

Physics 230 Project Description: Chandler Jensen and Collin Davis

Goals:

- Make a program that assists aiming artillery fire based on given conditions
- Make a program that randomly generates conditions
- Make a program that maps out the conditions visually

Input:

Position of target (x,y)
Elevation of target (z)
Wind direction (vector)
Artillery specifications (shell dimensions, firepower, etc.)
Target velocity (maybe)

Output:

Direction of Fire
Angle of Fire
Map

Work Division:

Collin Davis - Wind Resistance, Gravity, Angle and Direction Calculations
Chandler Jensen - Random Condition Generation, 3D Plots and Visuals

Types of analysis:

Newtonian Mechanics
Air Friction
Random Generation
3D Plots and Visuals
Animations (maybe)

Potential challenges:

- Finding artillery specifications (initial velocities of shells, etc.)
- Factoring air resistance