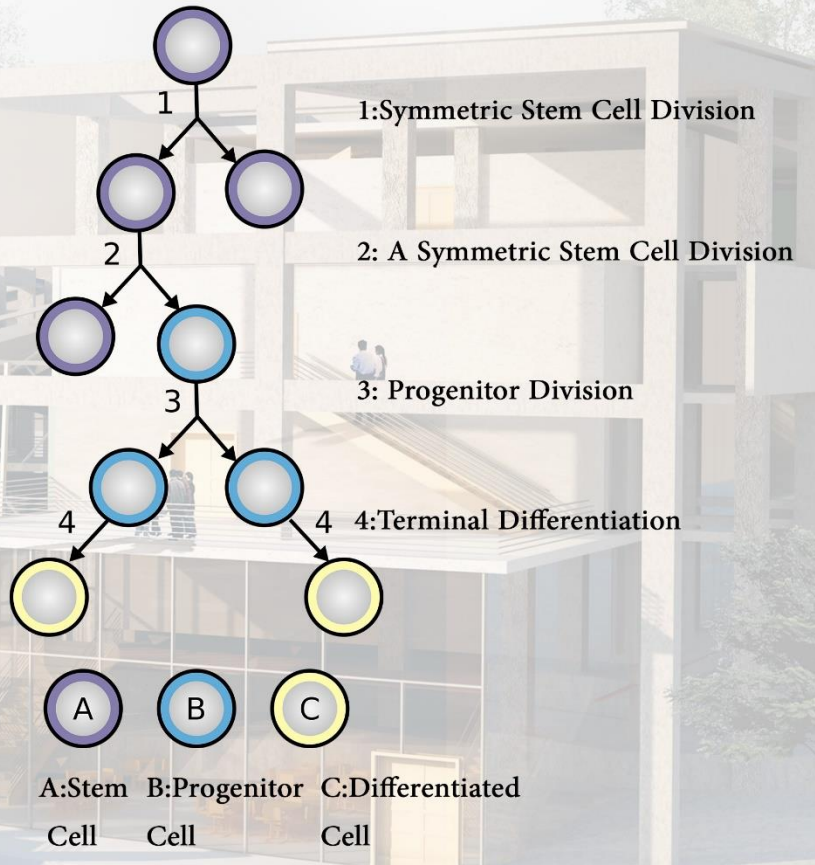
The Future Of Medicine Lies In Understanding How The Body Creats It Self Out Of A Single Cell And The Mechanisms By Which It Renwes Itself Throught Life . We Can Help Curing And Eaysing The Suffering Of Those Afflicted By Disorders Lie Heart Disease , ALzhaimar , pakinson , Diabetes , Spinal Cord Injury And Cancer By Replacing Damaged Tissues .

