

2023 ENGINEERING DESIGN AND DEVELOPMENT

MOBILE SUSTAINABLE GREENHOUSE



As a capstone project for the PLTW Engineering Design and Development course, we created a mobile sustainable greenhouse. The primary objective was to design and integrate four distinct off-grid systems: solar power (two 480W panels), wind power (a 400W turbine), a mobile hydroponics unit, and a rainwater harvesting system. My team was specifically responsible for the solar power component, which included creating the CAD design for the custom mounting system, integrating the panels with the translucent roof, and completing all the electrical wiring.



**VEX ROBOTICS
PLATFORM**



AUTODESK INVENTOR



**MICROCONTROLLER
PROGRAMMING**