

2015 Projects – Ant Tracking Robot

Background:

The GCC Biology Department has a need to follow ants for research purposes.

Project:

Design, build, and test a device that will autonomously track the movement of an ant in the grass on the GCC campus. Electronics and controls will be the responsibility of the EE department.

Skills Needed:

Machine design, FEA

This project will need a team of 6-8 students



2015 Projects – Wendell August Forge

Background: Wendell August Forge in Grove City, PA produces hand-wrought ornamental metalware, including approximately 100,000 Christmas tree ornaments per year. Over the last two years, GCC student teams developed an automated forging process using positioning hardware and software from Aerotech to control the die and metal blank position and to feed sheet stock into the machine.

The Project: There are two options this year. The first is to develop a machine to automatically cut ribbon from a spool to a length of 10 inches and then tie a knot in the end (see below). The second option is to automatically loop a ribbon through the hole at the top of the ornament to facilitate hanging of the ornament on a Christmas tree. Both are challenging projects!

This project will need a team of 7-10 students.



Finished Ornament



Single Ribbon



Bag of 100 Ribbons from China