**Project:** Laser Welding Automation Senior Design Project

**Sponsor:** Weiss-Aug Surgical Products

**Description:**

The Weiss-Aug Surgical Products division manufactures a variety of different laparoscopic sutures. A key step in this manufacturing process is laser welding the wire onto part of the device. Currently, the wire is manually positioned onto the weld area and then loaded into the laser welder. This project entails designing and constructing a machine to automatically fixture and position a wire onto a part and then automatically load the part into the welder. The purpose of this project is to streamline and automate the laser welding process while maintaining quality standards.

While some project funds are available, the majority of the components for this project will come from existing robotic devices that will need to be integrated together. Weiss-Aug has an in-house machine shop for manufacturing components and can provide support from process engineers if needed. Students will have access to robotic components currently being used by Weiss-Aug as well as their professional machining capabilities. Opportunities to work with professional machine engineers and process engineers.

**Majors:** Mechanical Engineering (Robotics experience preferable)