

Get Bent

Dillan Jordan & Collin Bautista

Present..

La Chaise & Lamp



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Introduction

This project required partnerships to design bent furniture that incorporated physics. Once the plans were drawn up and all the measurements were drawn out, the construction of the furniture would begin.

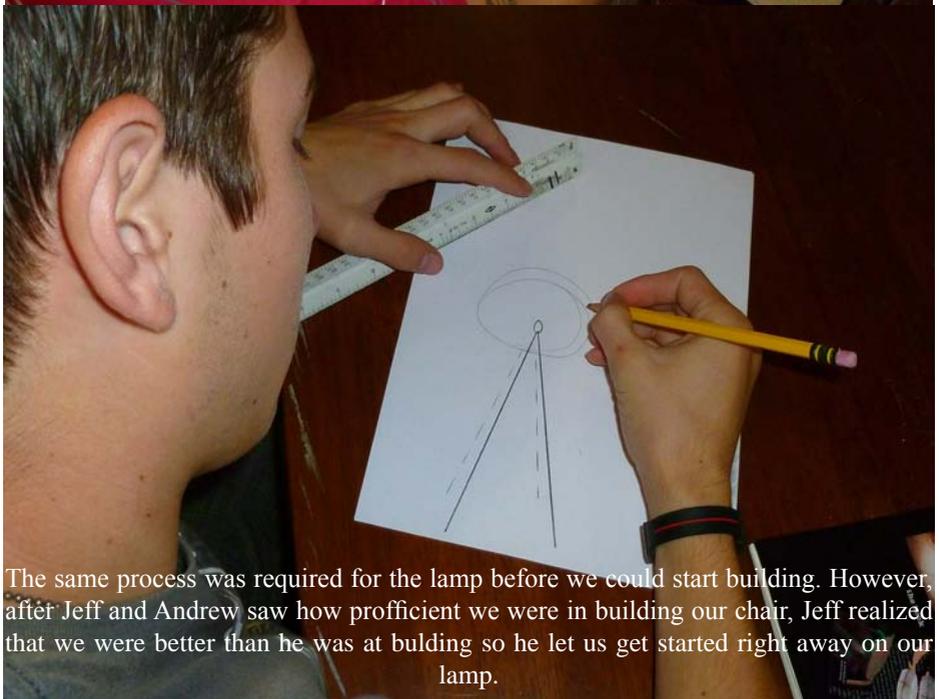
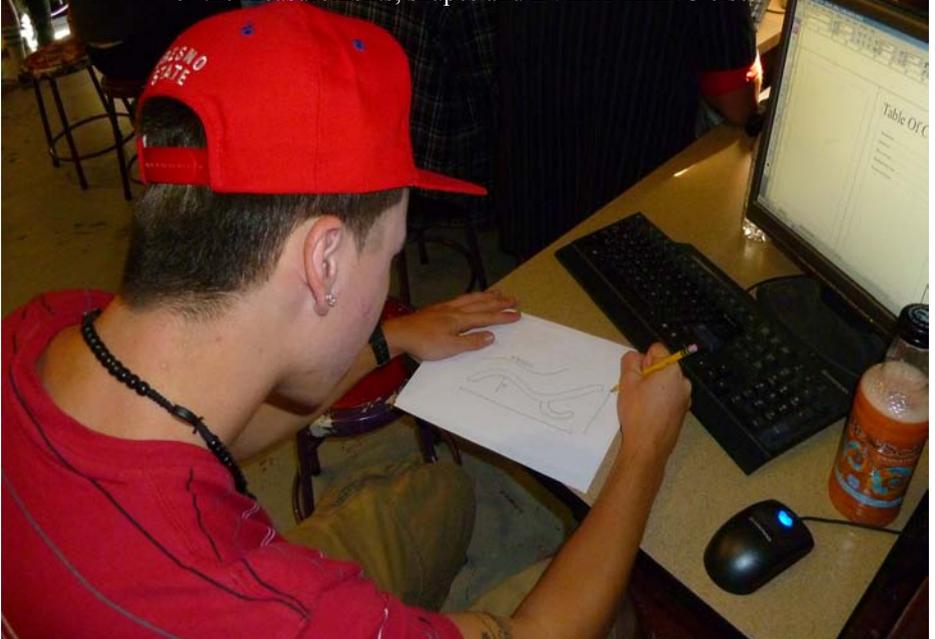
To start designing and coming up with design ideas; first we went on a field trip to Little Italy in search of original pieces made by hand or modern pieces in furniture stores to. the second field trip we went to IKEA in search of more cool/modern pieces that we could “rip” off of. Meaning pieces that we would like to somewhat copy their design.