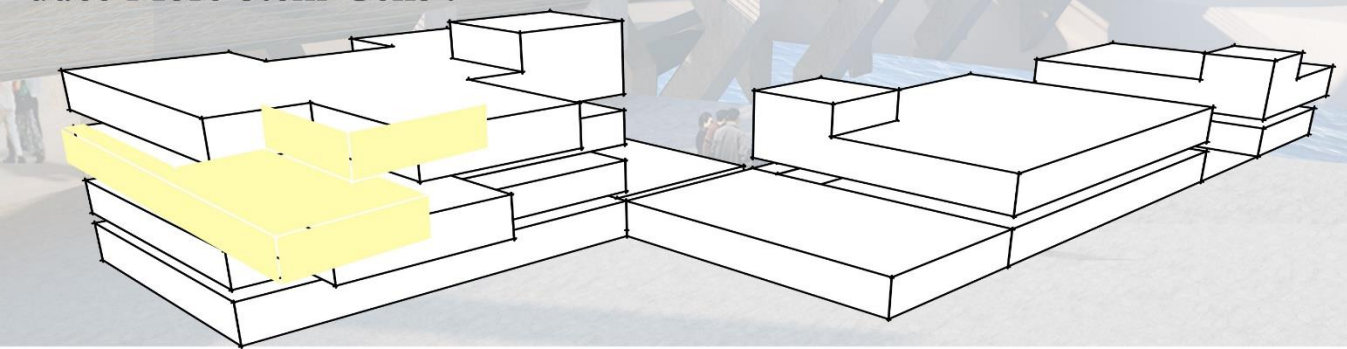
Stem Cell

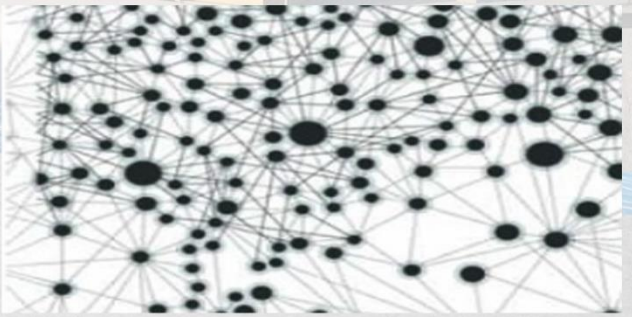
Are Undifferentiated Biologicl Cell That Can Differentiate Into Specialized Cell And Devide Through Mitosis To Produce More Stem Cells .

Philosophic Side Of Concept

Stem Cells Division And Differentiation

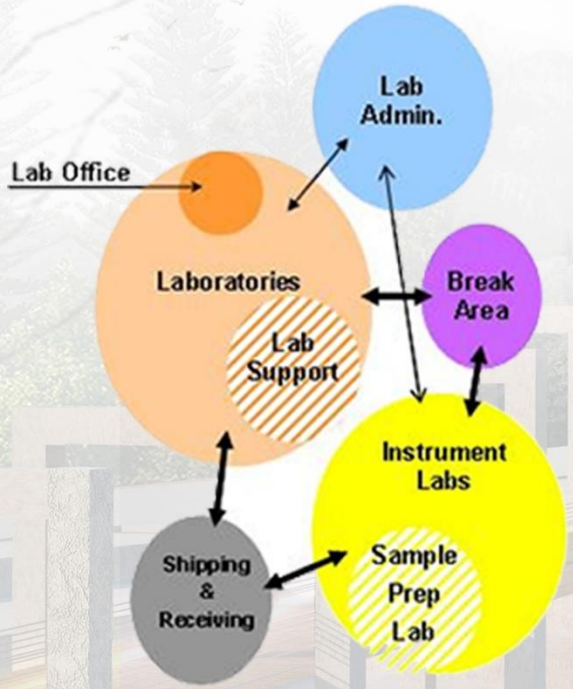






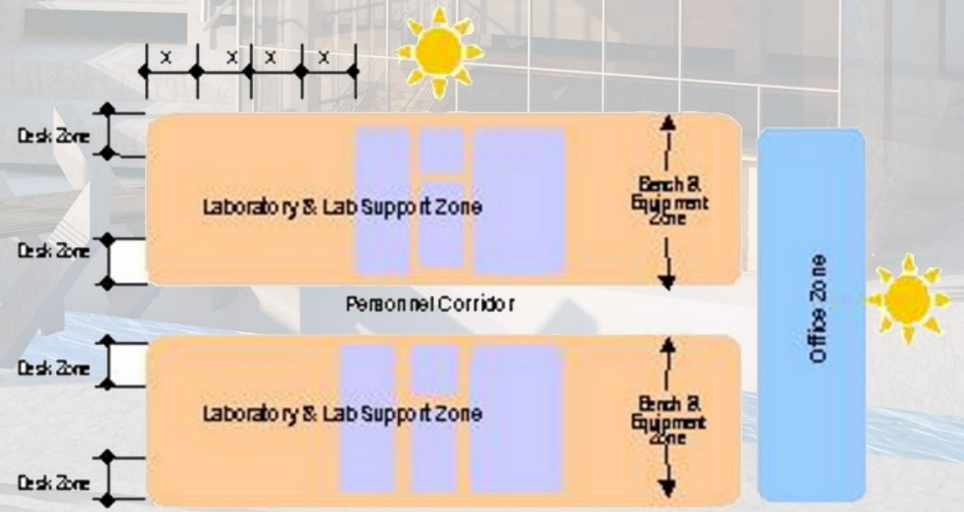
lab module :

