

Lower Hudson Valley Advanced Manufacturing and Energy Bus Tour for Educators



WELCOME



Westchester
Community College

State University of New York



Westchester
gov.com

George Latimer, County Executive
Dr. DaMia Harris-Madden, Executive Director
Westchester County Youth Bureau

THANK YOU TO OUR PARTNERS:

- NYS Senator Shelley B. Mayer (Chair of Committee on Education)
- Workforce Development Institute
- Council of Industry
- Westchester Community College
- Southern Westchester BOCES
- Westchester County Executive's Office
- Westchester County Youth Bureau
- Con Edison
- Magnetic Analysis Corporation
- Safe Flight Instrument Corporation
- Micromold Products
- Participating Schools and School Districts!

Handouts to Share with Your Students

Energy & Utility Employment in New York's Lower Hudson Valley



A Critical Sector Undergoing Change & Hungry for Talent In Putnam and Westchester Counties...

29,000	+9.0%	Region's Projected Energy Sector Job Growth: 2019 to 2029
Estimated Total Energy Sector Employees (EMS, 2018; Purdue Energy Categories)	28.6%	Portion of Region's Energy Sector Employees Age 55 or Older
	22.0%	Females as Portion of Region's Energy Sector Employment
	31.7%	Minorities as Portion of Region's Energy Sector Employment

Why Technical Careers in the Energy & Utility Sectors Matter

Energy Systems Support Our Way of Life

Energy is all around us. It powers everything we do. Our region has a strong demand for energy workers because a wide range of systems – electrical, gas steam, and solar – generate and distribute energy to where we work, live, and play. Safety, excellence, and public service are hallmarks of this industry and its workforce.

- Energy careers have multiple entry points at all levels of education.
- Continued education and training in the energy industry are part of advancement and career growth.
- Knowledge of electrical and mechanical principles, various energy distribution systems, and teamwork skills are key.

Connecting Schools with Regional Energy & Utility Employers

Resources for Educators

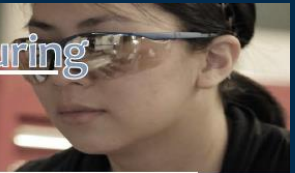
Westchester Community College
School of Mathematics, Science & Engineering
sunywcc.edu/academics/school-of-mathematics-science-and-engineering
Workforce Development and Community Education
sunywcc.edu/continuing-ed/ce

Southern Westchester BOCES
Education for a variety of career and technical disciplines leading to rewarding, high-demand careers
swboces.org

Provided by:



Advanced Manufacturing in New York's Lower Hudson Valley



A Vital Sector with Significant Workforce Opportunities In Putnam and Westchester Counties...

\$16-\$45/hr	14,000	25.5%
Typical Starting Wage Range for Manufacturing Workers of All Education Levels in NY's Hudson Valley (NYS DOL 2019)	Estimated Total Manufacturing Employees (EMS, 2018)	Portion of Manufacturing Employees Age 55 and Older (EMS, 2018)

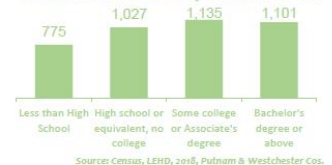
Why Manufacturing Matters

Innovative Products and Quality Jobs

Putnam and Westchester Counties are home to an estimated 680 manufacturing firms. The region's manufacturing workforce serves the aerospace, biotech, electronics, and chemical / pharmaceutical sectors along with dozens of other specialties.

- Manufacturing career pathways provide good job opportunities for workers at all levels of education
- Many manufacturers operating today have incorporated technology while upskilling their workforce to stay innovative and competitive.
- Putnam and Westchester manufacturers generate over \$50 billion in annual earnings. (EMS, 2018)

Annual New MFG Hires by Education Level



National Skills Gap Poses Major Challenge



Provided by:



Handouts to Share with Students

CONTACT LINKS ON THE BACK AND IN YOUR FOLDERS

Energy & Utility Employment in New York's Lower Hudson Valley

Wanted: Talented, Technical, Service-Oriented Workers


General Utility Worker


A entry-level team player with experience in construction who is eager to learn and take advantage of career advancement opportunities

Education (preferred): High School Diploma or Equivalent plus Experience

Typical Starting Wage: \$17.00/hr

In-Demand Skills: troubleshooting, job site preparation, safety protocols, maintenance functions





Electrical Technician

A field-based, safety-conscious problem solver who is knowledgeable about electricity, skilled with tools, and ready for physically demanding work

Education (preferred): Associate's Degree in Electrical Technology or Similar

Typical Starting Wage: \$23.75/hr

In-Demand Skills: AC/DC electricity, use of multi-meters and other electrical equipment, reading schematics, safety equipment and awareness