We then came up with sketches that we then again transformed into either 1/2 scale or 3/4 scale models to make sure that our full scale models would work as planned.

After constructing a half scale model, we were to write up a final plan, fix any mistakes that were presented when constructing the smaller models, and write down a materials list.



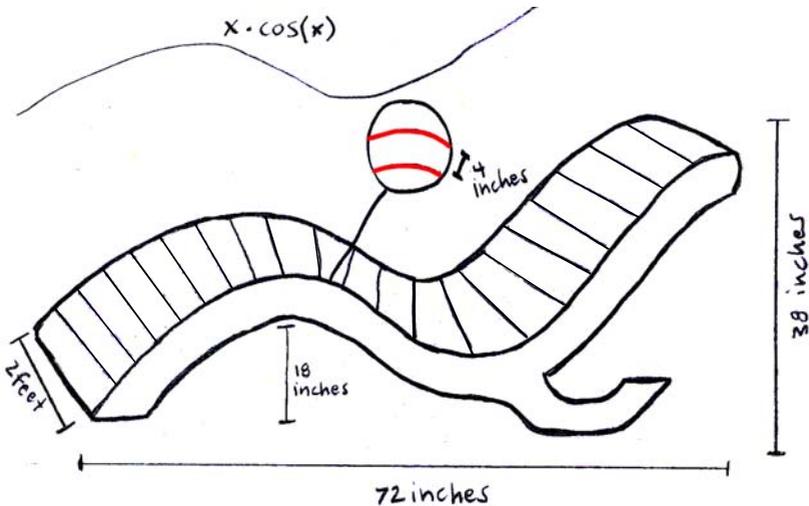
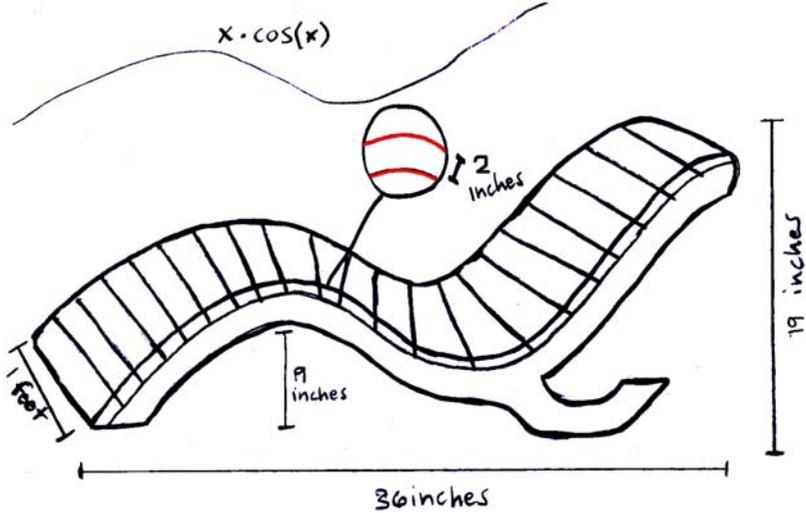
Before we could start getting materials or start building, we had to draw detailed plans of the measurements, shapes and EVERYTHING else.



The same process was required for the lamp before we could start building. However, after Jeff and Andrew saw how proficient we were in building our chair, Jeff realized that we were better than he was at building so he let us get started right away on our lamp.

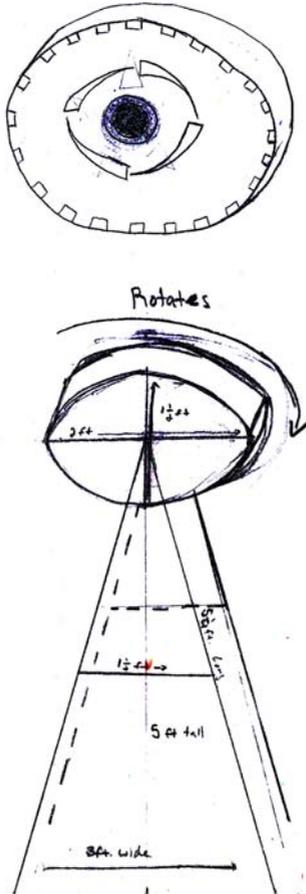
When drawing up plans for any model, the measurements have to be exact so that there isn't anything that comes unexpectedly. "*Measure twice so that you only have to cut once.*"

Chair Plans



By sketching up plans for our chairs before actually constructing them, we can get a clearer idea of what they should look like and be more precise with our measurements. There were plenty of times when we got lost during the building process of our chair and asked Jeff what we should do. Jeff would just respond, "Remember when I had you draw those plans out?.. Get them out!"

