



KEVIN HSIA

SPRING 2009



Kevin Hsia

Pennsylvania State University

Integrated Bachelor/Master of Architectural Engineering
Five Year Professional Degree - ABET accredited, May 2009

This portfolio explores the projects I have worked on or completed at Penn State and during my summer internships. The senior thesis is an ongoing project which will be completed in May of 2009. Work on my senior thesis can be viewed at

<http://www.engr.psu.edu/ae/thesis/portfolios/2009/kzh5000/>

PENN STATE PROJECTS

Living Box Competition

Daylight Design Project

Sports Stadium Lighting

Wall Lighting Studies

Schematic Design Project

Howard Brandston Competition

Lighting Structures Project

INTERNSHIP PROJECTS

Methodist Sugar Land Hospital

Oklahoma Children's Hospital

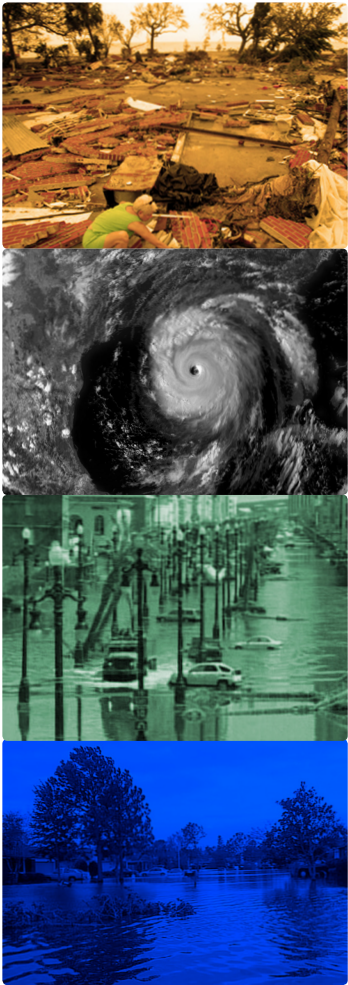
Fort Greene Memorial

SENIOR THESIS

New York University Concourse

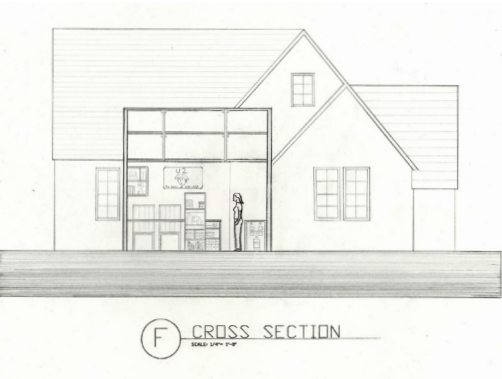
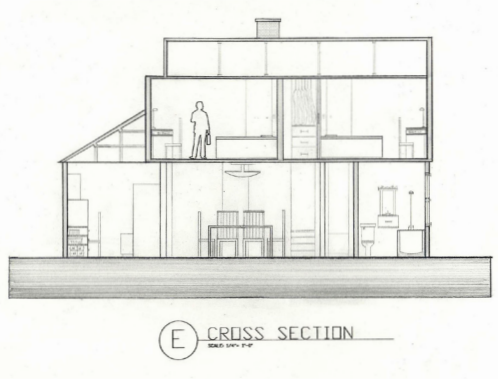
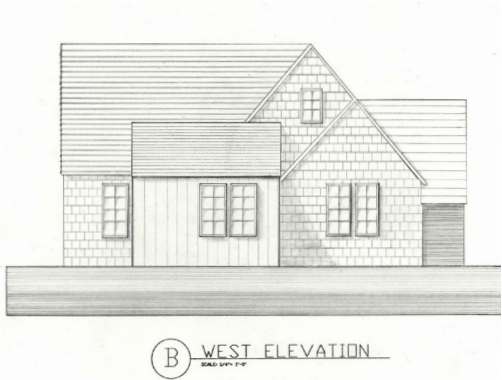
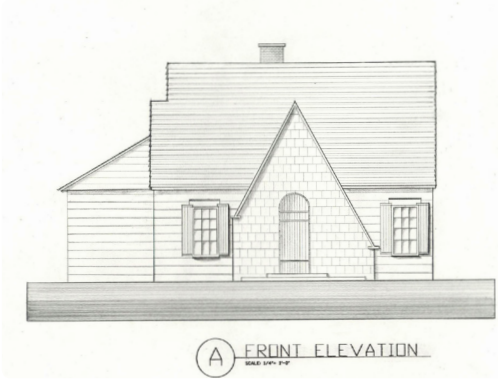
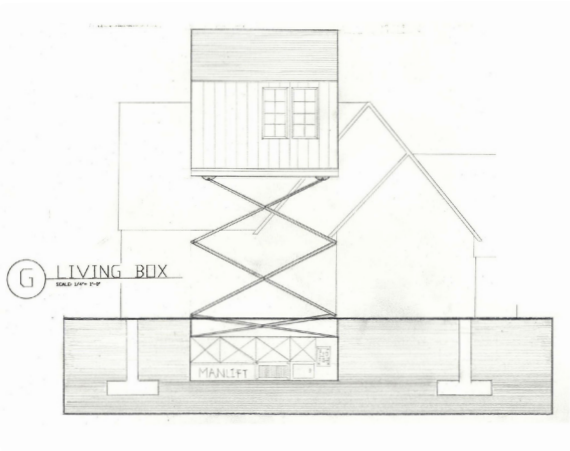
LIVING BOX COMPETITION

International Design Competition in Italy



With the catastrophic 2005 Hurricane Katrina, the project was adjusted to deal with traditional American Houses. The project involves coming up with a solution for the Living Box, a compartment used to save people in times of natural disaster.

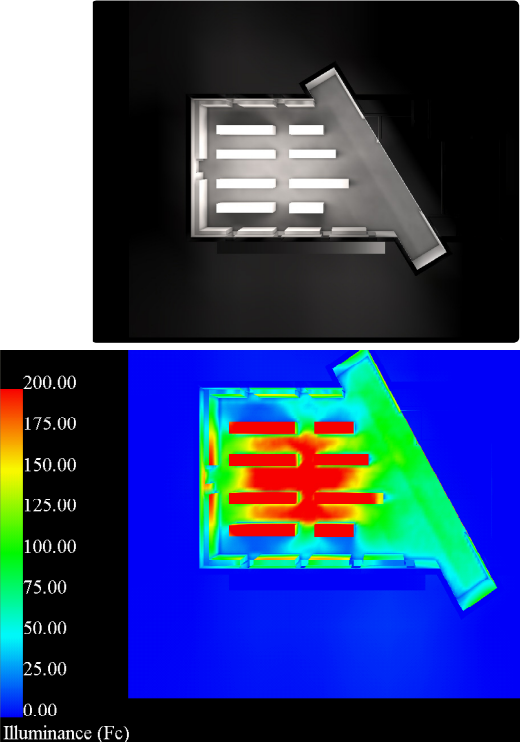
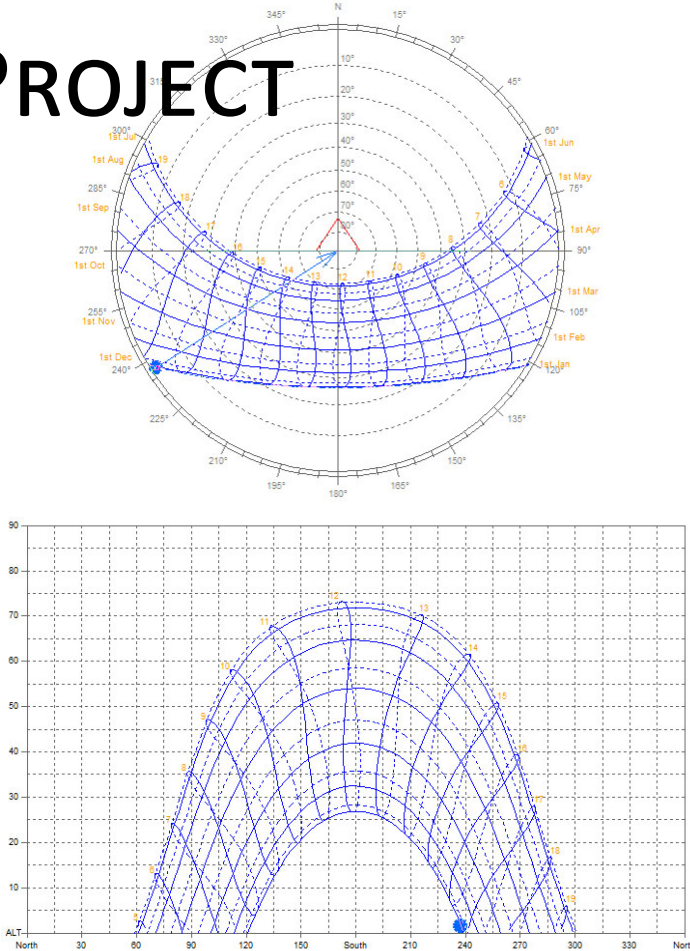
The solution was to come up with a Living Box to perform a vertical lift to prevent flooding and avoid strong winds until help arrives.



