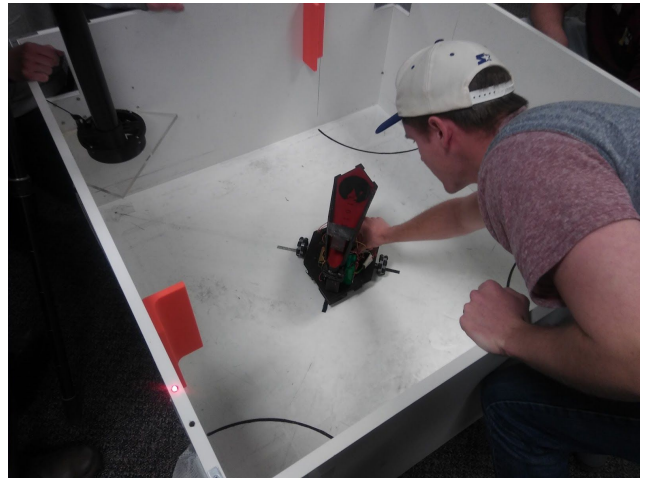
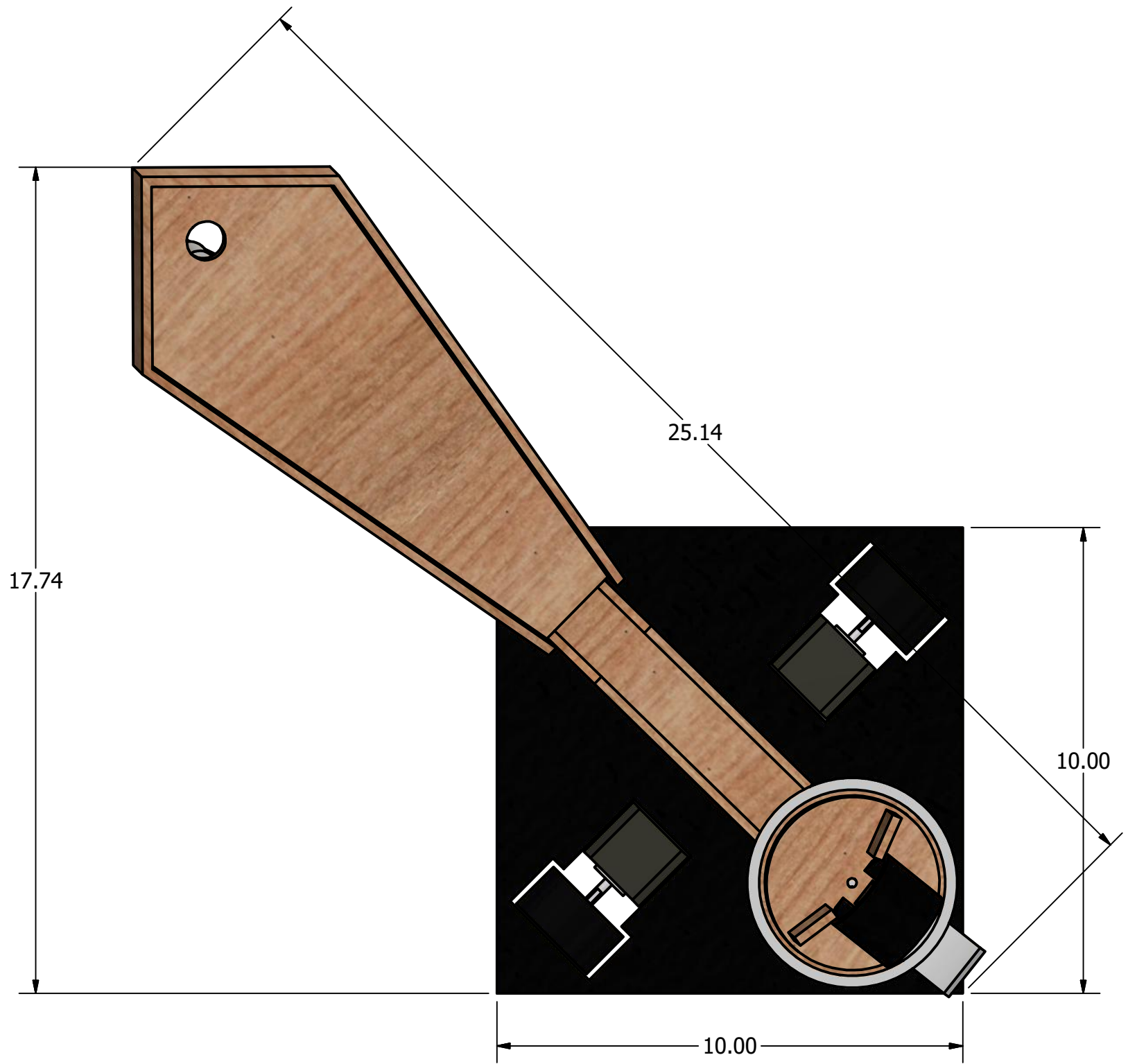
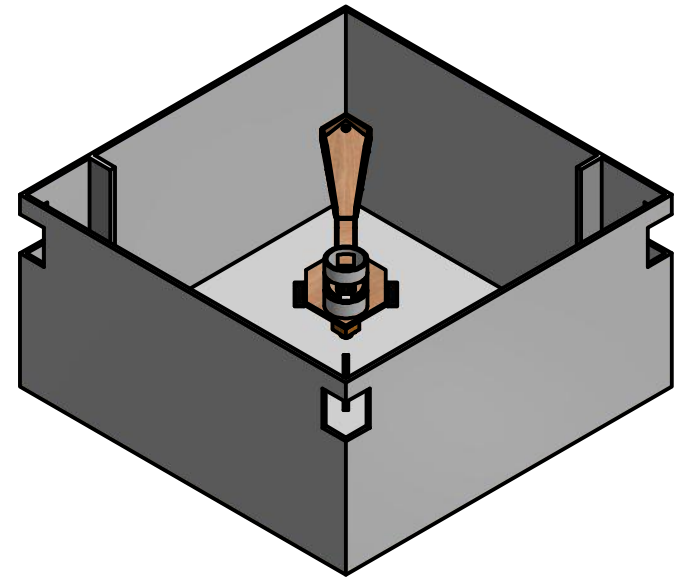
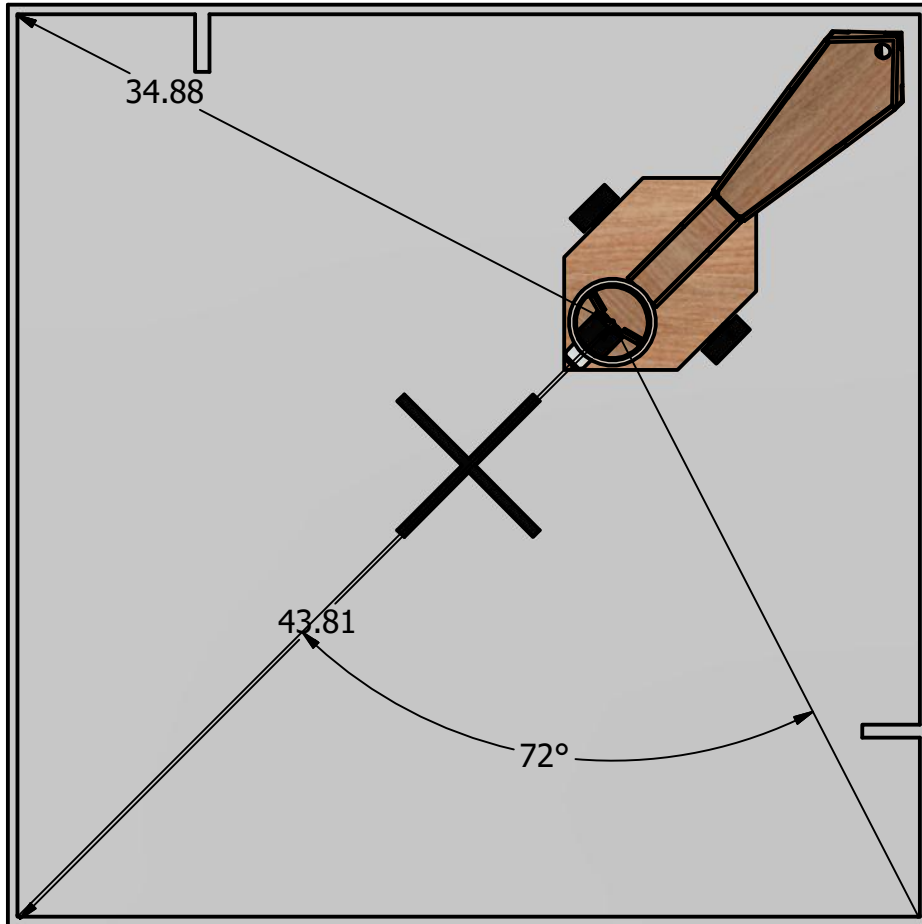


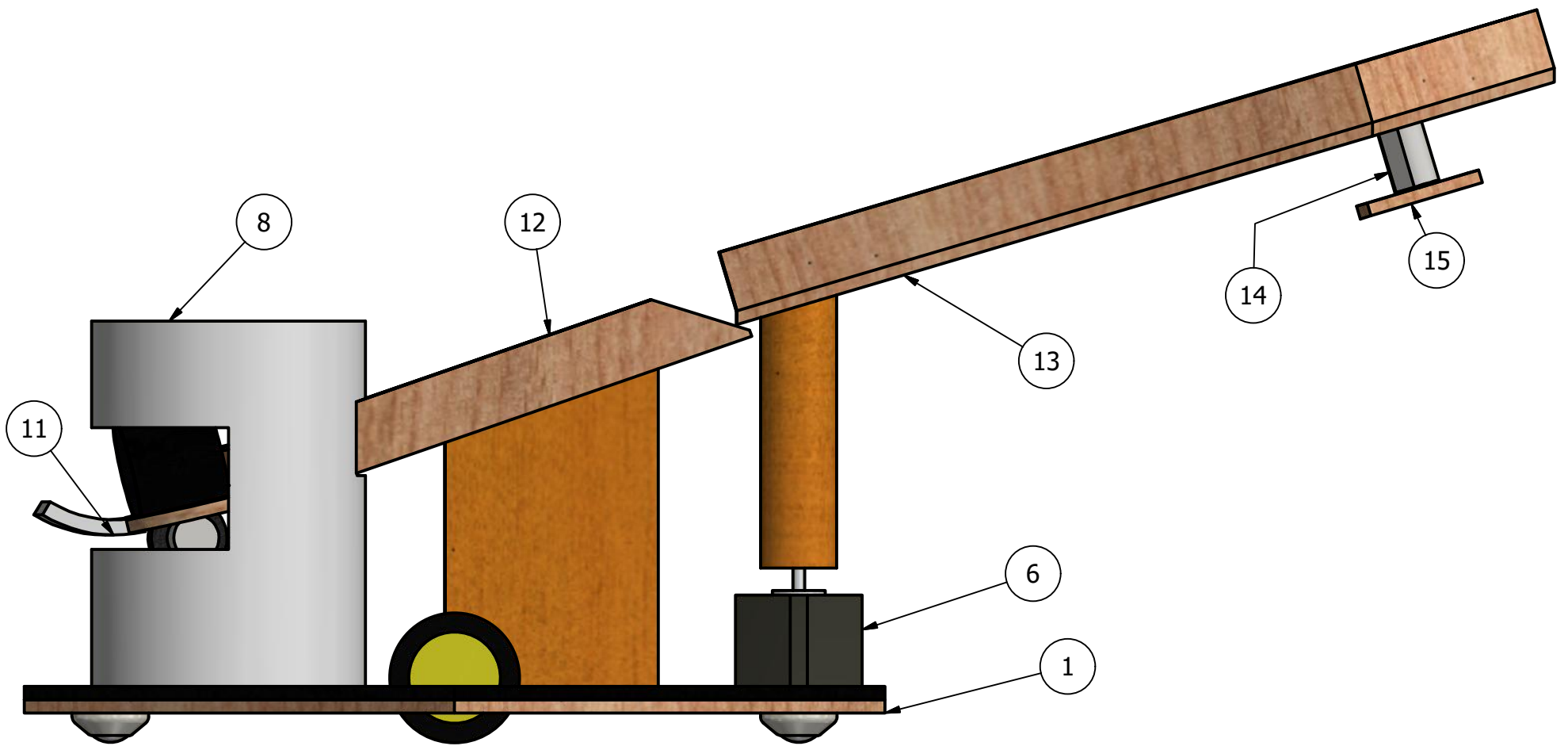
# Mechatronics Robot

I took a mechatronics class in the winter semester of 2017. A large part of the class involved building and programming a robot to navigate, shoot ping pong balls, and perform other functions autonomously. Below is the robot after I gave it a custom paint job. The following pages show a couple of the CAD drawings that I did for the project.









### PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Base	Base and wheels for movement
6	3	Nema 17 Stepper	In addition to the 2 Neme 17's being used for the drive wheels, we will also use one to turn the hopper.
8	1	Launcher Silo	This 4" PVC pipe will protect the launcher turntable and help funnel the balls into the shooter
11	1	Turntable Subassembly	This includes a servo to turn the table, as well as a constantly spinning DC motor and wheel to shoot the ping pong ball, and an IR sensor to detect the goals. The whole table will turn to aim at the appropriate goal.
12	1	Ramp	Ramp will house a phototransistor to detect the black ball
13	1	Turning Hopper	Hopper will start out withing the vertical footprint of the base, then turn 180 deg. and stay right underneath the dispenser to catch the balls.
14	1	DC Motor	This motor will be constantly spinning and used to trip the IR beacon on the arena's ball dispenser
15	1	IR Tripper	