HIGH QUALITY WOOD...

HIGHER QUALITY

DESIGN!

OPTIMIZED WITH EXACT MEASUREMENTS FOR THE UTMOST IN

Tulane University

The Miracle Station was designed and constructed by the good people from Team

TRIPLE CROWN

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MIRACLE STATION

More than a desk...
More than a workstation...

It’s the

• STABILITY

• MANEUVERABILITY

• COMFORT

Team Design Show
Saturday February 24, 2007
Department of Biomedical Engineering
WHAT IS IT?

The Miracle Station is a custom desk for our client who uses a wheelchair. The Miracle Station will allow our client to work from home and optimize space in his house by granting easy access to files, computer, and a fax machine as though he were in an office.

The Miracle Station includes:

**DESK WITH DIMENSIONS**

28 inches from the floor
24 inches deep
L-shaped design 75.5” and 51.5” long

**CPU STAND WITH DIMENSIONS:**

18 inches in height (excluding casters)
Top and Bottom Shelf 16”x 17.25”

All dimensions precisely optimized for our client and his home.

SAFETY FEATURES

Along with our client’s aesthetic wishes, his safety was taken into consideration at several steps of the design process by modeling the workstation in SolidWorks using the COSMOSWorks add-in:

- The sturdiness of the working surface was analyzed in a static analysis by simulating a 200-pound person standing on top of the desk at the weakest point. Red indicates point of highest deflection (0.24 in)
- The durability of the supporting legs was analyzed in a buckling analysis to ensure an adequate foundation.

A factor of safety of 5 was introduced by experimentally determining the modulus of elasticity for the birch plywood and then using a number one-fifth of that value.

CUSTOMIZABLE FEATURES

- Adjustable and Moveable Computer Tower
- Pencil “Splash” Guard
- Mission Style Design
  - Colonial Stain
- Appalachian White Oak
  - Pre-Drilled for Easy Electrical Outlet and Internet Jack Access