



October 19, 2018

Dear Educator Colleagues,

The Vermont Talent Pipeline Management (VTPM) program is a statewide initiative developed by the US Chamber of Commerce Foundation to fill the skills gap, by implementing lessons from supply-chain management, in which we serve employers as “end-customers”. In this model, we share employer demand data with education providers, with the goal of aligning training for the most critical jobs. To that end, we invite you to share the attached information with any additional educational partners delivering training for the Manufacturing careers identified.

The enclosed two-year forecast for the most critical jobs in **Advanced Manufacturing** careers was developed by the VTPM’s Manufacturing Employer Collaborative. This vital information is provided to inform educational program development and alignment with the time-sensitive needs of the state’s manufacturing industry. It is intended to complement the work of the Vermont Agency of Education and is not meant as a complete representation of manufacturing jobs in Vermont.

The VTPM model relies on the education community to support the needs of industry with training. If your organization can provide programs to fulfill the attached requirements for: Production Assembler/Operator; CNC Machinist; Equipment Maintenance Technician; Team Leader, or Engineer, then we want to hear from you. Please respond in writing by November 15, 2018 with a **letter of intent** to provide an aligned training proposal with the job requirements attached. Thank you for your time and consideration for this important work.

Respectfully Submitted,

A handwritten signature in blue ink that reads 'Mary Anne Sheahan'.

Mary Anne Sheahan
Executive Director, Vermont Talent Pipeline
Vermont Business Roundtable

Attachments:

- I. Survey Methodology and Highlights
- II. Job Category Summary
- III. VTPM Adv Manufacturing Needs Assessment Survey Data

Engineer Job Requirements						
Competencies		Value to Employer				
Designs and develops products to specifications		91%				
Applies structured problem-solving and decision-making tools and methods		89%				
Interfaces with collaborating groups to prototype designs		86%				
Produces assembly design and layout from concept through completion		85%				
Applies math skill to analyze performance data		85%				
Measures and improves the quality of products and systems		85%				
Develops and verifies compliance test plans and procedures		81%				
Documents process through fabrication		81%				
Reads and applies complex technical regulatory design and performance requirements		81%				
Knowledge and use of Lean Fundamentals		78%				
Trains production staff to build new products and use new processes		77%				
Interfaces with suppliers on component specification an		73%				
Analyzes financial information to develop and support conclusions		71%				
Creates 3D CAD models, bills of material and engineering drawings		70%				
Creates 2D process and instrumentation drawings		60%				
Employability Skills		Value to Employer				
Positive attitude		94%				
Dilligent, thorough and goal-oriented		94%				
Prioritizes multiple tasks and projects		93%				
Self motivated		91%				
Proficient in computer technologies, including office software		88%				
Interpersonal skills		88%				
Written and verbal skills		88%				
Team contributor		87%				
Cost conscious, weighing quality, value and risk		86%				
Writing ability for reports, correspondence and procedures		83%				
Mechanical abilities		81%				
Proficient in Computer Aided Design Technologies		76%				
Proficient in programming and development technologies		74%				
Presentation skills		71%				
Proficient in Enterprise Resource Planning (ERP) software		69%				
Education		Preferred	Required	Neither		
High School General Education		10%	81%	10%		
High School Technical Education		35%	19%	45%		
Post-secondary Technical Education		32%	26%	42%		
Associates		29%	35%	35%		
Bachelors		32%	65%	3%		
Masters		45%	3%	52%		
Doctorate		6%	0%	94%		
Credentials		Preferred	Required	Neither		
Geometric Dimensioning and Tolerance Professional (ASME)		52%	10%	39%		
Statistical Process Control		52%	3%	45%		
AutoCAD Certified		52%	10%	39%		
SME Certified Manufacturing Engineer		48%	10%	42%		
Lean Six Sigma (Green Belt)		48%	10%	42%		
Lean Certification (Silver)		45%	3%	52%		
Solidworks Professional		42%	19%	39%		
Lean Six Sigma (Black Belt)		39%	0%	61%		
Lean Certification (Gold)		29%	10%	61%		
Navisworks Certified		19%	0%	81%		
Mechanical Electrical Plumbing (MEP) Engineer		10%	3%	87%		
Work Experience		No Requirement	< 1 Year	2-3 Years	4-5 Years	>5 Years
Entry Level - Required Experience		26%	39%	35%	0%	0%
Entry Level - Preferred Experience		3%	19%	71%	3%	3%
Mid Level - Required Experience		6%	0%	35%	52%	6%
Mid Level - Preferred Experience		3%	0%	19%	58%	19%
Senior Level- Required Experience		6%	0%	3%	13%	77%
Senior Level - Preferred Experience		3%	0%	3%	3%	90%