

Project: Robotic Arm

We are designing and outlining fabrication processes for a robotic arm.



Team Members:

Justin Hypnarowski
Ben Enders



Goals

Our goal is to complete a detailed 3D computer model in Solid Edge.



Solid Edge is a powerful CAD (Computer Aided Design) program that will allow us to plan in detail all mechanical aspects of the arm.

After completion of the design process we plan to use Solid Edge in conjunction with Mastercam x to use the CNC machine to begin creating custom parts.



Mastercam X is a software that allows one to take a Solid Edge piece and map all the necessary drill movements for our CNC machine.

Design Progress

Much progress has been had with both the **structural design** and the **material selection**.

Structural Design

We settled on what is called a spherical arm design. This system calls for a rotating base along the z-axis, another rotation along the y-axis and the end of the first 'arm segment', and in the x-direction a retractable linear actuator.



Material Selection

For material selection we required materials that were lightweight, rigid, good torsion resistance, and looked cool.

- What we picked for the structure:
- Translucent Acrylic
 - Aluminum Support

Models

