Experiment 2: Projectile Motion
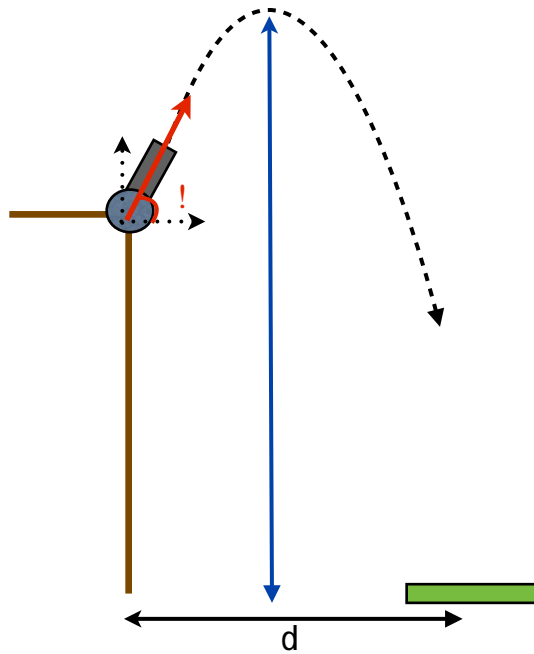
Figure 1: A projectile is launched at an angle o a platform with height H above the around. The projectile lands the on time of ight sensor (TOF), a distance d away from the base of the platform.

Devise an experiment to measure the acceleration due to gravity using the TOF sensor, assuming you do not know the initial velocities of the launcher (*Hint*: try a free-fall experiment). Do enough trials to reasonably compare your results with the accepted value of g = 9.80 $m=s^2$. What are possible sources of error for this experiment?

WARNING: THE PROJECTILE LAUNCHER CAN SHOOT STEEL BALLS AT HIGH VELOCITIES. IF A PROJECTILE WERE TO HIT YOU IN THE FACE IT COULD CAUSE PERMANENT DAMAGE! ALWAYS WEAR SAFETY GOGGLES WHEN OPERATING THE LAUNCHER! NEVER FIRE THE LAUNCHER WHEN SOMEONE IS DIRECTLY IN FRONT OF THE LAUNCHER, O4fN07RERE TOAuNp

PHYS 123, Lab 2 Questions

Name: CWID:

Write your answers on a separate sheet and attach your signed data sheet when turning it in. You must