**Team 520: Simulated Assembly Line and Processing Workstation**

**Abstract**

Tallahassee Community College (TCC) needs an assembly line system to utilize in their Advanced Manufacturing and Training Center as a Mechatronics certification tool. TCC needs a system for teaching their students to examine and diagnose common issues in a manufacturing setting. . TCC’s educational need for the machine is paramount, requiring the team to design a system that has adjustable problems. A modular system provides the flexibility necessary for educational use. Objects will travel across the conveyor belt where sensors will determine size and material. A mechanical arm then sorts the object into its appropriate bin. For the educational purpose, the team will provide pre-calculated failures as curriculum options. Similar systems are used in the food industry, the environment industry, and the travel industry. The discovery and removal of foreign materials is crucial to the success of production, and for the lives of the people who use the product.