Laboratory functional relationship diagram



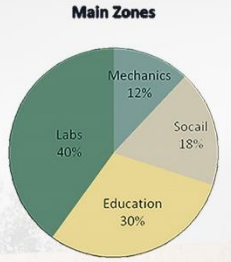
Space	Area (m2)	Area (SF)
Laboratory Space	16.50	181.5
Laboratory Support Space	8.25	90.5
Research Staff Office	2.79	30.0
Ancillary Space	0.84	9.0
Laboratory Administration	2.88	31.0
Optimal Area per Researcher Assigned Bench Space	31.26	342.0

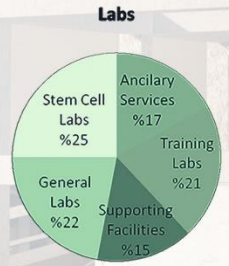
Laboratory Zones with Single Corridor

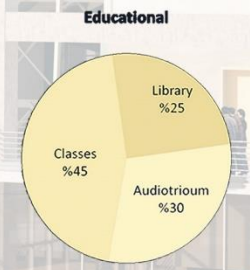


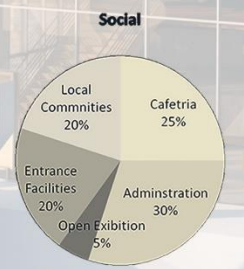
Program :

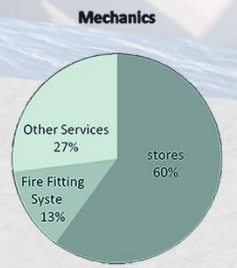
Supporting Facilities			0	
			0	
Break Room	20	3	60	
Glass Washing	35	2	70	
Resource Library	30	3	90	
Storage (4 Types) Dry Material, Gas,Flammable. Acids	10	6	60	
			280	
Research Center Ancillary Services				
			0	
Main Storage	100	1	100	
Animal Serv. Rooms	225	1	225	
Power Storage	10	2	20	
mechanice room	10	2	20	
Waste Room *	10	5	50	
Regular Waste	20	1	20	
			225	
Students And Trainers Education Zone				
Training labs	288	1	288	
			288	
General Labs				
Histology lab	36	1	36	
Hematology lab	36	1	36	
Biochemistry lab	72	1	72	
Boris Management / Quality control lab	72	1	72	
			288	
Specialized Labs "stem cell Lab"				For 6 Bio Experts
Microscopy Room	36	1	36	
Tissue Lab	36	1	36	
Molecular Lab	72	1	72	
Offices	36	1	36	
Cytometry	36	1	36	
Stem Cell bank	18	1	18	
Quarantine lab	36	1	36	
RT/CPR	36	1	36	
			306	
Educational facilities			0	
Library	150	1	150	
Classes (15 Students)	36	5	180	
Classes (5 Students)	18	5	90	
Audiotorium (100 person)	180	1	180	with ceiling hight min3.5 m
			600	
Main entrance and facilities				
Open Exibition	45	1	45	
Reception Desk	9	1	9	
Security	9	2	18	
waiting area	18	2	36	for 15 m2
WCs	8	6	48	
			156	
Adminstration			0	
Admin	30	1	30	
Excusive Assistant	20	1	20	
Admin. Assistant	20	1	20	
I.T Office	12	1	12	
Copy Room	12	1	12	
House Keeping	10	2	20	
First Aid Office (storage)	10	2	20	
H.R.	15	1	15	
			149	
Cafeteria	225	1	225	
Local community and awareness Room	162	1	162	
Store- Sterile stocks	1	18	18	
Store- Flemable liquid	1	18	18	
Store- General	1	70	70	
Store- Cylnder Gases	1	18	18	
Fire Fitting System	1	36	36	
Security room - Closed Circuit TV Camera	1	18	18	
Technical workshop	6	9	54	
Staff Lockers/Changing rooms/Toilets	1	18	18	for M/F
Cleaner's room	1	9	9	

