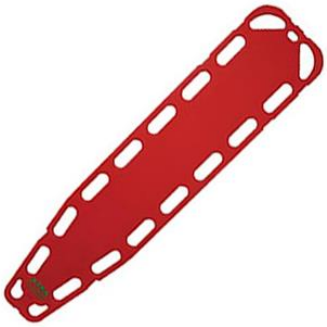
ITP 308: Homework 1

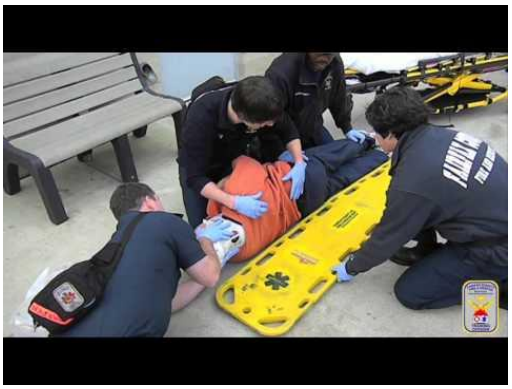
Due: January 27, 2021 11:59pm

Setup

This class will focus heavily not only on your ability to model using SolidWorks, but also on your ability to intelligently design parts and assemblies.

For your first homework, you will design a backboard commonly used by Emergency Medical Services to transport injured people. Here are a few examples of backboards:





Requirements

You must design and model your own version of a backboard. You may choose to copy what is already out there (Google is your friend), or you may choose to design one yourself.

Your backboard design should be comparable to what's out there. It should not be very tiny, or too large. It should not be thin and flimsy, or thick and bulky.

Come up with a design that is based on ***functional requirements***. These are lists of features that will be included in your design for specific purposes. For example:

- Having rounded handles along the sides of the backboard making it easier for EMT's to grip. Sharp square handles are bulky and uncomfortable to hold on to
- The height of the board is 72 inches because the average male in the US is 70 inches tall.

These functional requirements help to inform our decisions about the physical design.

Your design should satisfy these functional requirements:

1. Minimum dimensions:
    a. At least 72" long
    b. At least 1.5" thick
    c. 16" – 20" wide
2. Should be designed to allow for easy carrying by EMS

Deliverables

You must submit:

1. A Word document that explains your design. It should be centered around the functional requirements you set out for your idea. This does not need to be exceedingly long, it can be brief as long as it is concise. Name your word doc: **HW1.docx**
2. Your model. It should be a SolidWorks part file with a single solid body. All sketches must be fully-defined. You may not use the "Fix" relationship at any point. Name your model: **backboard.SLDPRT**

Compress BOTH files into a single zipped file named: ***username*_hw1.zip** and submit to Blackboard.

Grading

Description	Points
Word Doc	5
Satisfies minimum dimension requirement	10
Satisfies carrying requirement	10
Total	25

*Note: Points will be deducted for incorrect submissions, using "Fix" relationships, under-defined sketches, and multi-body part files.