Advanced Manufacturing & Related Pathways Project
Tulsa Community College

Goal: To provide a regional educational and career pathway for 1,000 participants to enter into and advance within the Manufacturing, Transportation & Logistics, and/or Aerospace Industries. Grant funding is currently scheduled to end September 30, 2016.

NEW!!!: The Advanced Manufacturing & Related Pathways grant at TCC can assist employers with the training costs of paid internships. Please call Beth Wild at 918-595-7715 to find out more today!

Project Activity to Date

National Credential Validation:
Tulsa Community College partnered with local manufacturers and employer organizations/trade associations to validate national third-party industry-recognized credentials. The nationally-recognized credentials include the Certified Production Technician (CPT) via the Manufacturing Skills Standard Council, and various Quality credentials offered via the American Society of Quality (ASQ). TCC Advanced Manufacturing & Related Pathways also incorporated best practices from other colleges around the nation that have implemented the Certified Production Technician (CPT) into credit degree programming in their communities. Implemented best practices include critical thinking exercises, budgeting responsibility, tracking attendance, and application of the foundational concepts introduced in class.

Program Implementation:
The Advanced Manufacturing & Related Pathways program has created multiple entry and exit points into TCC’s Manufacturing Engineering Technology Associate of Applied Science (AAS) two-year degree. The Certified Production Technician culminates in a fast-track, 16-week, 12-credit-hour program. The CPT covers four (4) main manufacturing foundation areas, which provide the skills and knowledge for everyone and anyone interested in entering into a manufacturing career. Specifically, CPT includes Safety, Quality, Manufacturing Processes and Production, and Maintenance Awareness. Each module is four weeks in length for three credit hours. Students must sit for the associated national exam for that module to progress to the next course. However, students who sit for and pass each national certification associated with the module (ex. Safety) have earned at least one nationally-recognized portable credential should they need to stop out of college to seek gainful employment. See attached flow chart.

The Advanced Manufacturing program at TCC also partnered with TCC’s Continuing Education department to offer the Certificate in Quality Management (CQM), in demand from local employer partners, including Air Power Supply Co. (APSCO). Classes are offered once per week for two hours, and instructors teach at employer sites: APSCO and Muncie Power Products. Companies are sharing the classes, providing opportunity for each company to learn from the other. CQM is offered in three phases. Phase I covers 1) The history and evolution of quality control, 2) What is quality and who benefits, 3) Total Quality Management, 4) reviewing other Quality Management Systems, 5) Quality Costs, 6)

**STUDENT SUCCESS**

**Name:** Samuel Chinnock  
**Entered CPT Program:** February 12, 2014 with no previous manufacturing experience  
**Graduated:** May 31, 2014  
**Started work at NOV Enerflow:** June 16, 2014, Electrical Technician

Tell us a bit about yourself: My name is Samuel Chinnock. I’m a family man. I have grown kids, but we still gather around the dinner table every Sunday evening, which is rich in conversation and connection. The job I’m doing now is a dream I’ve had since in high school. Right out of high school, I was planning to go into business with a friend to create a cabinet-making company. But my dad said no, you’re going to college. So I went to college and floundered a bit but managed to graduate. Ever since, something has been in me to eventually pursue my dream.

What made you come back to school? I had been in secondary education as a teacher for the past 30 years, but it wasn’t really my passion since I graduated high school. Additionally, over the years, the pendulum had swung from teaching as an art to teaching to meet outcome numbers. This program was the catalyst for my career change. When I saw this, my heart leapt at the opportunity, and I felt fortuitous that I made enrollment, as I was the last one enrolled. TCC was able to accommodate my schedule and fit me in the morning class.

How was the Certified Production Technician (CPT) through the Advanced Manufacturing Program helpful to you in attending class and finding a job? This program gave me the opportunity, expertise and confidence needed to ask for a job. When I got my bachelors’ degree I didn’t use any of it besides the writing and communication. But every day there’s something I pull out of the CPT program at TCC and apply to my job, especially safety-wise. I recall constantly the lessons taught in class, like electrical blue-print reading. If you had put down one (i.e., a blue print) in front of me, I wouldn’t have gotten very far. I’m learning a tremendous amount on the job, but it was all set up going through the CPT program. I had a schematic and permanent visual to recall back to. Don Crall, our instructor, was awesome at steering us to resort back to the blueprint knowledge. I can’t say enough about how strong the lessons are. It’s applicable, current, relevant, and I use 85-90% of it, which gave me a lot of confidence needed in that interview. I had no experience in production, and this gave me the opportunity to put my hands on something and learn a skill. When I knew I could apply the things Don was teaching, it really helped to build my confidence, technically but in all ways. This program exposed me to a great field where I didn’t have to worry about paying back student loans.

What is your job now and how is it working out? I’m an Electrical Assembler for a company that produces oil products. This is my cup of tea as far as climbing under machines, putting wires to them and putting the battery on. I get a sense of satisfaction from working on $2million machines, where my work is acknowledged.
weekly. And I get feedback right away about the job I’m doing. Being able to produce and be good at it makes it an even more enjoyable job. I’m confident that even though I’m still learning, it’s still a very enjoyable job. It’s something I can measure, put my hands around and grasp. I feel like I’m 20 years old again. This is happiness.

Employer partners include BAMA, NOV EnerFlow, Hill Manufacturing, AAON, Preston Easton, APSCO, Muncie Power Products, M&M Manufacturing and more. Graduates have been hired into the following positions: General Laborer, Electrical Technician, and CNC Operators. Wages vary from $10.25 per hour with differentials to $16 per hour with differentials, depending on employer hiring needs, participant skill level, and position availability.

**By the Numbers**

**Participant & Employer Snapshot, as of June 30, 2014:**
- Inaugural Certified Production Technician (CPT) and Certified in Quality Management (CQM) started February 2014.
- 114 participants (CPT and CQM) were served.
- 127 credentials earned as of June 30, 2014.
- 54 participants received CPT training; 62 participants received TQC training. 41 participants have completed or are on track to complete their full CPT training by July 31, 2014. 51 participants are on track to complete their CQM training by March 31, 2015.
- 6 CPT participants have entered training-related employment; and 5 CPT participants are continuing on to further their education.

**TCC CPT in the News:**

“Fighting Unemployment and Filling Manufacturing Jobs.” Ely, C. May 9, 2014. KTUL.
“TAMA Highlights Positives.” Ramsey, E. April 8, 2014. GTRNewspapers.

**FUTURE CLASSES**

**Fiscal Year 2015 (August 2014 – May 2015) Class Schedule:**

**Location:** TCC Northeast Campus

<table>
<thead>
<tr>
<th>T/W/Th</th>
<th>8:00a.m. to noon</th>
<th>1:00p.m. to 5:00p.m.</th>
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<tbody>
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<td>M/T/W</td>
<td>5:30p.m. to 9:20p.m.</td>
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**Location:** **NEW!** TCC CPT for Union High School Students at APSCO (Manufacturer of Air Supply Products) and BAMA Pie Companies. AND, classes offered at East Central High School.

| Fall 2014 | 1:30p.m. to 3:30p.m. for Safety and Quality CPT Modules |
| Spring 2014 | Option 1) Internship at Employer site (to be specified) | Option 2) 1:30 to 3:30p.m. for Manufacturing Production and Maintenance Awareness |

**Questions/Comments:** Please call Beth Wild, Project Director, at 918-595-7715.

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