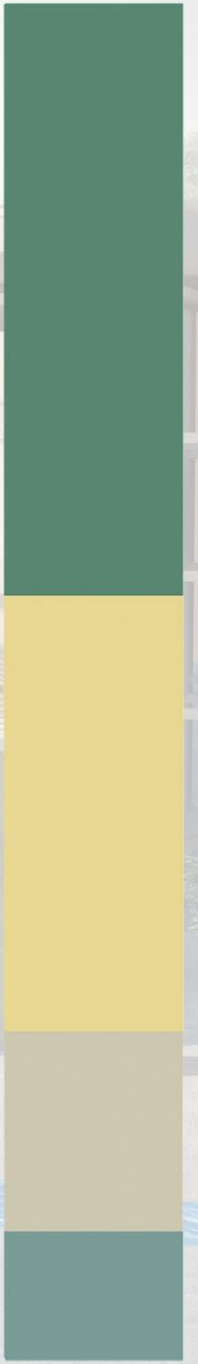




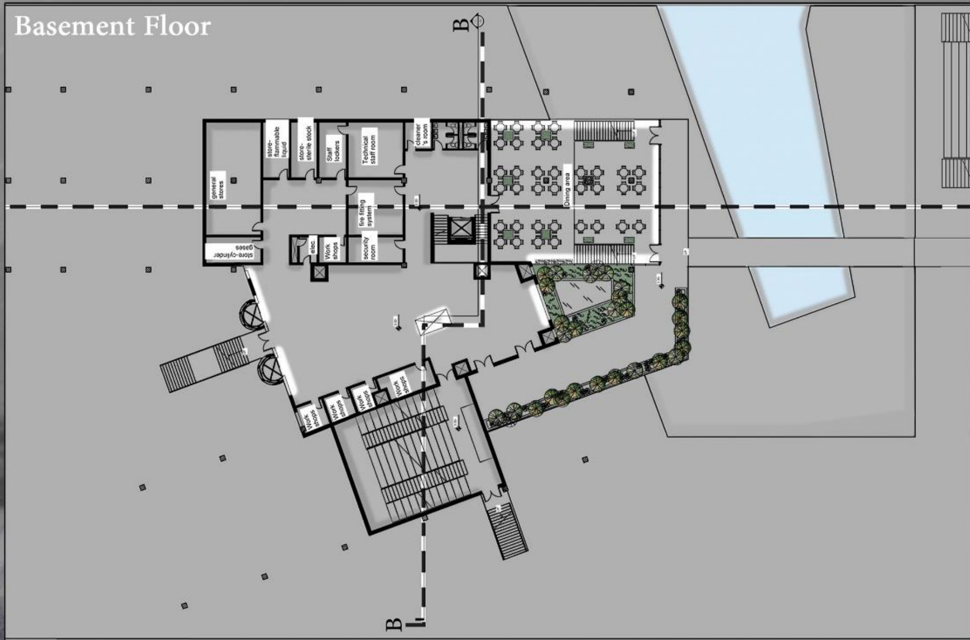








Plans


Basement Floor
B
general stores
store-flammable liquid
store-sterile stock
Staff lockers
Technical staff room
Dining area
fire fitting system
security room
Work shops
store-cylinder gases