Lamp Proof Model Sketch



To the left is the proof model sketch of our lamp. Similar to the rest of this project's components, we had to draw a detailed sketch planning out each aspect of the model before we could begin constructing our final.

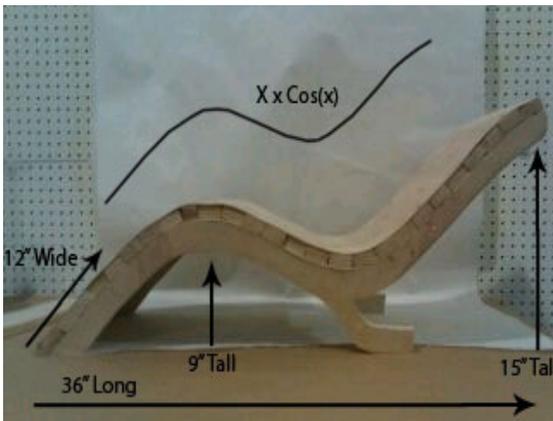
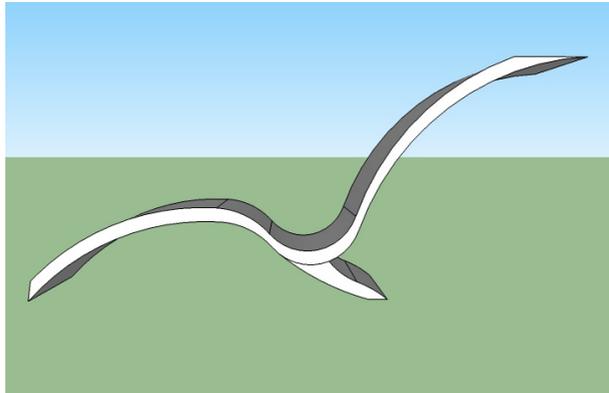
The XCOSX Chair

By: Collin Bautista & Dillan Jordan



The design originated from the contemporary styled **LC4 Chase Lounge**, Designed and constructed by Le Corbusier. We were inspired by this piece because of it's simplicity and it's functionality.

After choosing a piece we found to be inspiring we were to design our own in **google sketchup**. We took the design and incorporated physics into it to find a more functional and simple design.

