

The Functional Desk

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OVERVIEW

There have been many studies that have shown that the "traditional" desk set-up for work isn't the healthiest or the most productive. With this in mind and knowing that I will be going off to college in the fall, I wanted to make the perfect desk that would provide me with the comfort I need as well as the productivity and convenience. In doing this, I want to keep detailed records so the desk could be replicated and made again for many others students and workers.

INITIAL RESEARCH

The first thing I needed to do was to take a look at the studies and figure out what is a good learning and work space. Most of the studies concluded that a standing desk would be ideal. I wanted to have the option of standing and sitting, so I decided I would make the desk primarily for sitting with the option of raising it.

From there, I found pictures of desks and identified things that I liked about them and things that I didn't like about them. I was able to identify additional features that I wanted to include in my desk:

- Built-in wireless charging spot
- Portion of desk able to raise / convert to standing desk
- Lots of storage and shelf space
- Power outlets
- Customized lighting

BRAINSTORMING

After identifying key features I wanted to include, I started planning for how I would integrate them into the desk and what parts I would need. In addition, I wanted to have the desk be portable, so I decided to have the legs fold in and out and have a little shelf below the desk that would lock the legs in place.

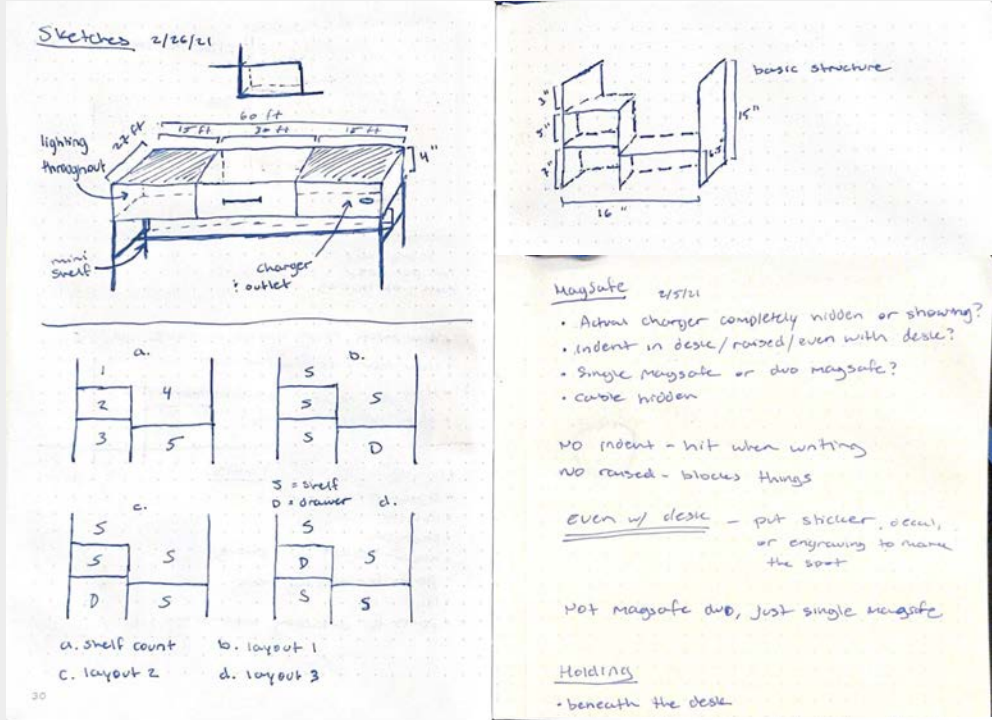


FIGURE 2: Sketch of desk with dimensions



FIGURE 1: Looking at existing desks and identifying features

After lots of iterations, I made final decisions on what the desk would look like and the dimensions. I decided the split the desktop into thirds and have the outside two stay in place with the middle portion that raises. In order to maximize storage, I decided to have space below the two outside portions of the desk. I made them cubbies instead of drawers to ease access. I wanted the workspace to have even more storage for books and other materials, so I thought of shelves. Since college dorms don't exactly work with additional shelving, I decided to add a little organizer that could be placed on top of the desk. I looked at many styles and designed and set on one.

BUDGET

Spring Break took some time away, so immediately I started working on creating a materials list and budget proposal. I identified the materials I needed, found a source of getting them, recorded prices, and created a list. In order to get an idea of how much wood I needed, I sketched a model layout for the cuts I needed. For my proposal, I created three different models:

- Basic - just materials for the desk
- Convenience - materials for the desk as well as the power strip
- Premium - materials for the desk as well as all the materials for the features