Management Associate






A leadership-track manager with technical and communication skills for the work-site and the boardroom

Education (preferred): Bachelor's Degree in Engineering, Finance, or Management

Typical Starting Wage: \$32.50/hr

In-Demand Skills: electrical systems, business management, finance and budgeting, written and verbal communication, and personnel management



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Source: EMSI, Westchester & Putnam Counties, NY

Advanced Manufacturing in New York's Lower Hudson Valley

Promising Opportunities for Creative Problem Solvers

Manufacturers need innovative, hard-working employees at all levels

Production Worker	Machinist / Mechanical Technician	Mechanical Engineer
<p>Typical Job Profile</p> <ul style="list-style-type: none"> • HS Diploma or Equivalent • Some/Moderate On-the-Job Training plus Industry Certification • Median Hourly Wage: \$15.63 • Skills: assembly, fabrication, machine operation, repair, basic math, troubleshooting 	<p>Typical Job Profile</p> <ul style="list-style-type: none"> • Associate's Degree and/or NIMS/Industry Certification • Median Hourly Wage Range: \$16.00 to \$37.36 • Skills: machining, lathe operation, CNC operation/programming, CAM, troubleshooting, quality inspection, math, instrumentation 	<p>Typical Job Profile</p> <ul style="list-style-type: none"> • 4-year degree • Some/Moderate On-the-Job Training • Median Hourly Wage: \$49.31 • Skills: engineering and design, AUTOCAD, project management, data analysis, prototyping, math, physics, communication

NIMS-National Institute for Metalworking Skills

Connecting Schools and Area Manufacturers

Resources for Educators






Westchester Community College: School of Mathematics, Science and Engineering (sunywcc.edu/academics/school-of-mathematics-science-and-engineering) & Workforce Development and Community Education (sunywcc.edu/continuing-ed/ce/)

Southern Westchester BOCES (swbores.org): Education and career training for a variety of career and technical disciplines to develop skills that will lead to rewarding, high-demand careers

Go Make It (gomakeit.org): Interactive resource for students, parents, and educators to explore manufacturing and technical careers

Council of Industry's YouTube Channel (tinyurl.com/y66cuc7s): Features videos from local companies highlighting a "day-in-the-life" of a manufacturing employee

Manufacturing Intermediary Apprenticeship Program (nyapprenticeship.org): NYSDOL-registered apprenticeship program for manufacturing trades.

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Today's Schedule

7:15 Welcome

7:30 Tour of WCC Manufacturing & Electrical Labs

8:15 Board Bus for Tour

- WCC Programs Presentation

9:00 Safe Flight Instrument Corporation

- Micromold Products Industry Presentation

11:00 Magnetic Analysis Corporation

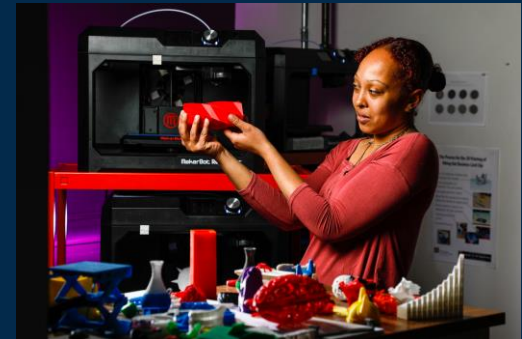
12:00 Lunch on Bus

- Council of Industry Presentation

1:00 Con Edison

- Southern Westchester BOCES Presentation

2:30 Return to WCC



WCC Associate Degrees and Certificates

Associate of Applied Science (A.A.S) – Pathways to immediate employment

Prepares graduates for immediate employment within specific technical fields. The requirements combine specific career preparation with a firm foundation in the liberal arts and sciences.

- ☐ Civil Technology A.A.S
- ☐ Electrical Technology A.A.S
- ☐ Energy Systems A.A.S.
- ☐ Mechanical Technology A.A.S.
- ☐ Computer Information Systems A.A.S
- ☐ Computer Aided Drafting, Cert
- ☐ Networking, Cert

Associate of Science (A.S) – Pathways to or baccalaureate-granting institutions employment

Equivalent to the first two years at an accredited four-year institution and balance a professional orientation with the liberal arts & sciences. Graduates typically transfer to baccalaureate-granting institutions

- ☐ Computer Science A.S
- ☐ Engineering Science A.S.
- ☐ Environmental Science A.S.
- ☐ Environmental Studies A.S.
- ☐ Liberal Arts and Science/
Mathematics and Science A.S.