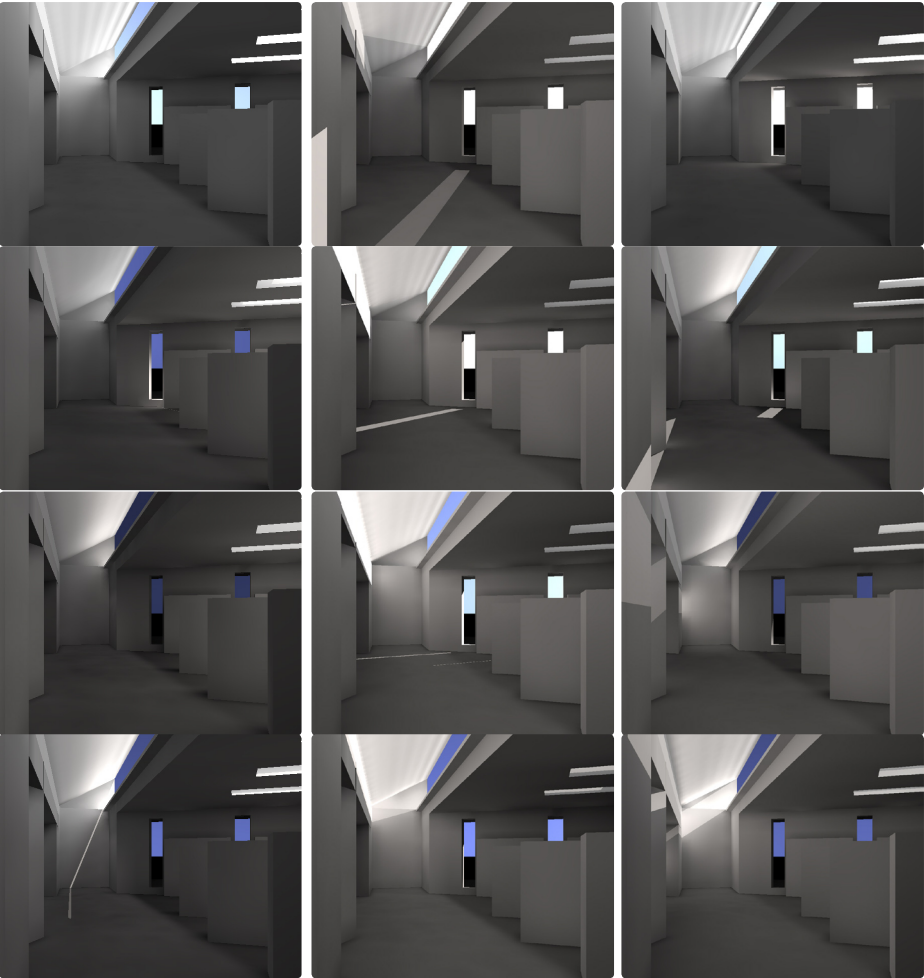
DAYLIGHT DESIGN PROJECT



The project involved designing a daylighting system to perform a quality daylighted space for the library.



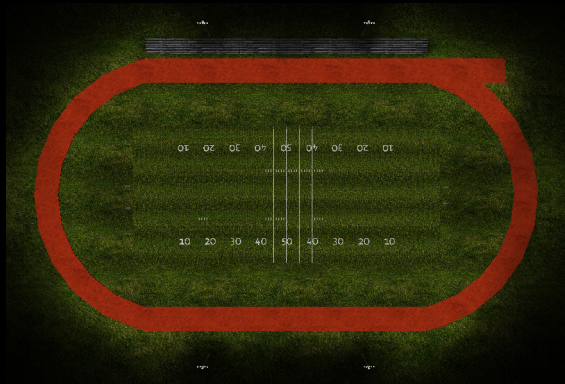
- Implemented daylighting methods
- 9' x 2.5' skylights on roof
 - 42'x3' overhang on the south side
 - Installed shades on south side
 - Glazing on clerestory



Summer (9 am - 5 pm) Winter (9 am - 5 pm) Spring (9 am - 5 pm)