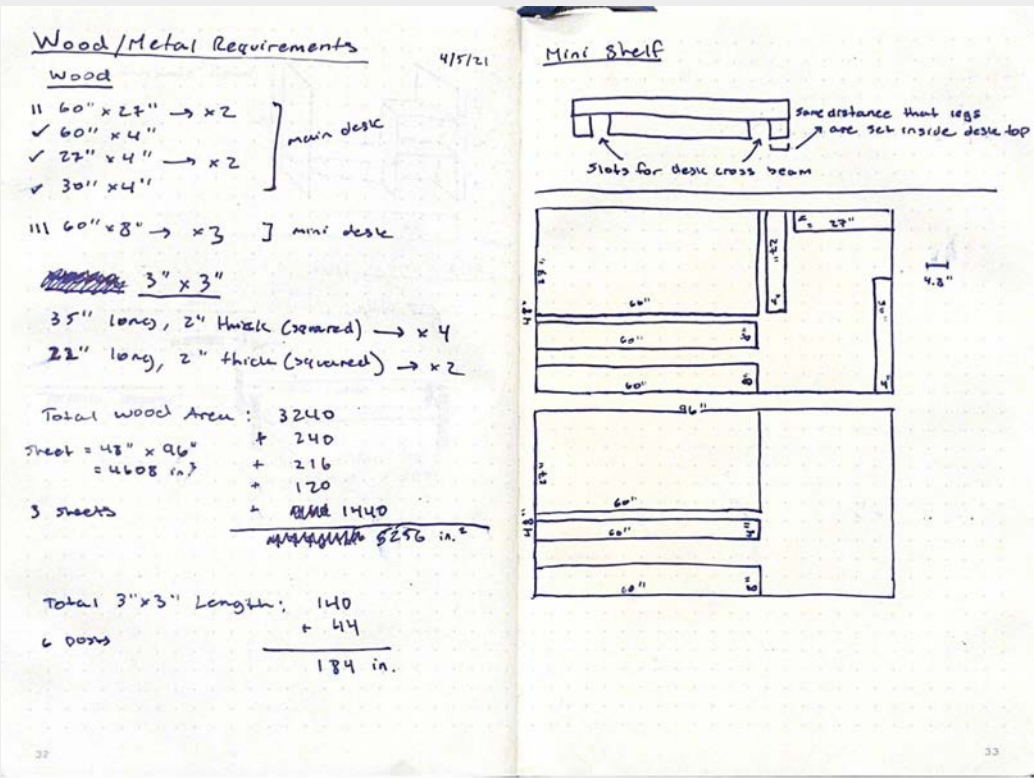


FIGURE 3: Wood materials list and sheet layout

MODELS & BUILD

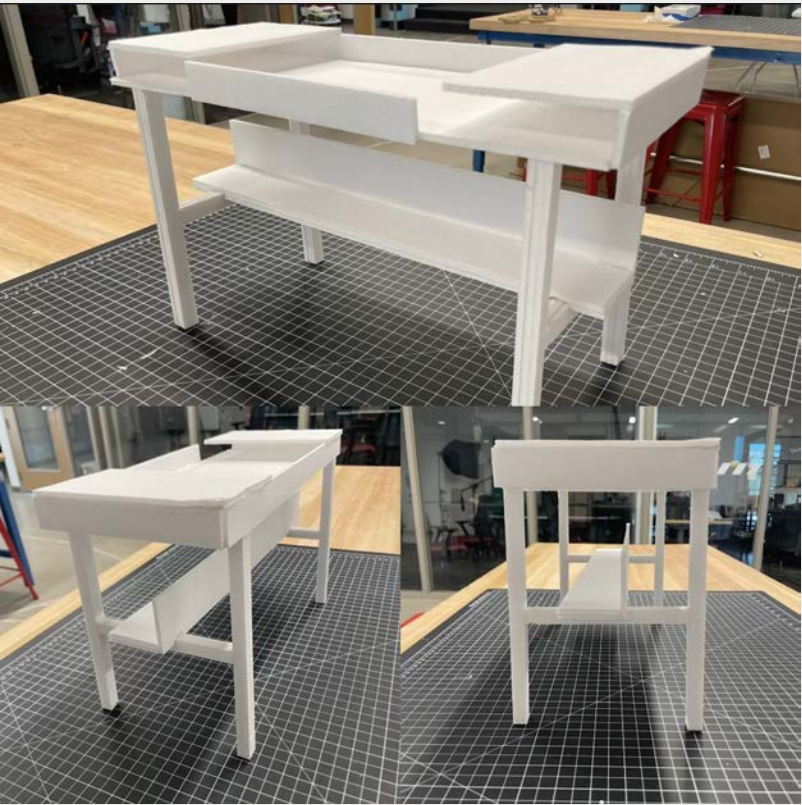


FIGURE 4: Foam board model of desk

Now that I have an idea of what I want my desk to look like, I started making some models! I made my models at ¼ scale of the actual version. The first model I made was out of cardboard. I initially tried to imitate the hinge hardware that I will get for the raising desk part with toothpicks, but it proved to be too difficult and not important enough to try to solve.

After my cardboard model, I made two more models out of foam board. This step was really helpful in seeing a sneak peak into what my final product would look like. I remembered that I need to account for the width of the material I am using when doing measurements in order not to mess up the overall dimensions.

MOVING FORWARD

Next steps include:

- Gathering materials
- Double checking plan
- Sketching wood layout
- Cutting and assembling
- Attaching and adding features