WCC Programs and Grants in STEM

STEM Pathways Grants



Transfer

- HSI STEM Scholars (Mercy)
- NSF LSAMP (Stony Brook)
- NSF Cyber Corps (PACE)
- NIH Bridges (Binghamton)
- NIH Bridges (Purchase)



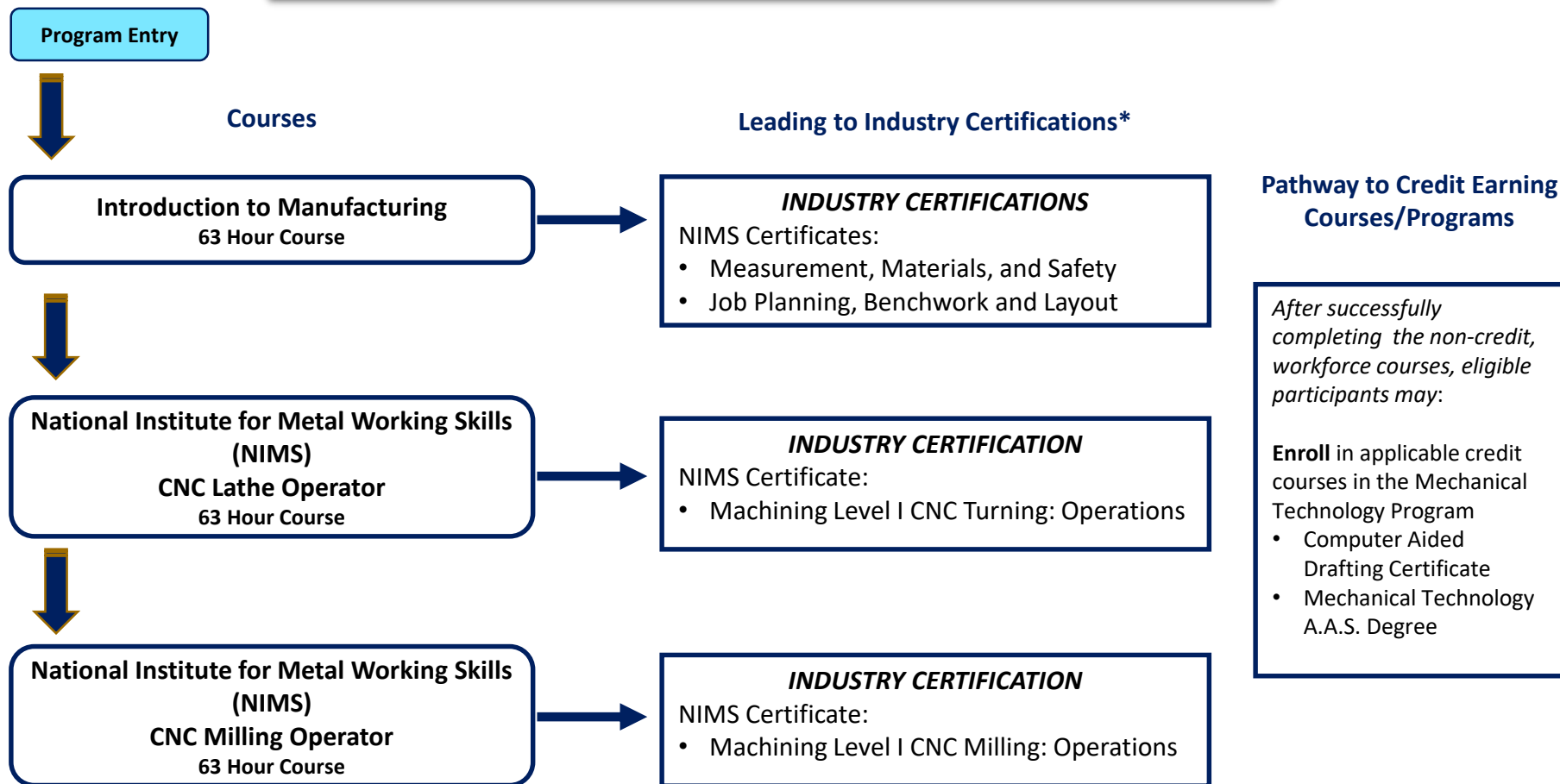
Employment

- Bright Futures (Con Edison)
- NSF PALTEC
- PTECH (Saunders and Riverside HS)
- Perkins
- SUNY Job Linkage

Westchester Community College

Workforce Programs (non-credit)

Advanced Manufacturing Educational Pathway



*NOTE: Successful completion of each course results in eligibility to take the respective certification examination (s).

NEXT: TOUR WCC LABS

7:40 – 8:15 Tour the Labs

- Materials Lab
- Machine Lab
- CAD Lab
- Electrical Lab

8:15- 8:30 Board the Bus