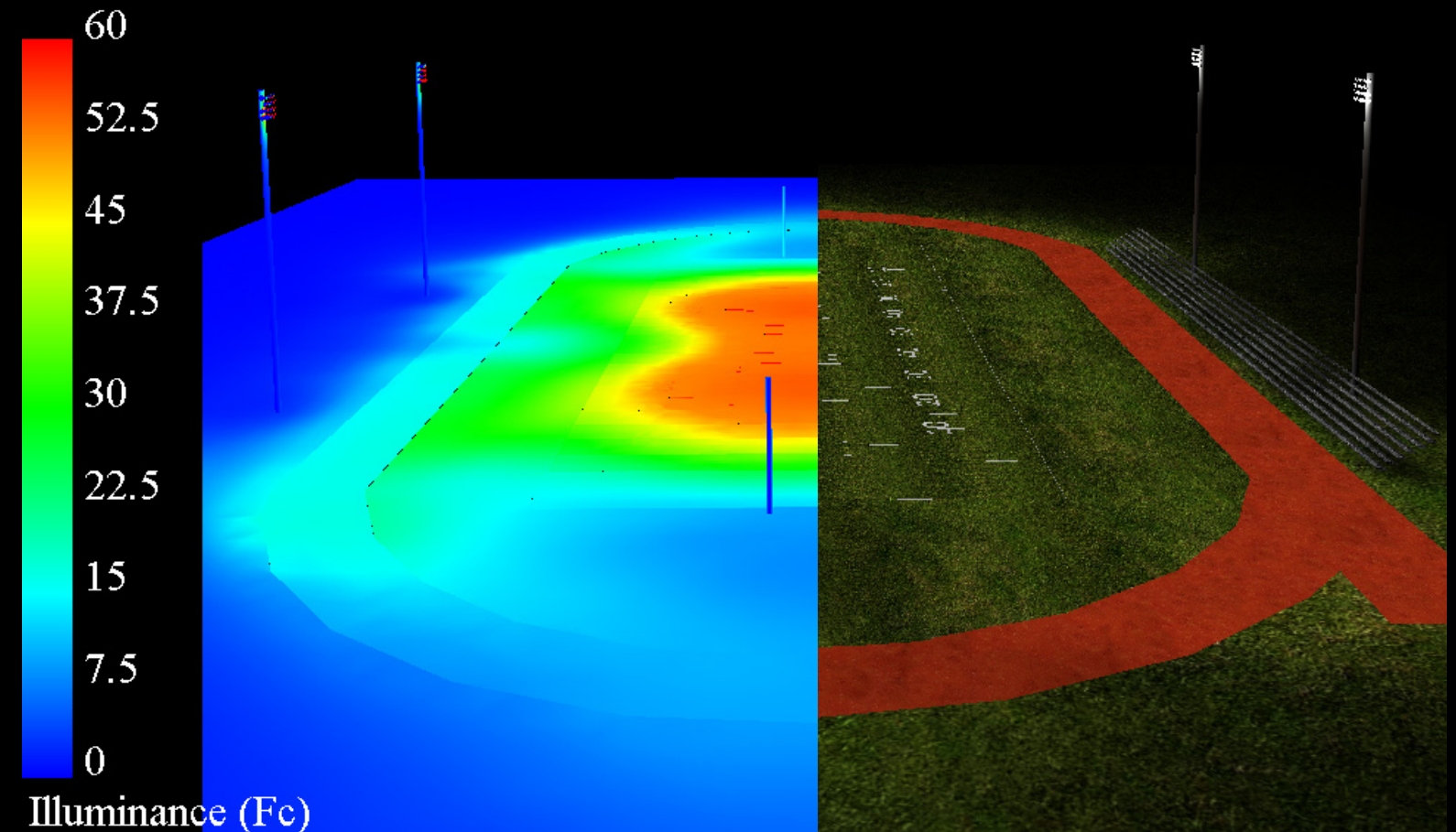
SPORTS STADIUM LIGHTING

Penn State Project



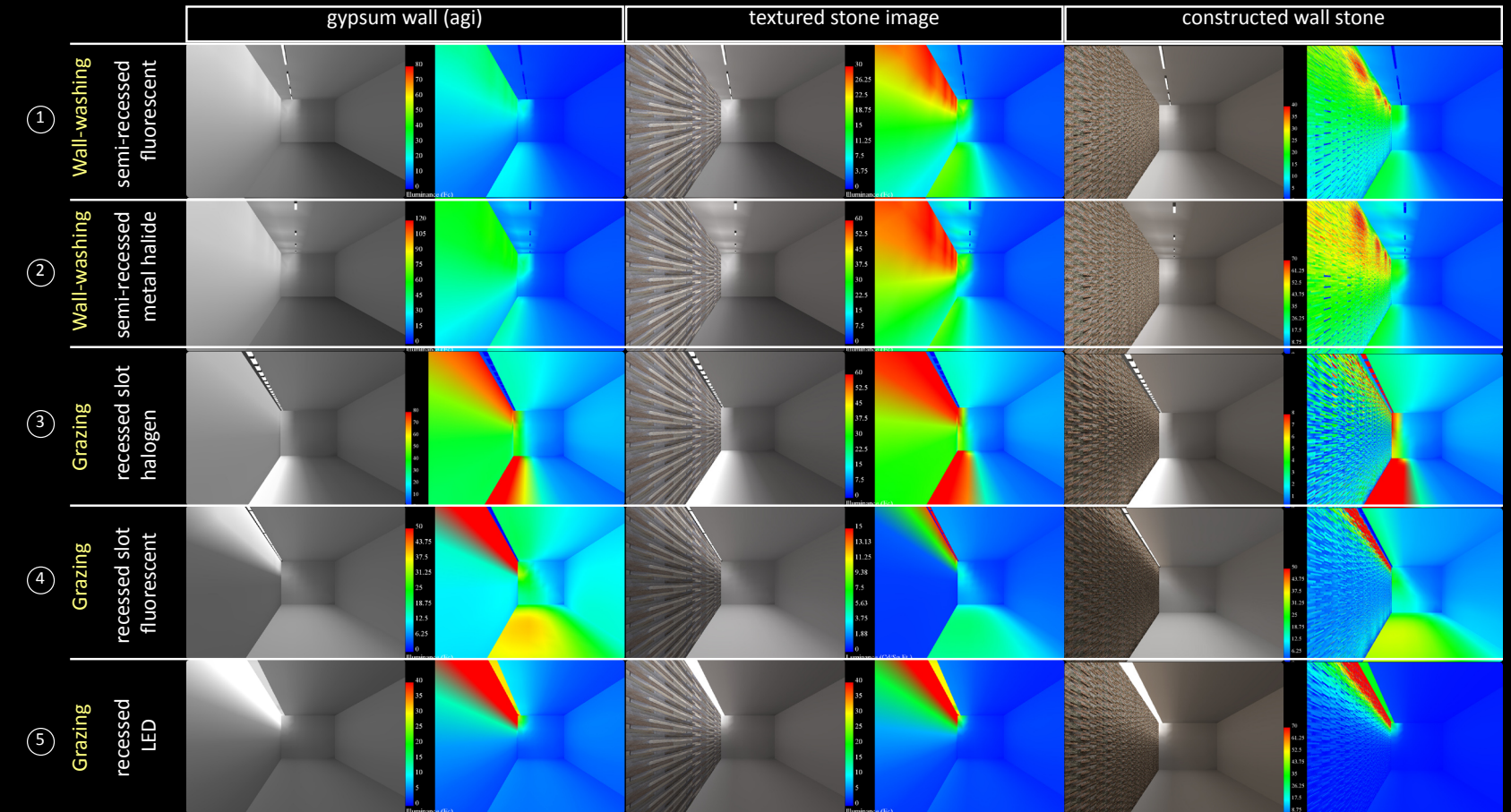
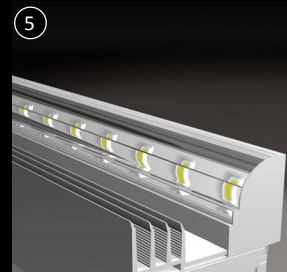
The design focuses on a simple, modern, easy maintained, and efficient performed system.

Light pollution, glare, color quality, and off-field light spill were considered during the design process.

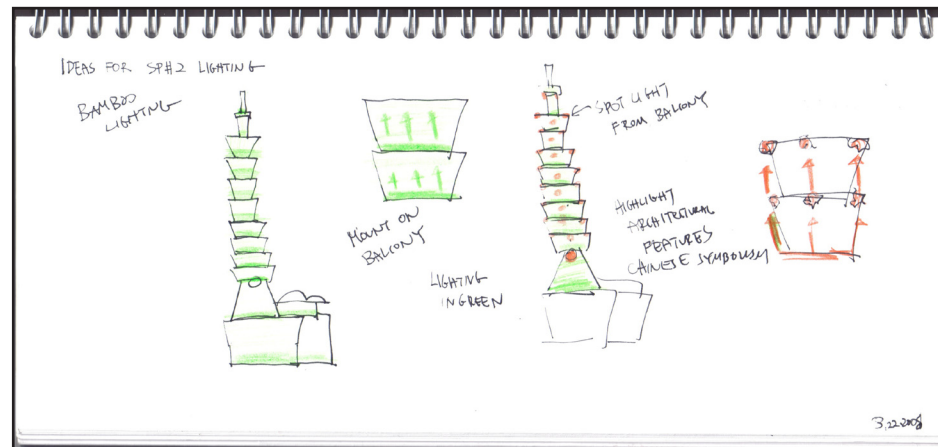


WALL LIGHTING STUDIES (WASHING & GRAZING)

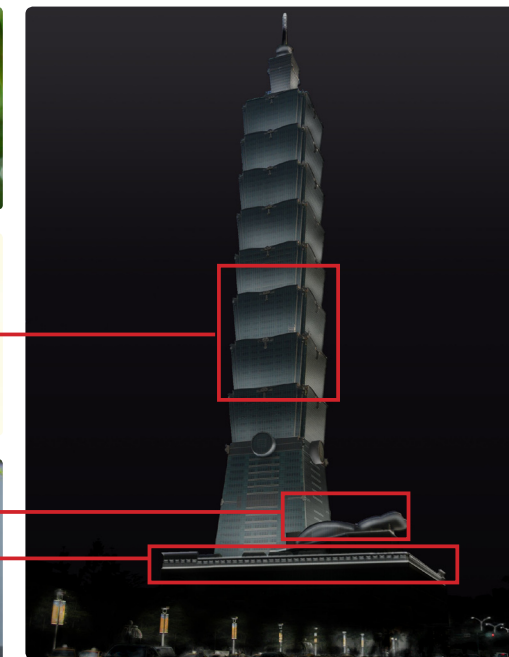
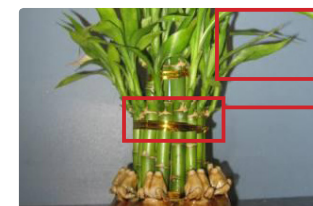
Penn State Project



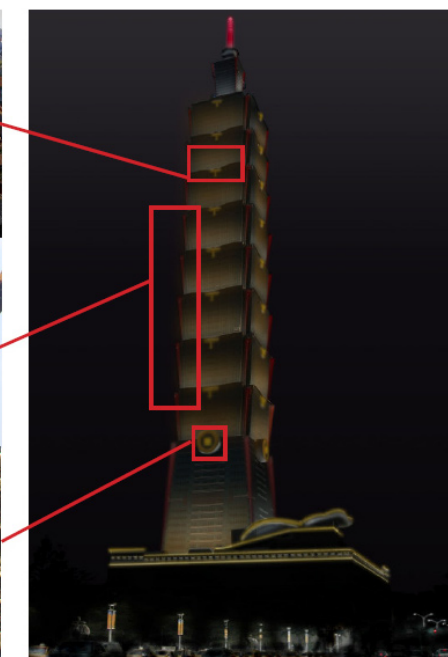
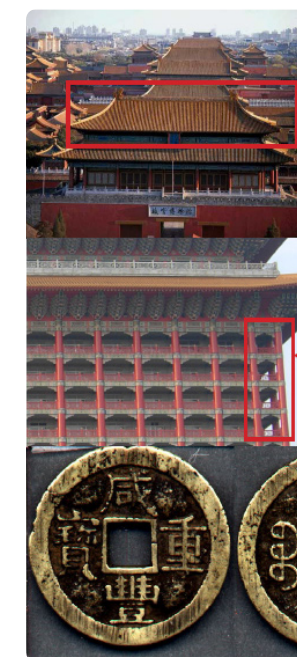
SCHEMATIC DESIGN PROJECT



The project involved designing the exterior lighting for an existing building. The building I have selected is Taipei 101.



