Week 1:

Tuesday

Morning

Course Introduction/Policies

Structural Analysis 1: Introduction to Structures

Types of Loads, Materials, Behavior, Elements
Conceptual Structures: Problem Solving
These problem sets were done to prime the students about compression, tension, shear, bending and how these manifested themselves in basic trusses.

Afternoon

Understanding Architecture 1: History of Spanish Architecture: Students collaboratively created a class timeline on the architectural history and general history of Spain. This was based upon Chapter One of "Architecture of Spain" by author, Alejandro Lapunzina. A PowerPoint presentation was shown, and a short film "When the Moore's Ruled Spain" was also shown. From there, students built their own Timeline of Architectural Periods and Styles that influenced Spanish Architecture.

Wednesday

Morning

Fieldtrip 1: Madrid and Plaza Mayor

We saw Templo de Debod, Palacio Real, Inglesias de Santa Nicholas, Banko Espana, Palicio Communicacions. (We had a Spanish Historian with us which helped all of us with specific historic questions too.) Students were assigned the role of taking specific architectural photos and writing about what they saw.

Thursday

Morning

Structural Analysis 2: Problem Solving and Laboratory

More conceptual problem sets on the basics of structures.

Afternoon

Understanding Architecture 2: Student Presentation of a Photo, Architectural Concept

Students chose to show two photographs and explain the architectural time period, what they liked about it.

Understanding Structural Analysis 3: Students began review of basic Trigonometry through problem solving.

Friday

Morning

Understanding Structural Analysis3: (Continued)

Students began review of basic Trigonometry through problem solving.

Afternoon

Understanding Architecture 3: Instructions for Student Design

Students drew an 'architectural' sketch of a 'sculptural building' that communicated something that they felt passionate about. A PowerPoint presentation was given beforehand about architecture as language and semiotics. The students then created their own sketch.

Week 2:

Monday

Morning

Ethics in Architecture 1: Journal Activity/discussion:

Case Scenario 1 – Students addressed this question: What is the role of the architect in poverty circumstances? There were several architectural ethics books and scenarios available.

Students labeled a 3-D building model's structural components for types of structural stresses including flexure, axial, and shear.

Afternoon

Structures Analysis 4: Problem Solving and Balsa Wood Bridge Project

Students solved basic transitional equilibrium projects. They began building a balsa wood bridge project and had to calculate the force in some of their bridge members using an assumed load of 100 lbs.

Tuesday

Afternoon

Understanding Architecture 4: (Continued)

Students continued to build their structure and solve for specified forces in their structures.

Structural Analysis 5: The materials concrete and wood.

Lab: Students designed "reinforced" plaster-made beams

Wednesday

Morning

Structural Analysis 6 : The material Steel and basic Metallurgy

Student Problem Solving: Gravity Loads and Steel Beam and Column Selection. Students used the flexure formula and the shear stress formula (based upon allowable stress design) and determined the section modulus for a specifically loaded beam. They applied this to their dormitory design.
Students also wrote a paper on a building article of their choice. The buildings were structural design discussions which included 'The Niles High School Field House,' 'The Boston Tower,' 'The North Western Stadium' and others.

Afternoon

Understanding Architecture 6 : Dormitory Layout, reflection and calculations

Students 'redesigned' the dorms which they stayed in. They designed their dorms to scale, chose eight independent topics from Francis Ching's Book and/and or the accompanying CD. They had to explain which architectural traits that they used: ideas like hierarchy, form, rhythm, etc. They then calculated the moment in one of their beams and designed it based upon ASD methods.

Thursday

Morning

Structural Analysis 7

Problem Solving Sets on trusses using both transitional and rotational equilibrium were provided.

Students also wrapped up their bridge building.

Afternoon

Structural Lab:

Students and teachers tested the balsa wood bridges using two five gallon buckets and by hanging a rope from the buckets using a screw driver and gravel.

Students returned to class and read a chapter from their book on 'materials' and 'Architectural History.'

Friday

Morning

Structural and Architectural Laboratory:

Students finished their dormitory design papers and calculations. They then presented their projects to their classmates.

Afternoon

Understanding Architecture 7: What does it mean to build Green?

Short Student presentation assignment/analysis of a green building: Concepts included use of thermodynamic laws, passive solar heating, use of technology, and cost and importance of good architecture so as to maximize environmental design.

Week 3:

Monday

Morning

Structural Analysis : Shear Forces, Bending Moments, Concepts of Beams

Student solved problem using shear and moment diagrams for both simply loaded and cantilever beams.

Afternoon

Structural Analysis (continued) : Shear Forces, Bending Moments, Concepts of Beams

Student continued problem solving and began the 'Final Project.' Students were provided a handout. They were to design and build a model for a client whereby they must create a model which fits the existing contemporary campus architecture with Spanish historical architecture. They then designed and built the model and provided calculations for beams and columns for one of the rooms. They also provided a structural paper, and an architectural paper.

Tuesday

Morning

Field Trip : The City of Toledo

Students went to Toledo and visited Catedral Santa Maria La Blanca, The Catedral de Toledo, and the Visigothic Museum. Students were given a short worksheet in which they had to sketch and identify specified architectural concepts in each monument.

Wednesday

Morning

Architecture Lesson: Architecture through the 20th Century.

A PowerPoint presentation was provided on non-traditional architectural theories including post-modernism, modernism, deconstructivism, expressionism. Emphasis on Gaudi, LeCorbusier, Eisenman, Venturi, and Calatrava were discussed. Many other architects were included. A snippet of BBC's "God's Architect" was also shown. Students collaborated with the Surrealist Class. They then built 'planning models' and wrote papers on modern architecture.

Afternoon

Students continued… with the Surrealist Lessons and continued with their 'final project' model

Thursday

Morning

Student Build Time and Lesson on Alhambra

Students joined the travel writing class for a lesson on 'The Alhambra'. They watched a 30 minute film on the Alhambra from the video Series called "Architectures." They were presented background and historical information on the Alhambra and discussed its relation to a poem by Lawrence Ferlinghetti. The Travel Writing students led a short 'game show' question and answer session.

Students then returned to the classroom and continued building their models.

Afternoon

Understanding Architecture Practice: Student Presentation to clients / Final critique.

Students worked on their final models, structural and architectural papers, calculations.

Friday

Morning

Student Final Build Time: Students completed their models and papers/calculations.

Afternoon

Presentation of Models, Wrap Up, Cleaned Classroom, Evals, "Accomplishment Ceremony"/ Certificates