

# College EUT Programs – Upstate NY



Energy Utility Technology (EUT)

December 2014

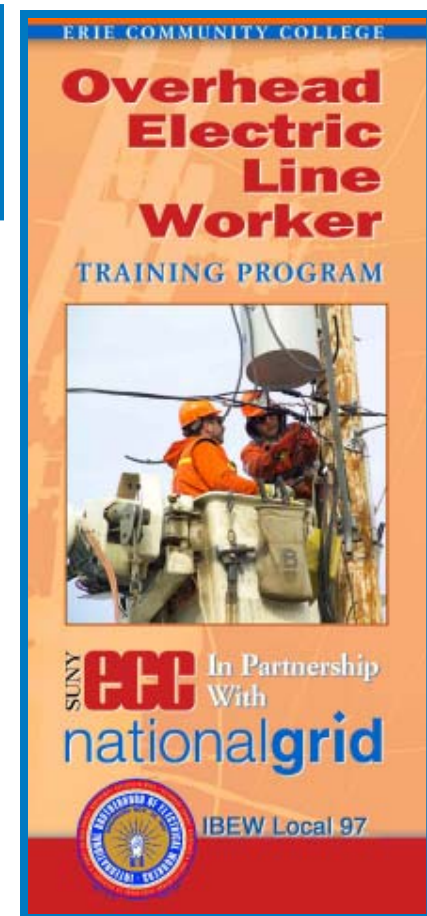
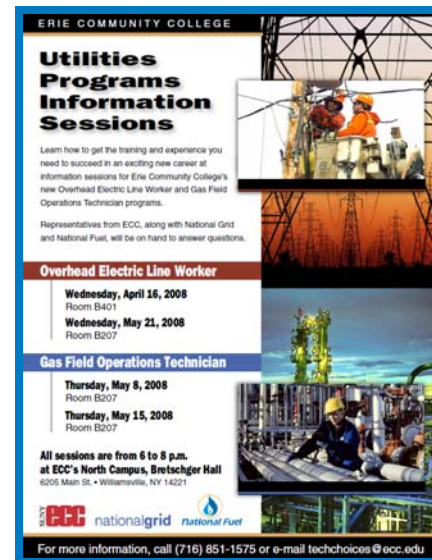
## Agenda

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1. Erie Community College (ECC)
2. Hudson Valley Community College (HVCC)
3. Onondaga Community College (OCC)

## Erie Community College (ECC)

- Overhead Electric Line Worker Certificate
- Inception Date: Fall 2006
- Students receiving certificate: 140 (thru 5/2014)



## ECC – Program Description

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- The certificate program offers theory and practice training in the electric utility power industry. The program prepares students for entry into an apprenticeship servicing overhead electric distribution power lines. The classes taught are also applicable to other apprenticeships.
- The students are presented with a solid foundation in electrical theory along with hands-on laboratory experience. The time spent in the laboratory will consist of the essentials theory and hands-on skills necessary for an Overhead Electric Line Worker. Heavy emphasis is placed on safe work practices.

## ECC - Curriculum

Course Code	Title	Credits
EL 110	Electricity I & EL 111 Lab	5
MT 126	College Math II	4
PH 260	Technical Physics I & PH 261 Lab	4
EL 150	Electricity II & EL 161 Lab	5
EL 153	Electronic Fabrication	1.5
<b>EL 170</b>	<b>Electric Power Systems</b>	<b>3</b>
EN 110	English	3
<b>EL 173</b>	<b>Electric Power Overhead Construction (aka: Pole Climbing School)</b>	<b>4</b>
	<b>Total Credits</b>	<b>29.5</b>

EL 170 and EL 173 supported by National Grid.

All courses delivered at the ECC campus.

Classroom lecture, hands-on, physical, **climbing**, indoor laboratories, outdoor line yard.

## EL 170– Electric Power Systems

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- Electric Safety
- Introduction to Power Systems
- Conductors
- Secondary Service Installations
- Distribution Transformers
- Overcurrent Protection
- Substations
- Underground Systems
- Transmission Systems (Hot Sticking)

**Adjunct:** Wayne Cole, Chris Dool  
**Time:** 4:00pm-6:00pm (lecture)  
4:00pm-8:00pm (lab)  
**Duration:** 15 Weeks (twice per week)  
**Location:** ECC Campus

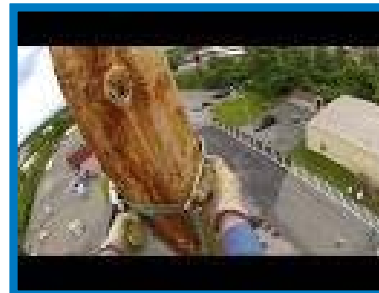


## EL 173 – Electric Power Overhead Construction (aka: Pole Climbing School)

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- Electrical Hazard Awareness
- CPR/First Aid/AED
- Portable Ladder Safety
- Vehicle Inspection
- Bucket Truck Operations
- Digger Derrick Operations
- Wood Pole Inspection/Installation
- Wood Pole Climbing
- Secondary Service Installations
- Crossarm Installation
- Transformer Installation
- URD Standards

**Adjunct:** Chris Dool, Eric Nuwer  
**Time:** 8:00am-2:30pm  
**Duration:** 3 Weeks (every day)  
**Location:** ECC South Campus



## Agenda

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1. Erie Community College (ECC)
2. Hudson Valley Community College (HVCC)
3. Onondaga Community College (OCC)



## Hudson Valley Community College (HVCC)

- Overhead Electric Line Worker Certificate
- Inception Date: Fall 2007
- Students receiving certificate: 43 (thru 5/2014)