Bamboo Design

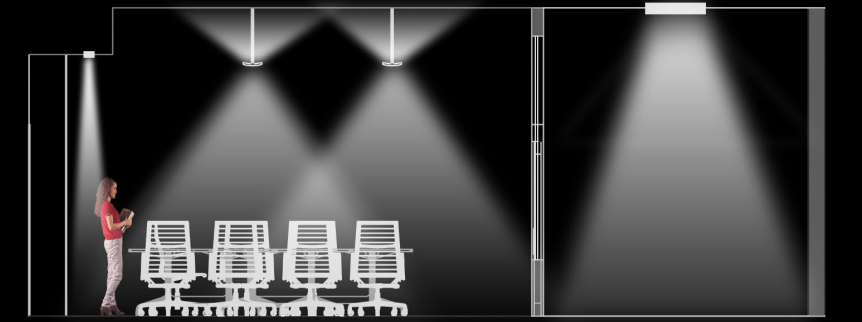
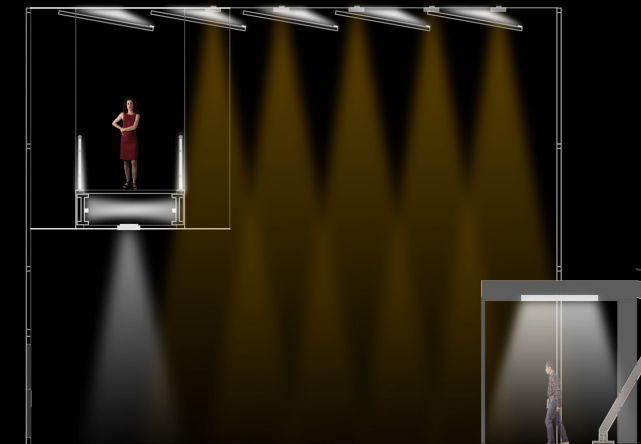
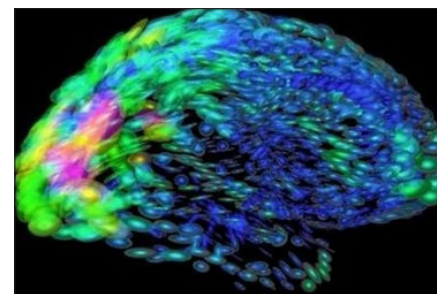
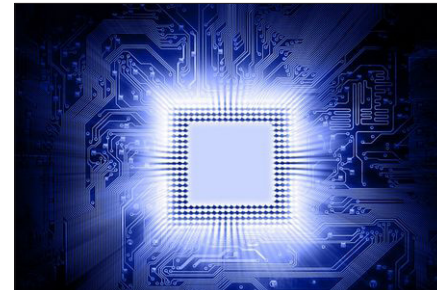
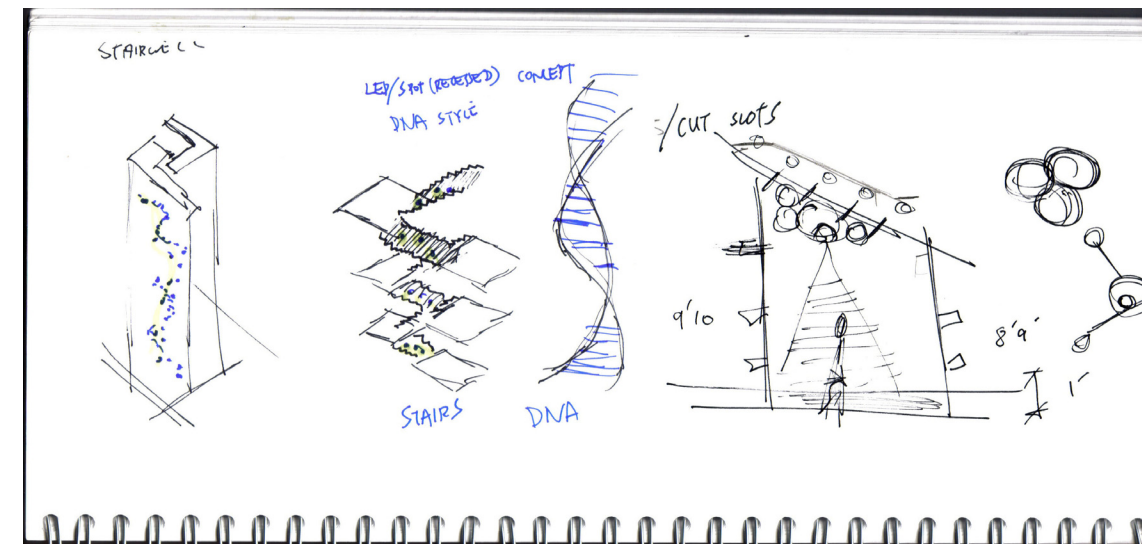


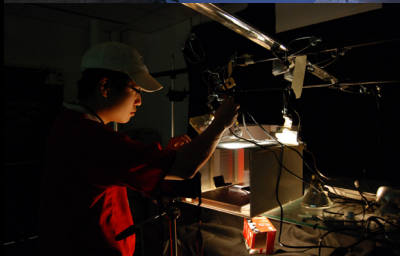
Chinese Imperial Palace Design

HOWARD BRANDSTON

DESIGN COMPETITION

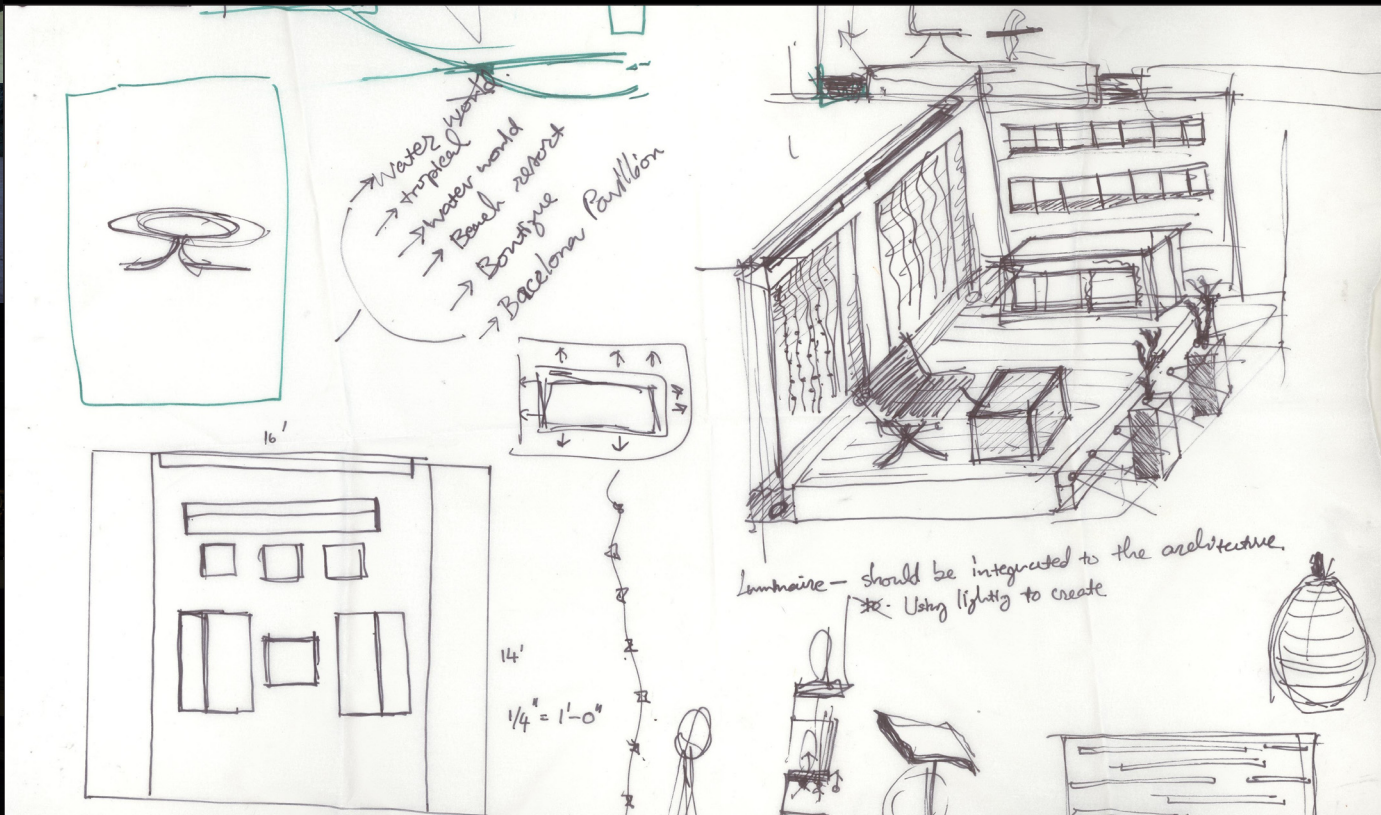
The design competition involves creating a lighting system that encompasses a modern scientific theme. The focus to light the vertical and horizontal edges of the space will emphasize the high-tech nature of the building by creating visual light lines that are reminiscent of the computer. It is a means to express the theme of 'following the light' that draws the occupant from a known area to one that is mysterious and can only be acknowledged by the lighting design.





