

# SUMMER MANUFACTURING CAMP 2016

*EGCC- Senator Sherrod Brown- Jefferson County Port Authority- Jefferson  
County School Board- City of Steubenville- Jefferson County Community  
Action Council*

# INTRODUCTION

- The Summer Manufacturing Camp of 2016 was a huge accomplishment. This camp's definitive goal was to introduce the kids as well as the parents to a real-world and up-to-date of the understanding of the American manufacturing and the role the manufacturing has played.
- Another goal was to present the students to the manufacturing careers by providing direct and hands-on activities and interactions that are based on the real manufacturers in the diverse market as well as to develop a curriculum based on the Plan-Do-Check-Act model.
- This camp also helped to introduce the parents, students, and the community partners to the Senator Brown's manufacturing policies and initiatives.

# INTRODUCTION (CONT)

- The student's ages ranged from 11-14 years old.
- This camp was a 5 day camp from 8:30am-3:00pm.
- The activities of this camp included tours of local manufacturing facilities as well as hands-on follow up activities that build upon what the students see at the facility. The students demonstrated their understanding of the Plan-Do-Check-Act process.

# INTRODUCTION (CONT)

- The targeted goals of this summers camp were to:
  - Represent the college in a positive light for the members of the community
  - Teach the children that there are numerous forms of manufacturing and there are several disciplines that can be followed to ascertain good paying jobs and careers
  - Showcase the talents of the teaching staff at EGCC as well as familiarizing the parents and students to the EGCC Steubenville Campus
  - Help to educate the children that there are other career pathways that don't include a traditional four year college plan
  - Establish a possible internship for the future students through relationship building with the participating companies
  - Improve a working relationship with the community businesses and EGCC
  - Provide the children a chance to build and learn something at the same time as increasing employment awareness, providing a wisdom of accomplishment to the students, and developing communication skills

# NELSON OVERVIEW

- In 1994, when Mark took possession of the woodworking business of his high school mentor and employer, Fr. Sam Tiesi of Franciscan University, he rebuilt, and expanded Fr. Sam's customer base and woodshop abilities.
- The first products his company created were religious art and inspiring plaques that became beautiful, and at Mark Nelson's determination, artistic masterpieces and graphic excellence began to replace the ordinary, mass produced kitsch that the marketplace had accepted for too long.
- Now applying a full spectrum of in-house services and custom manufacturing options, Nelson continues to live its mission in the visible, tangible ways Mark and Gretchen have always believed in.

# NELSON FACTORY TOUR



# NELSON STUDENT PROJECT

- On Monday, the students worked with the Nelson Fine Art and Gifts Company.
- While at Nelson's the students observed several facets of manufacturing. EGCC focused on photo shop and C.A.D.
- At EGCC, instructional specialist, Dave Moffat taught the students basics of photo shop and C.A.D.
- The students created enhanced photos and learned some of the elementary fundamentals of C.A.D.
- The students produced pictures and a C.A.D. drawing that were printed out and the students took with them.

# OH COATINGS OVERVIEW

- The Ohio Coatings Company (OCC), an outstanding producer of tin plate steel, was established in 1993 as a joint project company of Wheeling-Pittsburgh Steel Corporation and Dongyang Tinplate of South Korea.
- Constructed in 1995 along the Ohio River in Yorkville, Ohio, the OCC's production facility was the first electrolytic tin plating mill to be built in North America in over 30 years.
- The Ohio Coatings' 130,000 square foot production facility is an industry model of maximum productivity in electrolytic tin plate manufacturing. From the foundation up, the plant is the state-of-the art, computer controlled, and monitored. Each station along the constant 550 foot line significantly contributes to the Integrity and quality of the finished coil. What started as just an idea in 1992 is now an important, world-wide resource for premium electrolytic tin plate, and the leader in an industrial revolution in the science and art of tin plate manufacture.
- Now in its 16th year of operation, the OCC family has hit its stride with the ability to produce 300,000 tons per year of the highest quality tin plate.



# OH COATING FACTORY TOUR



# OH COATINGS STUDENT PROJECT

- On Tuesday, the students toured the OH Coatings Company
- While at OH Coatings, the students learned about the process of tin plating steel.
- At EGCC, Professor Ben Alexander taught the students about electroplating and the processes related to the coating of metals.
- The students project included zinc coating a penny and bronzing a penny, through chemical processes.
- The students were able to take the pennies with them.

