THE PIPELINE

Suffolk County Community College's Workforce and Economic Development Newsletter

Fall / Winter 2014

Suffolk Continues to Foster Education and Industry Linkages

Last year, Suffolk County Community College launched an awareness campaign that highlights how its academic and workforce programs are benefiting local manufacturers. The first ad in the campaign illustrated how a Long Island-based manufacturer of custom lighting fixtures has enhanced their computer numeric control (CNC) capabilities by sourcing talent from the College's Manufacturing Technology Program.

The newest ad in the campaign goes even further by showing how the College's Office of Workforce and Economic Development has been working with Brentwood-based Thuro Metals, a global provider of specialized valves, fittings and machined parts for companies ranging from Boeing to Lamborghini. In addition to providing advanced CNC training, the College has also been integral in working in conjunction with the Empire State Development Corporation (ESD) to support and retain quality companies within our region.

"There are many Long Island manufacturers like us who are growing," says David Thuro, President of Thuro Metal Products. "Working with Suffolk's Manufacturing Program, we have been able to receive additional training for our machinists. In addition, the tax incentives provided by ESD have been a key factor in our ability to expand our operations. Without these meaningful partnerships, we wouldn't be where we are today."



"With Suffolk as a key training partner, ESD is pleased to utilize the Excelsior Jobs Program to support and incentivize Thuro's continued growth on Long Island," said Andrea Lohneiss, immediate past Regional Director of ESD Long Island.

"We have been strengthening strategic partnerships to align our workforce training programs with industry needs so that we can keep businesses, workers and families right here on Long Island," says Dr. Shaun L. McKay, President of Suffolk County Community College.

Over the past year, Thuro Metals has grown by upwards of 20% and is now working with Suffolk by also including interns from within the College's Manufacturing Technology Program. "These students are smart and ready to work," says Mr. Thuro. "There is so much opportunity here. They can begin on the plant floor and move into quality control, estimating, purchasing, management …you name it."

To learn how Suffolk's academic and workforce programs can help your company, simply contact 631-851-6200.

"These students are smart and ready to work."

David Thuro, President
Thuro Metal Products

1-on-1 with John Lombardo

Associate Vice President for Workforce and Economic Development



As you continue to work with regional manufacturers, are there any specific skills gaps that you have been observing? One skill gap that arises throughout the manufacturing industry is the ability to develop and track the cost of producing a product. This skill takes years to develop and is dependent upon a clear understanding of the manufacturing process and secondary operations. It also requires a wide range of skills, too numerous to mention, but focuses on reading customer blueprints, selecting appropriate sub-contractors, tracking the job (methodizing) throughout the shop and following production timelines.

What is cost estimating and why is it important?
A Cost Estimator prepares costs and assigns pricing for a manufactured product. They must be proficient at bidding, sourcing and have great communication and mathematical skills.

How might the College's Office of Workforce and Economic Development try to address this issue?
We are currently addressing this need by meeting with manufacturers, collecting their ideas on what this job requires and developing a consensus of job skills needed to create a profile for the best candidates. We are actively engaging and developing a training program to provide the best "foundation talent" available. We understand that there may be basic skill requirements as well as specific industry-related skills depending on the unique manufacturing process. Plastics, metal, aerospace, pharmaceutical, display and others all have specific requirements. Accordingly, we are also leveraging other areas of the College, including our Business and Mathematics Departments, in order to provide "stackable" skills development for these companies.

Suffolk Offers "Extreme" Assistance for Entrepreneurs

This past semester, Suffolk County Community College's Entrepreneurial Assistance Center (EAP) hosted an "Extreme Entrepreneurship Tour" on the Michael J. Grant Campus in Brentwood. The event included some of the country's top young entrepreneurs who shared information about entrepreneurship as a career path and the kind of mindset that can help individuals achieve success in any endeavor.



Suffolk's Entrepreneurial Assistance Center (EAP) hosted an "extreme" event last semester.

At the conference, Suffolk's President, Dr. Shaun L. McKay, welcomed more than 300 college and high school students and set the stage for a day of interactive learning. The youngest entrepreneur was an 11 year-old owner of Sheascents, a company that produces shea butter-based cosmetics and skin care products. Keynote addresses were given by the owners of Syndio Social, a social networking and research firm, as well as More Than Cheer, a recreational sports company. The event was moderated by the author and owner of Student Success Academy. Suffolk's own Entrepreneur Club also hosted a networking event for Suffolk students, entrepreneurs and local economic development agencies following the presentations.