LIGHTING STRUCTURES PROJECT

Inspired by the simplicity, characteristics of elegance, and perpendicular planes. The design focuses on recreating the atmosphere of the Barcelona Pavilion. The emphasis is placed on the rhythmic elements of water, cleanliness, and pure use of color.



Physical Model

Tension Mode



Design Methods

- Cove Lighting
- Dark Ceiling
- Accent Architecture Feature
- Create Gradients
- Low Ambient Levels
- Non-uniform Lighting

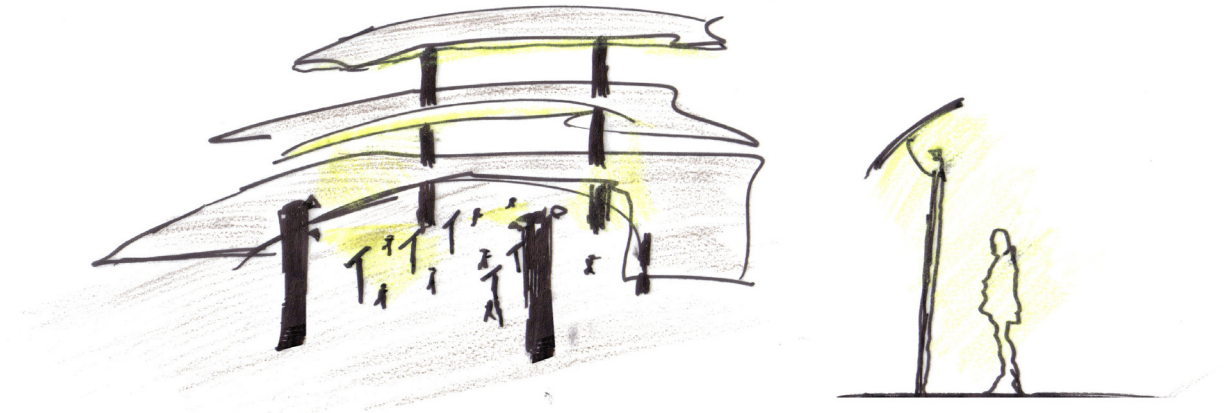
Design Elements

- Floating Deck
- Water Channel
- Visual Interest Bar
- Artwork
- Elegant Furniture

Relaxation Mode

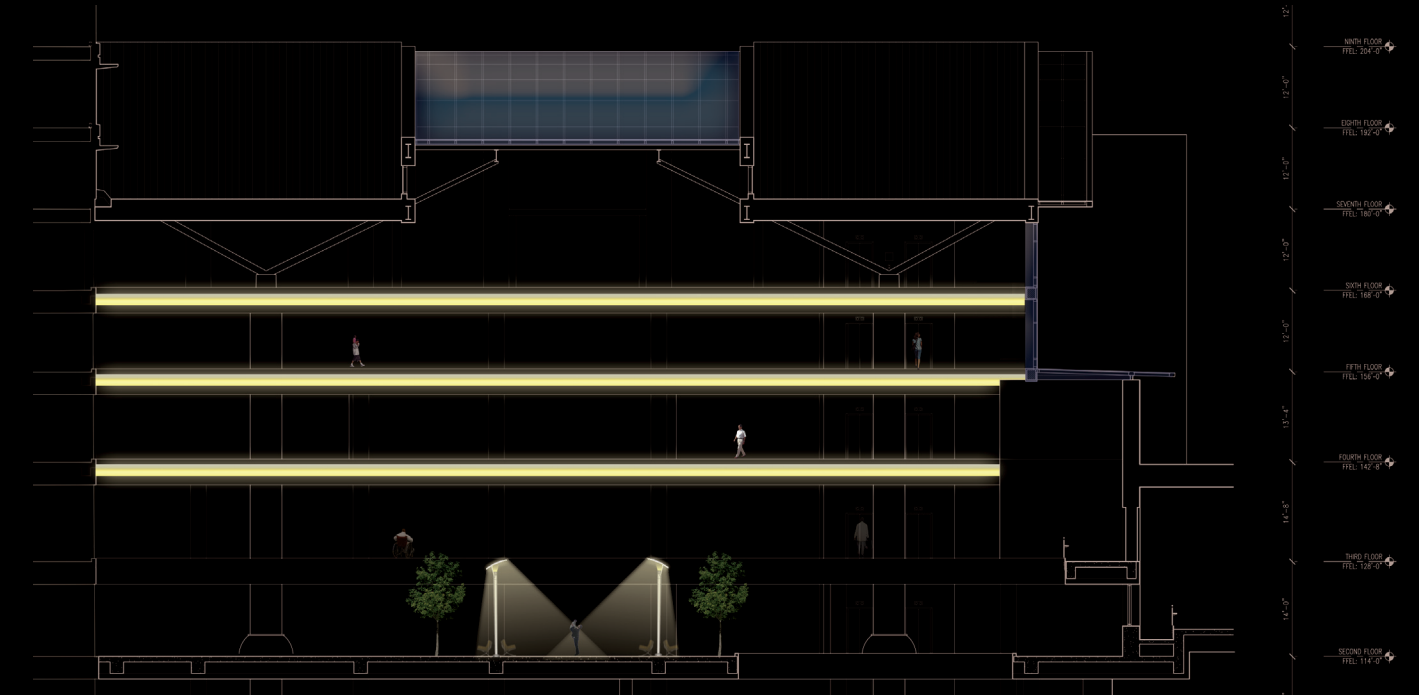
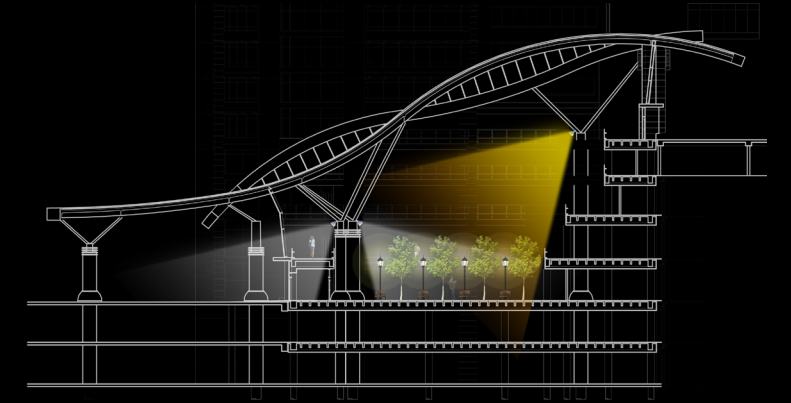
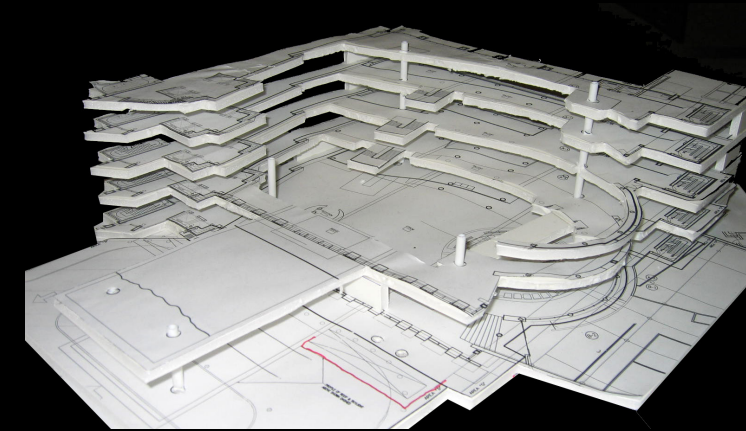