# CARDINAL OVERVIEW

- Cardinal Plant is a coal-fired power station owned and operated by American Electric Power near Brilliant, Ohio. Cardinal is a long term advantage play, in a traditional energy sector that continues to grow internationally. They are managed by public energy and company industry professionals that are devoted and admired to their skill. They are a creative player suited to take advantage of the industry decline.
- Their management brings the depth of diversity and experience to steer Cardinal's future. Their team has an average of over 25 years' experience, with some of their individuals approaching 40 years' of know-how in their individual fields of expertise.
- The Cardinal plant consists of three units, all of which are coal-fired.

# CARDINAL FACTORY TOUR



# CARDINAL STUDENT PROJECT

- On Wednesday, the students participated in the Cardinal Company Project.
- While at Cardinal, the students learned about the processes related to a coal fired power plant.
- The student project was completed on-site at the cardinal plant. Cardinal provided one of their corporate trainers to conduct the class.
- The students completed experiments related to steam power generation. The trainer at cardinal demonstrated various processes related to power generation.
- The students were able to work on several simulators that replicated many of the processes.

# BARIUM CHEMICALS OVERVIEW

- Manufacturer of technical & industrial chemicals. The products include potassium, antimony, lithium, barium, strontium and calcium combinations. The various capabilities include screening, packaging, custom milling and blending. It's right for the rubber, automotive, plastic, electric, ordnance, pyrotechnic and specialty chemical industries. It's a C-TPAT certified company and it has to meet the ANSI standards.
- It has been serving the industry since 1916. They are a world-wide provider of the custom made chemicals available in a variety of quantities, particle sizes, and grades.
- Barium Chemicals, Inc. is committed to meeting every feature of their customers' needs. Their production team has the ability to make the product to meet any specific requirement. Their in-house laboratory has the capability to provide the quality assurance necessary to meet the most critical requirement. Their shipping department keeps the capacity to package laboratory to bulk sized quantities in a manner that individually fits their operators needs. They are dedicated to providing a client oriented encounter; with services that achieve the most strict demands through development and experience.

# BARIUM CHEMICALS FACTORY TOUR



# BARIUM CHEMICALS STUDENT PROJECT

- On Thursday, the students participated in the Barium Chemicals Company Project.
- While at Barium, the students learned about chemical processing and the functions associated with it.
- Barium's head chemist, Rachel Blankenship, provided the tour as well as facilitated chemical experiments at Barium that the students completed.
- At EGCC, professor Ben Alexander, had the students complete a project related to water filtration and emphasized the importance of pure water in chemical processes.
- The students created water filtration devices and then used the water in a simple chemical experiment.



# A.R.M./BATES OVERVIEW

- In an industry that has become gradually competitive, economically, and moving sensitive, A.R.M. Inc. has risen to the challenges of the amusement ride market. A.R.M. Inc. offers a variety of portable and park rides that deliver the thrills needed to produce excitement and fun.
- A.R.M. Inc. rides are sold, serviced, and designed by seasoned professionals with a wide range of experience in the amusement ride industry. This excellent combination of people form a design team that builds fun, safe rides for riders of all ages. Additionally, their portable models are designed to move efficiently and quickly giving their customers the best portability in the business.
- They offer excellent service in their spare service and parts departments.

# BATES FACTORY TOUR



# BATES STUDENT PROJECT

- On Friday, the students participated in the Bates Company project.
- While at Bates, the students learned about welding, machining, and electrical components related to carnival/amusement rides.
- At EGCC, welding instructor, Gary Coulter, had the students use a virtual welding simulator.
- During the experiment, the students practiced M.I.G. and S.M.A.W. welding techniques on the simulator.
- The students practiced vertical, horizontal, and flat welds using both forms of welding.
- The students were able to print out scores and digital images of the welds they completed.

# CONCLUSION

- The students kept a journal of what they learned during the Summer Manufacturing Camp and they reflected on their experiences.
- Each student also completed a pre-and post-camp assessment of their overall satisfaction of the camp, the impressions of the manufacturing careers, the level of interest in the manufacturing careers, and the understanding of the Mathematics and Science.



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