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Syracuse and Auburn P-TECH Programs are Developing Skilled Candidates for Jobs in CNY

The first quarter of 2018 provided ample work-readiness activities for three cohorts of Syracuse P-TECH students. The freshman class went on Industry Visits to Kilian Manufacturing and Johnson Controls in February. Kilian conducted small group tours of the manufacturing floor, allowing each student to make their own bearing using a simple technique. This hands-on activity helped the students learn about some of the skillsets needed in manufacturing. Through a PowerPoint presentation, information was presented that amazed the students – including that Kilian is the largest producer of bearings in the world, located right here in Syracuse! At Johnson Controls, Mike Navaroli, Construction Sales Manager, and the Project Manager at Johnson Controls both informed the students about the variety of equipment the company installs and services they provide to create "smart" buildings. The company provides fire and security equipment, HVAC, energy storage controls, and lighting controls. The P-TECH students would be great candidates for future careers at Johnson Controls as they learned about the company's need for alarm inspectors which can then lead to management positions.

In mid-February, P-TECH Career Coaches (posing as investors/consumers) listened to five-minute presentations from different teams of P-TECH sophomores. Basing this exercise off of the hit TV series "Shark Tank," each team had to come up with a product idea and do the research needed to estimate production costs, overhead, projected sales, profit margins, and timeline and then "sell" their idea to "investors." This assignment incorporated analytical, communication, teamwork, and investigative skills into a fun learning project.

On February 13th, the P-TECH freshmen participated in one of their more popular projects, "Rockets to the Rescue." The challenge was described to students and Career Coaches: an island has suffered a natural disaster and needs supplies. No ships can get to the island and there are no airports there. The plan is to build rockets that can be used to drop food and aid in to help the people. Using construction paper, straws, string, rubber bands, and masking tape, each team tried different ideas to design a "rocket" that could travel the farthest and carry the much-needed supplies. Hula hoops were set on the half-court of the gym floor and represented the islands. Using empty two-liter bottles connected to PCP pipes, each team launched their rocket, trying to get the much-needed supplies to their island. The students learned about engineering design, physics, teamwork, and "thinking outside the box."

More Industry Visits for the P-TECH freshmen were coordinated in March. The class was divided in half, with one group visiting G.A. Braun and the other going to Buckeye Corrugated, Inc./Empire Division (BCI). At G.A. Braun, the students observed two CNC laser cutters and the CNC plasma cutter. They were fascinated to watch the plasma cutter carve 4" thick carbon steel plates. G.A. Braun manufactures industrial washers and dryers, which the students viewed in the assembly, finishing, and powder coat painting departments. The visit concluded with a shared information and Q&A session with some of the engineers. Tim Bird, Plant Manager at BCI/Empire Division, began his group's visit with a presentation about the company and the products they make. This was followed by tours of the facility and observations about the production of corrugated packaging, including graphic designs and warehousing.

PaperWorks Industries hosted P-TECH sophomores on March 7th at their new facilities in Baldwinsville. After a brief overview presentation about the company, students participated in a Continuous Improvement exercise that contained a histogram. Students had subsequent different models of the histogram to work on and with each new model, they saw a pattern emerge and saw their score improve. During this lesson, they learned about 5S: Sort, Set, Shine, Standardize, and Sustain. The assignment taught them the meaning of lean manufacturing – making employees more productive and the products less expensive.

Auburn P-TECH freshmen visited 4-M Precision on March 1st for their Industry Visit. The students learned not only what 4-M Precision Industries produces and how they produce their products, but how economics plays a factor in how a company does business, and how 4-M's innovation allows them to compete in today's markets.

Students were shown some of 4-M's products and learned about the markets that 4-M Precision serves and why it's important for a company to have clients in multiple markets with diverse needs. The students also learned that you don't have to be a big company to work with 4-M to make a product. One example was a bumper plate that an individual asked 4-M Precision to produce that would keep cars and trucks from getting damaged when parking. He planned on taking the finished product to New York City and selling it there.

Auburn P-TECH students also learned about cellular manufacturing and how to get the most out of their facility space. Al Morin, the host, explained that because of the variety and varying complexity of the products 4-M produces, it wasn't possible to have a traditional assembly line to make the products. Cellular production allows 4-M to have the flexibility to produce the products without needing to expand their facility. This allows 4-M to save money in facility needs, expand services to clients in different markets, and continue to have flexibility and creativity in using their facility space when manufacturing a product.

Photos from top to bottom:

A P-TECH student is hand assembling a bearing on an automatic assembly turntable while visiting Kilian Manufacturing.

P-TECH students prepare to launch their "rocket" during the Rockets to the Rescue project at Syracuse ITC.

P-TECH Freshmen view robotic equipment during their visit to BCI/Empire Division.

Auburn P-TECH students learn about inventory control during their visit to 4M Precision.