OKLAHOMA CHILDREN'S HOSPITAL

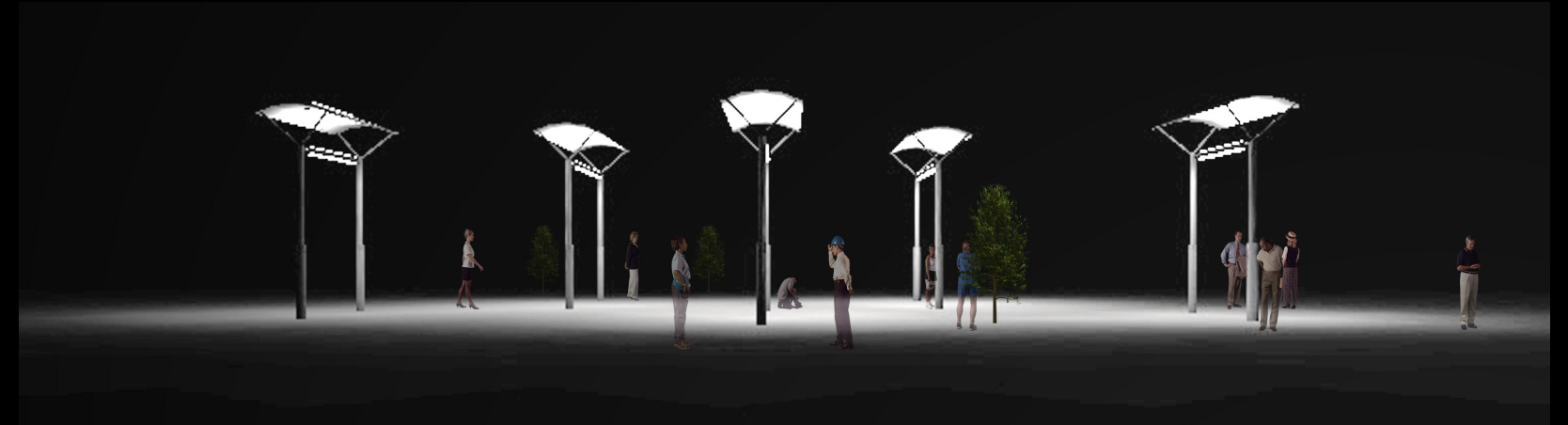
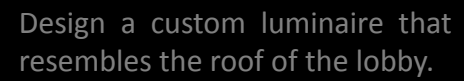


The project involved proposing a lighting scheme for the lobby. A physical model was created to understand the atrium space and find suitable mounting positions to fulfill the design criteria.

HOK Project

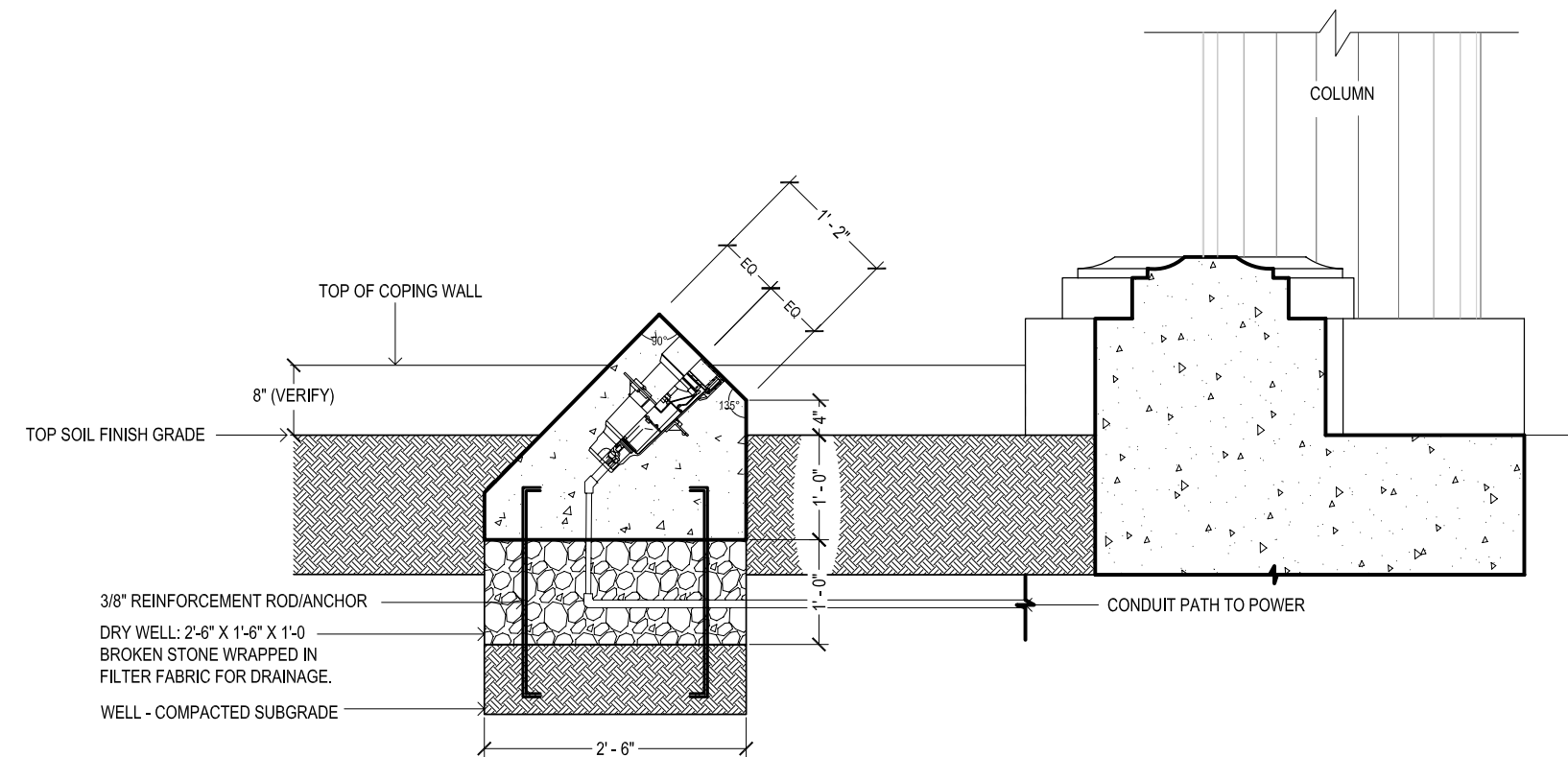
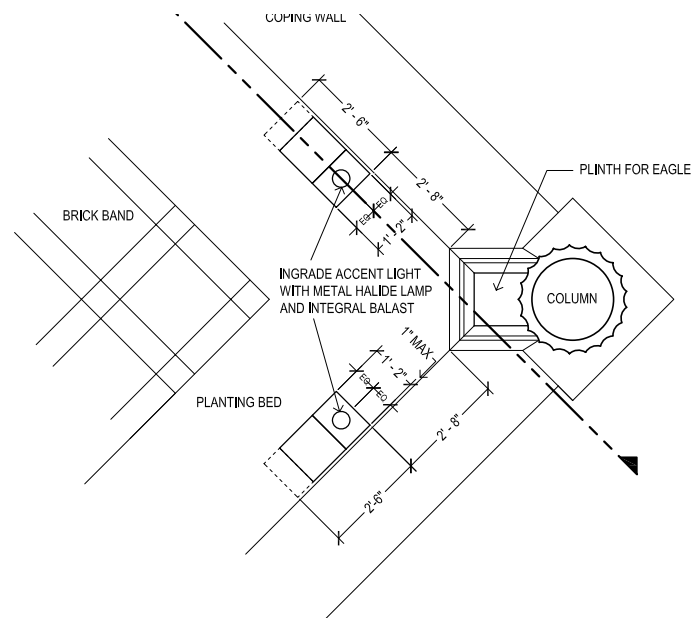


HOK Project



FORT GREENE MEMORIAL

The project involved lighting up an eagle statue and finding the best position to light it.



SENIOR THESIS PROJECT

NEW YORK UNIVERSITY CONCOURSE PROJECT

The senior thesis project is a yearlong project that involves picking a building and performing technical analysis.