The Entrepreneurial Assistance Center hosted the event in conjunction with the Campus Offices of Student Activities, Career Services, Admissions and the Business Department. The Entrepreneurial Assistance Center is a resource for Suffolk County residents interested in starting and/or expanding their businesses. In 2003, Suffolk's Entrepreneurial Assistance Center adopted the mission to teach entrepreneurship and financial literacy to young people so they can face an economically productive future.

3D Printing Promises Unlimited Possibilities

3D printing, also known as additive manufacturing, is a process of making tangible, three-dimensional solid objects from a digital file. The process includes the production of successive layers of substrate until the object is completed. Each layer of material is a thinly sliced horizontal cross-section of the eventual object. 3D printing starts with a virtual design using a Computer-Aided Design (CAD) file that, in turn, relies upon 3D modeling software. This software slices the final model into hundreds or thousands of horizontal layers.

According to the National Association of Manufacturers (NAM), 3D printing is showing signs of triggering transformations in U.S. industrial manufacturing, from product design and production to restructured supply chains. Citing a recent report from PricewaterhouseCoopers in conjunction with The Manufacturing Institute, NAM revealed that "… two-thirds (67%) of manufacturers surveyed are currently implementing 3D printing either by experimenting with the technology or by already using it for prototypes or final products. One in four respondents said they plan to adopt 3D printing in some way in the future."

Peter Maritato, Professor of Engineering Science and Electrical Technology at Suffolk County Community College, says it's easy to see why this technology is catching on. "The adoption of 3D printing is utilized in every field from creating organ transplants, jewelry design, clothing and, especially, manufacturing."

technology helps our students visualize and create objects, as well as present STEM-related theoretical concepts in a 3D environment. Students have grown up in a world exposed to video games and smart technology, but have not developed the skill or ability to imagine STEM-related concepts. With the inclusion of 3D printing, we have discovered that students quickly acquire the skills of visualization and complex problem solving. This leads to entrepreneurial possibilities."

Recently, the world's first 3D printed electric car — named Strati, Italian for "layers"— was unveiled. It has less than 50 parts to it and may be the genesis for a totally innovative way for manufacturing vehicles. "This is unleashing creative thinking in students," says Professor Maritato. "It will undoubtedly also be the opportunity to start new businesses from the ground up."



The world's first 3D printed car was recently created by an Arizona-based company and took only 44 hours to print.

At Suffolk, 3D printing is being integrated into the curriculum so that students better understand how to bring ideas to fruition and present complex concepts in a visual 3D object. In fact, the department of engineering science and industrial technology has purchased three 3D printers to support engineering and technology courses. "Students gain in many ways by having the ability to create with 3D printers," says Professor Maritato. "This

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Peter Maritato, Professor of Engineering Science and Electrical Technology
Suffolk County Community College

Career-Ready Training at AMTC

The stereotyped images of low-paying assembly line jobs are a thing of the past. Today, there is a growing need for trained workers to manage the advanced technology systems that have rapidly become the cornerstones of success for high-performance manufacturing companies. As a way to respond to this need, Suffolk County Community College's Advanced Manufacturing Training Center (AMTC) offers career-ready training certificate programs designed to fill jobs right now.



Suffolk's advanced manufacturing credentials were designed with extensive input from regional manufacturers with the goal of enhancing the local workforce market. The need for skilled workers will continue to grow as the baby-boom generation retires over the next five years. This means high paying jobs with stable long-term futures are available right here in our backyard. However, these openings require highly skilled workers with the training and education needed for a modern advanced manufacturing environment.

"We've helped dozens upon dozens of local companies improve productivity through enhanced training of their employees," says John Lombardo, Suffolk's Associate Vice President for Workforce and Economic Development. "We tailor our training to the ever-changing needs of the region. This ensures that the students are job ready."



Suffolk's programs are comprised of various manufacturing-specific classes including: Manufacturing; CNC machining; Mill and Lathe Operation (NIMS certification), Welding (AWS certification), AutoCAD Programmable Logic Controllers (PLCs), 3D Rapid Prototyping, Soldering, Pneumatics and Hydraulics, and more.

"Many of these courses are aligned with national certifications and we will continue to work with current and new partners in the future," says Mr. Lombardo.



Companies who wish to provide their employees with enhanced training and updated national certifications can do so at the College's facilities at the Michael J. Grant Campus in Brentwood, N.Y. For more information about the AMTC, simply call 631-851-6200.

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