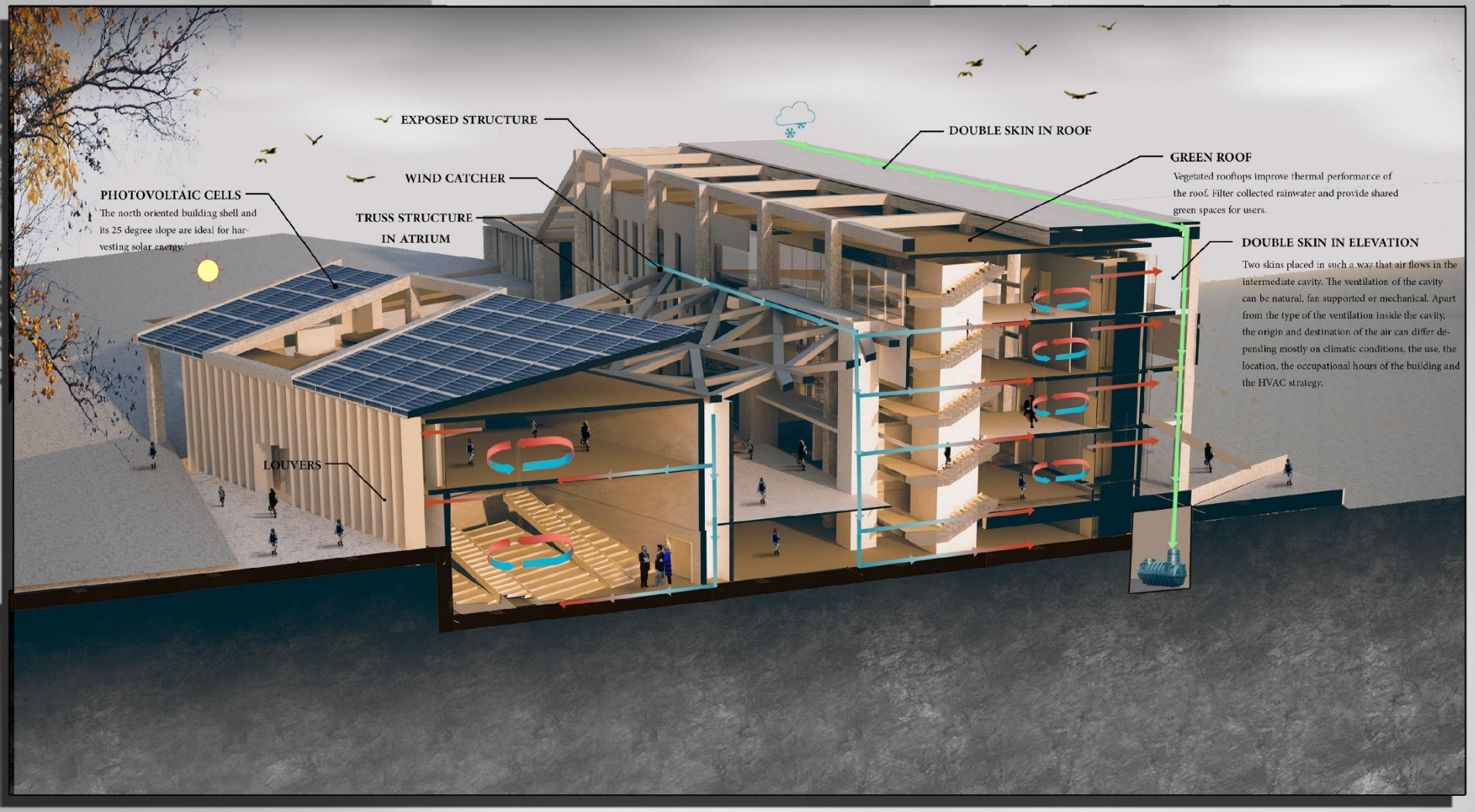

Ground Floor
Auditorium 187Prsn
Local community room
Open Exhibition
Elec.
Dining area
Out door area
Animal lab
Dead Animals
Animal Rooms
B


1stFloor
B
Library
Green garden
Administration
Training labs
Hygiene
Molecular biology lab
Tissue lab
Microscopy
Cytometry
RT-CPR
Waste disposal room
Working area