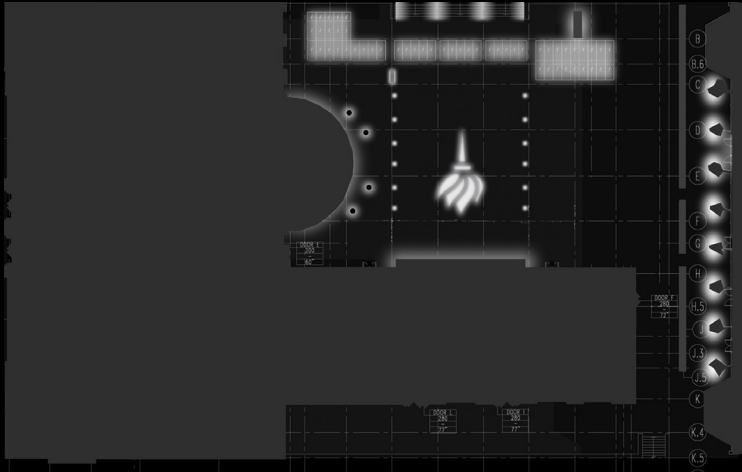
At the end of the analysis, proposals are made to redesign lighting and electrical systems of the four spaces.



NYU Business Campus in New York City



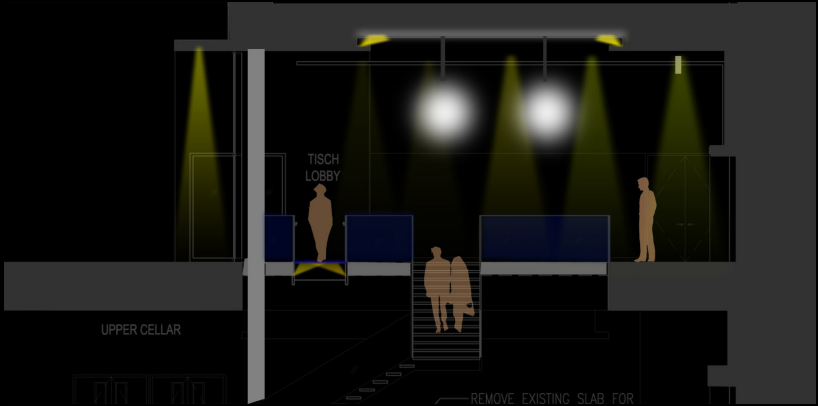
Weaver Hall, Tisch Hall, KMC



Gould Plaza Redesign

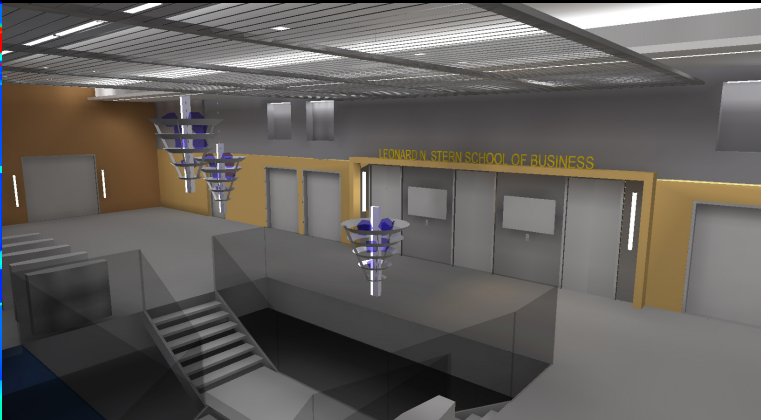
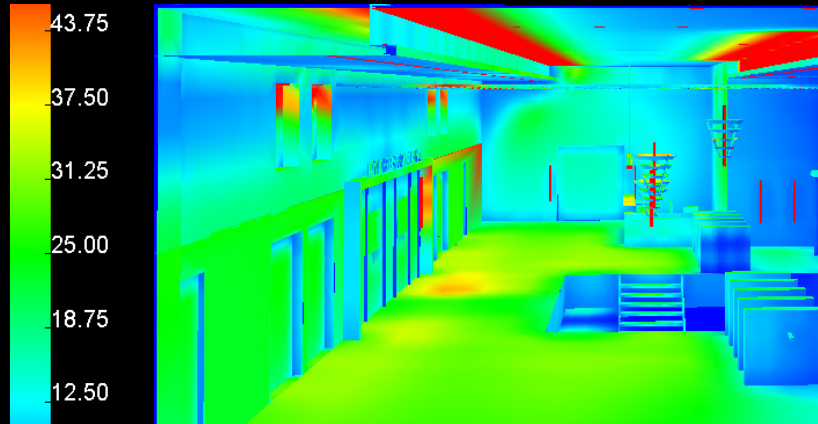
The redesign of Gould Plaza involves designing a backlit NYU logo at the heart of Gould Plaza. This logo will help create a focal point of interest to unite the NYU business campus.

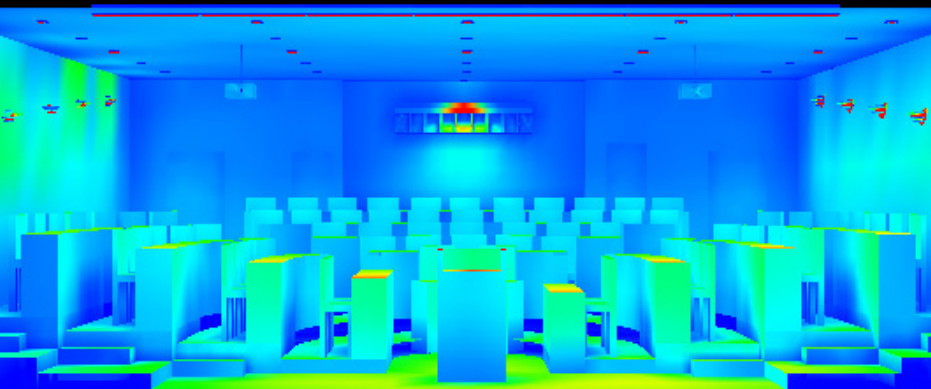
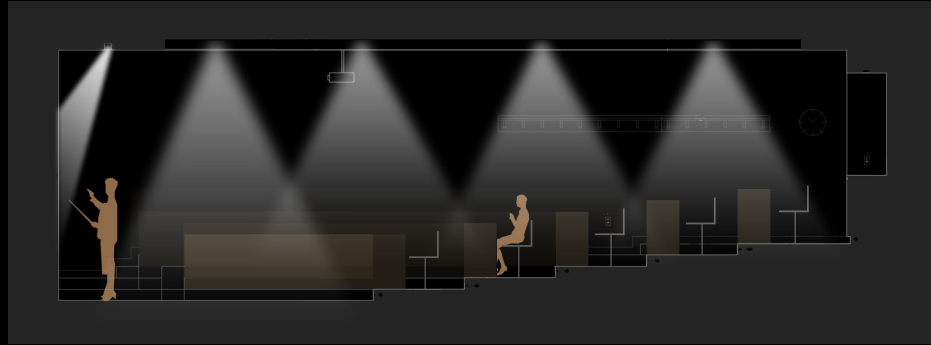
Design considerations involves lighting the entrance to Tisch Hall and the Kaufman Management Center.



Tisch Hall Lobby

The lighting design for the Tisch Lobby focuses on creating a spacious and pleasant environment. The lighting solution involves creating a lighting hierarchy to direct people to the various compartments of the building.





Classroom Redesign

The lighting design consist a mixture of downlights, wallwashers, and sconces. The downlights are used to provide general ambient lighting. The wallwashers at the front of the classroom are used to light up the white board/projection screen. The sconces on the sides of the room are used to provide a visual interest and lighting on the side walls.