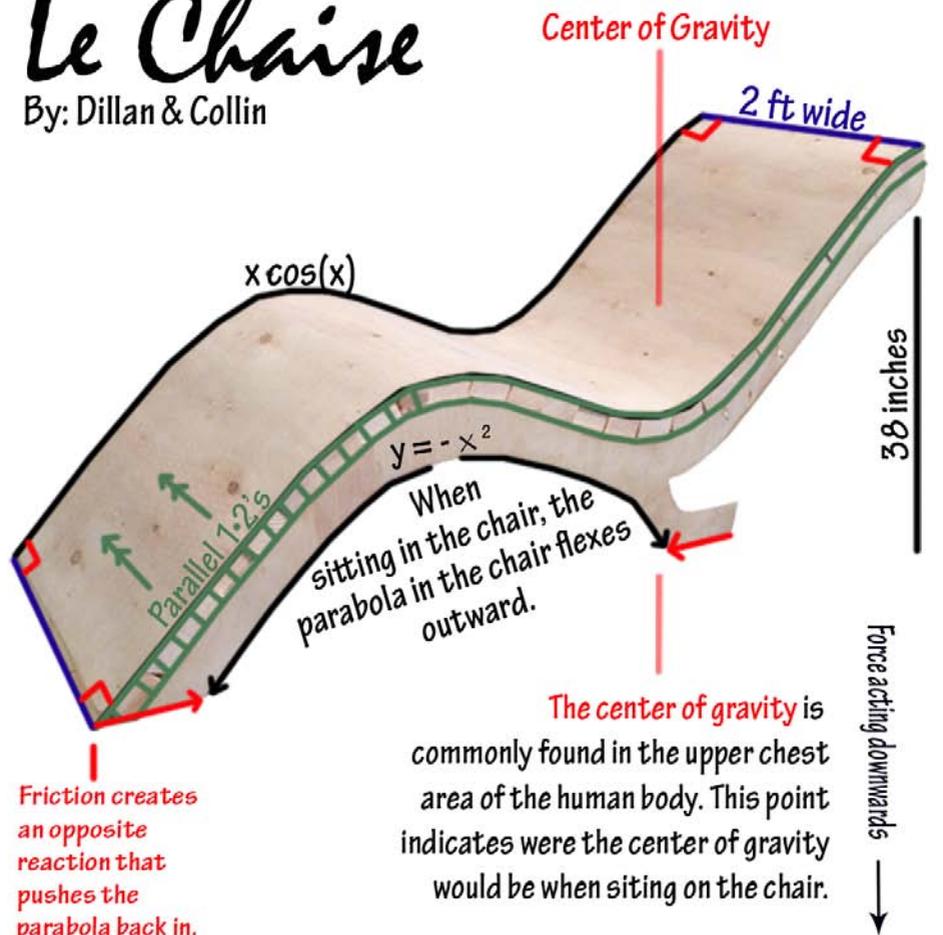


After building our half scale model we found a couple of things we want to change. When constructing our model we designed our chair using a **physics equation** $Y = X\cos(X)$. Which is a frequency wave in which we took a certain portion of and used it to create our chair's main curves.

After we built the proof model of our chair, we made a page describing the design process. First, we researched chairs either online or ones we found on our field trips. Then we found one in particular that we liked more than the others and looked at what worked and what didn't. Then we took the good things from the chair and applied it to our plans. From our plans, we then created a 3-D model of our chair in sketch up. Finally, we began building the proof model and noting anything that would be significant to remember later.

Le Chaise

By: Dillan & Collin

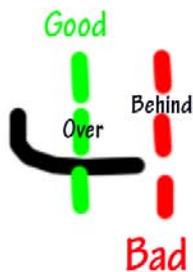


Friction creates an opposite reaction that pushes the parabola back in.

The center of gravity is commonly found in the upper chest area of the human body. This point indicates where the center of gravity would be when sitting on the chair.

Center of Gravity Line: After building our proof model we realized that our center of gravity line was falling behind our rear peg.

This caused us to realize that if someone was to sit on our full-size model, it would tilt backwards resulting in a big problem. We then had to re-design our chair so that it would not tilt. To solve for this we made our rear peg longer so that our center of gravity line was over the rear peg not behind it.



After the construction of our proof model, we created a physics poster that displayed all of the math concepts that were a part of the chair. We found things such as; the chair's center of gravity, the equation of the curves, forces acting on it, and of course the measurements.



This is the proof model of our lamp. After all the planning was finished, we looked around the school in search of scrap materials to use. The upper portion of the lamp that holds the light has a metal rod going through the center. This allows it to spin and create a illuminated design on the sides.



After the construction of our chair was complete, we noticed that there were several noticeable cracks that would not be very safe if left exposed so we took wood putty and filled them. We then took a low-grade sand paper and sanded the putty down until it was flush with the curves of our chair. Our chair was then smooth enough to lay on naked. Just like Jeff had wanted.



“Chair Field Test”

To test the strength of our chair, we would encourage people of all shapes and sizes to try out our chair to ensure its durability. our chair managed to hold everyones weight although, Jeff still refused to sit on it.

La Chaise

I Get Bent, Do You?



Experience comfort in all the right places.
- Fall 2010 - Senior Exhibition -
By: Dillan & Collin

In preparation for exhibition, we created a promotional poster to showcase our work to the “hallway wanderers” of the school. We had a hard time brainstorming what we wanted to put on our poster until one day, Jeff said we should make it “sexy” and humanize it. At that moment, it struck us. I (Dillan) would pose naked on the chair!





Reflecting on

After building our chair and lamp, I liked how our products resulted. Our chair looks great and our lamp is as well. Although at times I felt a little lost and didn't exactly know what our teachers wanted, I managed to figure it out and get everything done. With the time that my partner and I had to waste while everyone else was working, we helped others meet deadlines and gave helpful advice. Overall, I think this was a great learning experience and I had fun while doing it.

-Dillan Jordan

Coming into the project I had a lot of confidence. I have always been a hands-on project person and I enjoy building anything I can. When we were assigned to build a chair and a lamp I knew we had a simple task at hand. After my partner and I finished our chair a week early, I decided to take the initiative to go around and do anything else I could to help. This project has been one of the best projects I have ever been a part of and I had a great time.

-Collin Bautista

n the Project