## HVCC – Program Description

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- The certificate program was developed in response to the demand for overhead electric line workers throughout the Capital Region. The electric utility industry is facing a critical shortage of qualified workers, specifically line mechanics and technicians, due to a large number of workers retiring. To fill their workforce needs, utilities are looking for employees that have completed technical training at the community college level to handle the increased technical challenges they face.
- The certificate program consists of new and existing courses in the Electrical Construction and Maintenance A.O.S. degree program. These courses include AC/DC electricity courses, technical math courses, electrical wiring courses and industry specific electric power courses

## HVCC - Curriculum

Course Code	Title	Credits
ECMN 101	Direct Current Theory	4
ECMN 111	Direct Current Applications Laboratory	1
ECMN 121	Residential Construction Wiring	5
ECMN 130	Safety and Labor Relations	2
ECMN 131	Electrical Blueprint Reading and Estimating I	2
MATH 105	Applied Technical Mathematics I	3
ECMN 102	Alternating Current Theory	4
ECMN 112	Alternating Current Applications Laboratory	1
ECMN 122	Commercial Construction Wiring	5
<b>ECMN 190</b>	<b>Electric Power Systems</b>	<b>3</b>
MATH 106	Applied Technical Mathematics II	3
<b>ECMN 191</b>	<b>Electric Power Overhead Construction (aka: Pole Climbing School)</b>	<b>3</b>
	<b>Total Credits</b>	<b>36</b>

ELT 190 and ELT 191 supported by National Grid.

ELT 191 delivered at the National Grid Schenectady Learning Center.

Classroom lecture, hands-on, physical, **climbing**, indoor laboratories, outdoor line yard.

## HVCC - Orientation

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- During the 1st semester (Fall), students attend a 1 day orientation program. This is delivered by 2 NG training employees and various CMS and Electric Operation employees at the Schenectady Learning Center. The students participate in a facilities tour and hands-on activities which include bucket flights, climbing poles a few feet, driving a lag screw, carrying a ladder, operating a switch stick, etc



## ECMN 190 – Electric Power Systems

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- Electric Safety
- Introduction to Power Systems
- Design Standards
- Print Reading/Trouble Shooting
- Knots and Splices
- Tools & Rigging
- Wye-Delta Systems
- Distribution Transformers
- Transmission Systems (Hot Sticking)
- Overcurrent Protection

**Adjunct:** Rick Quackenbush

**Time:** 4:30pm-10:30pm (One 2 hour lecture, Two 2 hour labs)

**Duration:** 15 Weeks (once per week)

**Location:** HVCC Campus



## ECMN 191 – Electric Power Overhead Construction (aka: Pole Climbing School)

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- Electrical Hazard Awareness
- CPR/First Aid/AED
- Portable Ladder Safety
- Vehicle Inspection
- Bucket Truck Operations
- Digger Derrick Operations
- Wood Pole Inspection/Installation
- Wood Pole Climbing
- Secondary Service Installations
- Crossarm Installation
- Transformer Installation
- URD Standards

**Adjunct:** Chuck Noone, Mike Pommer (L97)  
**Time:** 8:00am-2:30pm  
**Duration:** 3 Weeks (every day)  
**Location:** Schenectady Learning Center



## Agenda

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1. Erie Community College (ECC)
2. Hudson Valley Community College (HVCC)
3. Onondaga Community College (OCC)

## Onondaga Community College (OCC)

- Line Mechanic Utility Worker Certificate
- Inception Date: Fall 2008
- NYS Accreditation
- Students receiving certificate: 24 (thru 5/2014)





## OCC – Program Description

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- This certificate will help prepare the student for a career in the utility industry. The one year certificate will lay groundwork for many of the job titles associated with an electric utility company. The certificate includes both classroom and lab work that is geared for a student interested in the utility related industry.

## OCC - Curriculum

Course Code	Title	Credits
<b>ELT 101</b>	<b>Electrical Power Distribution and Overhead Construction</b>	<b>3</b>
ELT 141	Circuits I	4
CMT 101	Introduction to Computers and Applications	4
MAT 143	Pre-Calculus With Trigonometry	4
ENG 103	Freshman Composition and Literature I	3
ELT 161	Electronic Circuits I	4
<b>ELT 201</b>	<b>Power Technology</b>	<b>4</b>
ELT 285	Power Systems I	4
	<b>Total Credits</b>	<b>30</b>

ELT 101 and ELT 201 supported by National Grid.

ELT 101 and ELT 201 delivered at the National Grid Syracuse Learning Center.

Classroom lecture, hands-on, physical, indoor laboratories, outdoor line yard.

## ELT 101 –Electrical Power Distribution OH Const.

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- Electric Safety
- Introduction to Power Systems
- Portable Ladder Safety
- Vehicle Inspection
- Bucket Truck Operations
- Digger Derrick Operations
- Wood Pole Inspection/Installation
- Meter Sets
- Secondary Service Installations
- Clearance & Control (CRCC/TCC tour)
- Overcurrent Protection

**Adjunct:** Jeff Steiner, Jim Kelly, Zeke Dacko (L97)  
**Time:** 5:30pm-9:30pm (2 hour lecture, 2 hour lab)  
**Duration:** 15 Weeks (once per week)  
**Location:** Syracuse Learning Center



## ELT 201 – Power Technology

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- Electrical Hazard Awareness
- Basic Electricity
- Reliability
- Demand Response
- Geographic Information System
- NESC Clearances
- Generation (Covanta Energy field trip)
- Substations (Substation tour)
- Underground Systems
- Transmission Systems (Hot Sticking)
- Distribution Transformers

**Adjunct:** Jeff Steiner, Jim Kelly, Zeke Dacko (L97)  
**Time:** 5:30pm-9:30pm (2 hour lecture, 2 hour lab)  
**Duration:** 15 Weeks (once per week)  
**Location:** Syracuse Learning Center