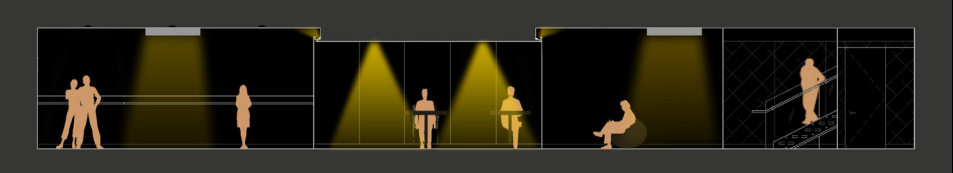
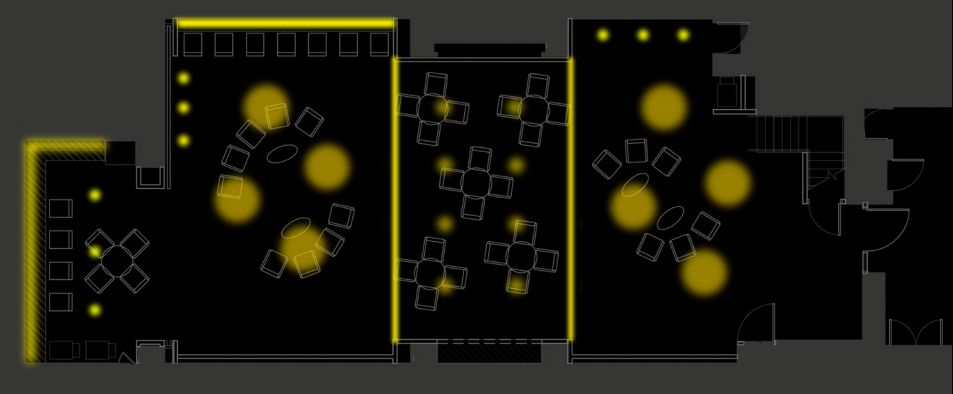
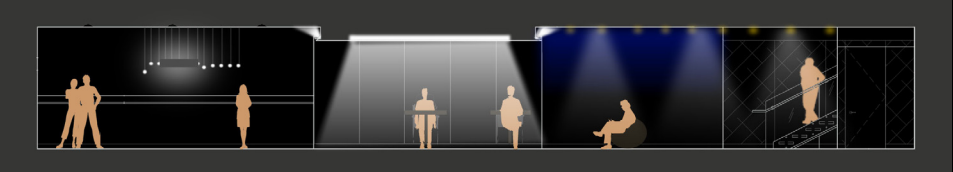
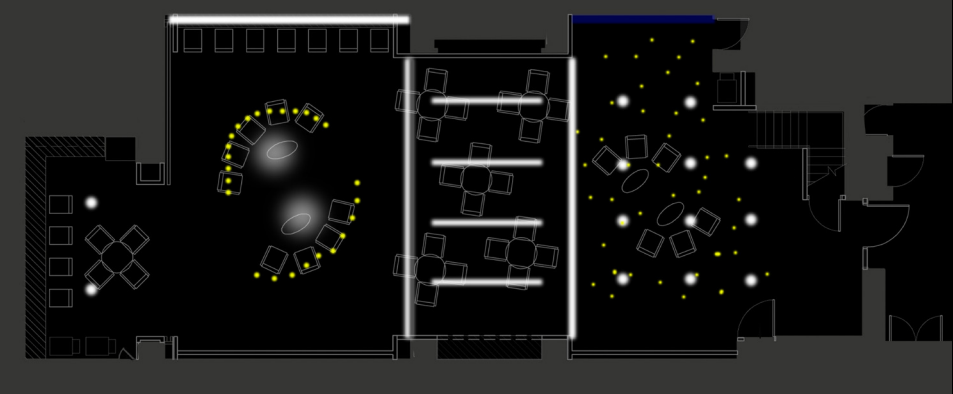


MBA Student Lounge

The design consideration was to create a relaxing atmosphere to attract students down to the basement to do work and have a good time.

A number of solutions were proposed for this space. The first solution involves using the theme of ‘outer space’ to create a fun and entertaining atmosphere which involves lighting the ceiling like stars in the sky and washing the wall like the earth’s horizon.

The second design involves create the intimate and relaxing feel of a ‘coffee house’ in New York City. The lighting in the lounge would be warmer.







SKETCH



PHOTOGRAPHY



Firenze, Italy



Hong Kong, China



London, United Kingdom



Venezia, Italy



Nan Tou, Taiwan

Kevin Hsia

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kevinhsia@gmail.com (814)-876-0706

Education:	PENNSYLVANIA STATE UNIVERSITY Integrated Bachelor/Master of Architectural Engineering Five Year Professional Degree – ABET accredited, May 2009Lighting/Electrical Option, GPA 3.24 Related Course Work: Electrical and Illumination Systems, Sustainable Building Methods, Daylighting, Architecture Studio PENNSYLVANIA STATE UNIVERSITY - SEDE DI ROMA Minor: Architecture, Summer 2007	University Park, PA
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Research:	“Connection between Natural Ventilation and Passive Solar Design in the Pearl River Tower” Receive funding from Penn State Undergraduate Education Research Fund
Skills:	Software & Language 3D Studio Max, AGi32, AutoCAD, COMcheck, Dreamweaver, Ecotect, InDesign, Microsoft Office, Photoshop, Revit, Sketchup. - Fluent in Mandarin Chinese.
Leadership:	Taiwanese American Student Association – President (2006-2007) - Organized club events and delegated work to officers. - Managed and planned Chinese New Year Festival for 500 people.
Activities:	Illuminating Engineering Society, Penn State Solar Decathlon 2009, Intramural Soccer

Experience:	HORTON LEES BROGDEN	New York, NY
Summer 2008	Lighting Intern - Analyzed and constructed computer models for lighting calculations to meet energy and code compliance. - Drafted lighting plans for Gateway Community College. - Learned to detail lighting fixtures for custom designed and in-grade fixtures. - Rendered graphical schemes for Baker & Daniel’s proposal to best portray the architect’s vision.	
Summer 2007	OFFICE FOR VISUAL INTERACTION Lighting Intern - Proposed lighting solutions to highlight the exterior Greek ornaments of 25 Broad Street. - Researched and discussed with manufacturer for custom lighting fixture to restore the art deco look.	New York, NY
Summer 2006	HELLMUTH, OBATA + KASSABAUM Lighting Intern - Rendered graphical schemes for Methodist Sugar Land Hospital. - Computed lighting calculations to meet the IESNA Standards. - Drafted lighting plans for St.Joseph’s Medical Research Center. - Managed and promoted collaboration for the HOK Intern Project to help fundraiser and promote awareness for Annie’s Hope.	Saint Louis, MO
Summer 2005	CENTRA FORGE ENTERPRISE Marketing Assistant - Researched houseware market for competitor price points, trends, and products offerings to compile analysis illustrating Centra Forge’s correlation to industry. - Drafted proposals for customers, including Target Corp. that focused on new product benefits including cost, design, and packaging compared against direct competitors.	Taipei, Taiwan

Education
College Courses

ENGLISH

English 15 Rhetoric and Composition
English 202C Technical Writing
CAS100 Speech Resources

MATH

Math 140 Calculus with Analytic Geometry I
Math 141 Calculus with Analytic Geometry II
Math 220 Matrices
Math 231 Calculus of Several Variables
Math 250 Ordinary Differential Equations
Math 401 Experimental Methods

CHEMISTRY

Chem 12 Chemical Principles
Chem 14 Experimental Chemistry

PHYSICS

Phys 211 General Physics
Phys 212 Electricity and Magnetism
Phys 213 Fluids and Thermal Physics

LANGUAGE

French 001 Basic French

ENGINEERING MECHANICS

Emech 11 Statics
Emech 12 Dynamics
Emech 13 Strength of Materials

ARCHITECTURE

Arch 210 Intro to Architecture and Theories
Arch 211 Contemporary Design and Theories
Arch 130A Basic Design and Research (Studio)
Arch 441 Arch Design Analysis (Studio)
Arch 442 Arch Design Analysis (Studio)
Arch 499B Arch Analysis
Arch 499B Urban Studies
Arch 542 Topics in Community and Urban Design

LIGHTING/ELECTRICAL

AE 311 Fundamentals of Electrical and Illumination System
AE 461 Architectural Illumination Systems and Design
AE 464 Advance Architectural Illumination Systems
AE 466 Computer Aided Lighting Design
AE 467 Advance Building Electrical System Design
AE 561 Science of Light Sources
AE 563 Luminaire Optics
AE 565 Daylighting
THEA470 Advance Topics in Lighting Design

MECHANICAL

ME23 Thermal Dynamics
AE 202 Introduction to Building Mechanical Systems
AE 310 Heating, Ventilating, and Air Conditioning
AE 454 Advance Heating, Ventilation, and Air-Conditioning

STRUCTURAL

AE 308 - Architectural Structural Systems
AE 404 - Building Structural Systems in Steel and Concrete
Arch 499A - Medieval Studies

CONSTRUCTION MANAGEMENT

AE 372 -Introduction to Building Industry

ACOUSTICS

AE 309 -Architectural Acoustics

OTHER AE COURSES

AE 124S Architectural Engineering Orientation
AE 211 Architectural Building Materials
AE 222 Working Drawings
AE 444 Micro CADD Application
AE 481W Architectural Engineering Senior Thesis
AE 497B Communication Systems

TRAVEL EXPERIENCE

