Rev. 0

SYEN2233. Solid Modeling and Design Project
Step Four: Ideation, Assigned: 5/23/13, Due: 5/30/13
Step Five: Implementation, Assigned: 5/23/13, Due: Date of the Final Exam at 12:00

The four spacers around your Vex Controller will be the mounting points for your mechanism.

Design a mechanism that will allow you to pick up a standard tennis ball (look up the specs for diameter, mass) and deliver it to a goal that is twelve inches above the floor.

The contact point of your wheels with the floor cannot come any closer to the goal than 6 inches. Half the diameter of the tennis ball must cross the plane of the goal in order for a ball to be successfully delivered.

You may only use Vex parts in your mechanism design.

The final mechanism model should be assembled onto your robot model.

Ideation: Either individually or as a group, develop several ideas for how to accomplish this task. Write a report detailing the ideas that you considered (brief) and detailing the pros and cons of two of the best ideas. Conclude with a description of the idea that you chose.

Implementation: Develop a solid model of your mechanism. You may only use Vex parts. Write a report detailing the key features of your design. Provide an assembly drawing of your mechanism (not attached to the robot). Use your assembly drawing in your description of the mechanism's function.

Bonus Points: 1-3 Bonus Points will be given for delivering a video of an animation of your mechanism to the instructor (youtube, mpeg-4 via email). If you agree, the instructor will post your video (or a link if it is on youtube) with appropriate citation on the course web page.