2nd Floor
B
AC room
Water tanks
Sterilization Unit
Disposal room
Biochemistry lab lab
Histology lab
General labs
Hematology
Changing rooms
Reporting room
Secretary room
Boris Management /Quality control lab

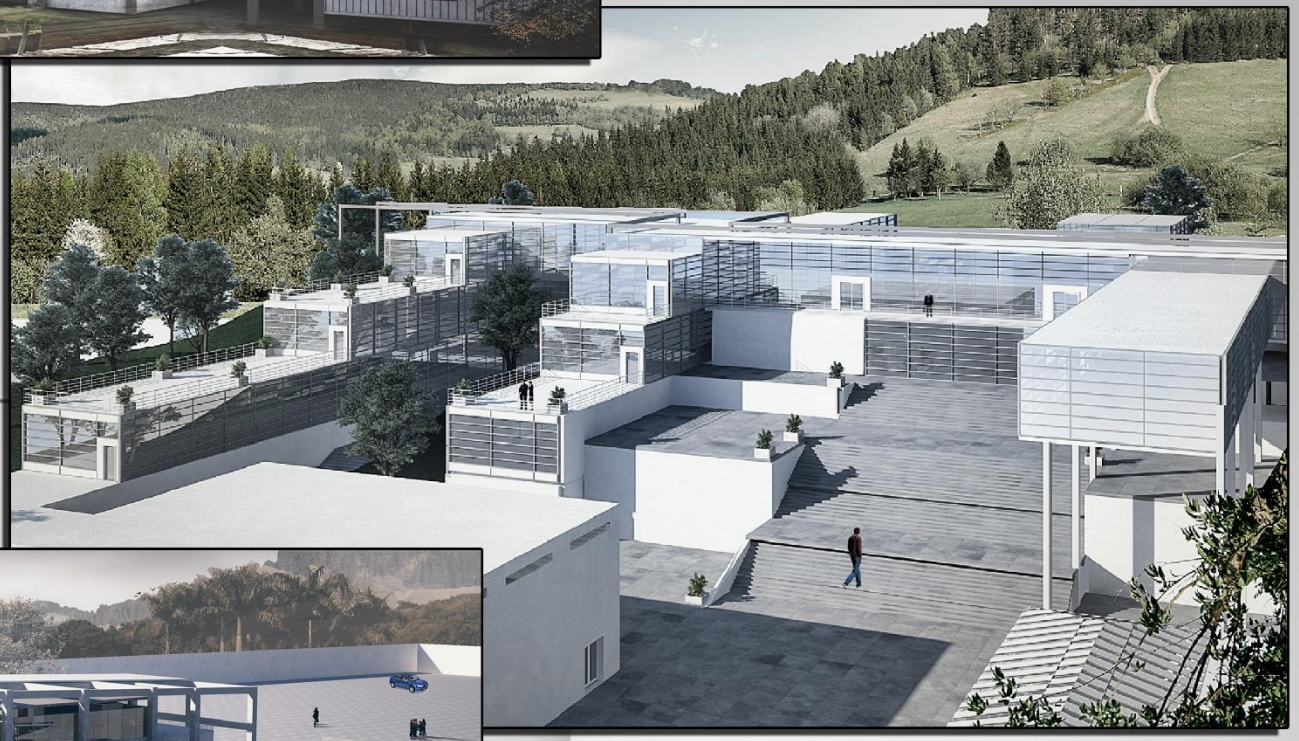
Sustainability Facades

Detailed 3D Shot




3D-Max Rendering
V-Ray
Exterior
Interior
Daylight
artificial

Exterior Shots



V-Ray

V-Ray Rendering

Exterior Shots

V-Ray

Exterior Shots

V-Ray

Exterior Shots

Exterior Shots

Night Shot

V-Ray Rendering

(Interior Design)

Artificial Light

V-Ray Rendering

Thank You