DCAS Energy Management, in partnership with the City University of New York (CUNY) School of Professional Studies (SPS), CUNY Building Performance Lab (BPL) and the Citywide Training Center (CTC), is pleased to announce our schedule for courses for Spring 2017.

The goal of the EMI is to prepare city facilities personnel to make energy-smart decisions that will assist the City in meeting its greenhouse gas (GHG) emissions reductions goals.

The EMI is designed to help facility professionals across city agencies envision a learning path specifically targeted for them.

Where do you stand on this learning path?
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**IMPORTANT:**

DCAS Energy Management (DEM) covers the cost of city staff participating in this training to improve the energy efficiency of building operations and maintenance, and to encourage building staff to develop, implement and monitor energy efficiency projects. If a city employee registers for the course but drops out before satisfactory completion, a fee will be assessed to their agency’s training department for “No Show” in accordance with the CTC cancellation policy. See course descriptions for respective fee amounts.
Course Description

Building Operator Certification (BOC) Level I serves as the gateway training program of the Energy Management Institute. It is designed to help building operators manage their facilities to become more energy efficient as part of the City’s efforts to meet its greenhouse gas reduction goals. The BOC Level I course is a competency-based training and certification program that prepares participants with the tools necessary to increase the energy efficiency of City facilities while maintaining comfort for the building occupants.

The course provides an overview of building systems including lighting, mechanical, and electrical systems and provides guidance to improve thermal comfort, air quality, and life-safety considerations.

The BOC Level I program offers a unique learning experience. Instruction is delivered both in a traditional classroom setting, as well as through self-paced, online modules via the Hughes Learning Management System.

The program is facilitated by a CUNY Subject Matter Expert Instructor with deep experience and knowledge in engineering, and the efficient operation of plants and equipment.

Course Overview:

Term: Spring 2017
Days: Fridays
Dates: Jan 27, Feb 10
Feb 24, Mar 10
Mar 24, Apr 7
Apr 21, Apr 28
May 12
Sessions: 9
Hours: 9AM-4PM
Locations: Citywide Training Center, 1 Centre Street, 24th Floor South Tower
Code: C7200
Registration Deadline: December 22
Objectives

At the conclusion of this program, participants will be able to:

- Apply knowledge of building mechanical and electrical systems—HVAC equipment and controls, electrical distribution, motors, and lighting—and how their operation relates to energy efficiency performance and building comfort conditions;
- Recognize system configurations, drawings of schematics, observation and interpretation of operating conditions;
- Develop strategies for systematic maintenance and performance monitoring.

Who Should Enroll

The course is designed for building operators who may have limited formal systems training, but have substantial work experience in building systems. This course is also beneficial to facility managers who have entered the field from a management background and seek to improve their understanding of physical and equipment principles.

Course Materials

On the first day of training, each participant will receive a course binder, textbooks published by the Building Operator Certification program and a copy of *Energy-Efficient Operation of Commercial Buildings: Redefining the Energy Manager's Job* by Peter Herzog.

Video Prerequisites


- Saving Energy In NYC; It’s All About Us!
- Advice from NYC’s Operations & Maintenance Champions

Prep Courses:

- After applying, CUNY will send the employee links to two mandatory skills assessments (Math and Microsoft Excel).
- Both assessments take about 15 minutes each to complete.
- Students’ scores will determine if they also need to take the online, self-paced prep courses prior to their BOC-Level I start date.

Elective Courses:

- Communication Skills for Technical Professionals
- Outlook 2013 Level 1
- Writing Effective and Efficient E-mails

Grading & Certification

To earn the nationally recognized Building Operator Certification Level 1 credential, participants must:

- Attend and participate in 8 of the 9 in-class sessions
- Satisfactorily complete the 14 on-line lessons
- Take and pass 4 exams, and
- Submit 4 practical project assignments which focus on applying concepts studied in class to the facilities where the participants work

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $1,875 will be assessed to their agency’s training department for “No Show” in accordance with the CTC cancellation policy.
Course Description
For those who have completed BOC Level 1, this advanced program provides an opportunity to deepen building performance skills, while working towards earning the BOC Level 2 credential. This 16 week, 4 module course leverages self-paced, on-line learning modules so employees only need to be in the classroom every other week.

DEM offers this program to help prepare building operators and stationary engineers for energy efficient facility operations that meet the city’s greenhouse gas reduction goal.

The BOC Level 2 course is a competency-based training and certification program that will teach participants the tools necessary to increase building efficiency, comfort, and improve their job skills.

Objectives
At the conclusion of this program, participants should be able to:

- Collect facility operating data for monitoring and troubleshooting of operations;
- Identify sophisticated controls and control strategies;
- Identify, diagnose and correct control errors;
- Use energy data to maintain high levels of building performance;
- Select and apply maintenance strategies and techniques.

Course Overview:
Term: Spring 2017
Days: Fridays
Dates: Feb 3, Feb 17, Mar 3, Mar 17, Mar 31, Apr 21, May 5, May 12
Sessions: 8
Hours: 9AM-4PM
Locations: Citywide Training Center, 1 Centre Street, 24th Floor, South Tower
Code: C7202
Registration Deadline: January 3
**Blended Learning Format**

- **Four (4) Self-Paced On-Line Modules:**
  - Best Practices for High Performance Operations & Maintenance
  - HVAC Controls Optimization
  - Electrical Maintenance & Troubleshooting
  - Boiler Plan & Hydronic System High Performance O&M

- **Synchronous Virtual Sessions** – Each of the four modules begins with a 1-hr, web-based meeting, where participants connect with their instructor to discuss the content to be covered in the upcoming module to ensure they are fully prepared for what is expected of them to succeed.

- **Classroom Instruction** – Two (2) full days during each module allows participants to walk through the technical curriculum with CUNY Subject Matter Experts, as well as learn from peers at other City agencies.

**Who Should Enroll**

Employees who have already earned the BOC Level I credential at least one year prior to registering for BOC II.

**Course Materials**

On the first day of training, each participant will receive a course binder, a complete set of BOC Level 2 Handbooks, and additional study materials.

**Grading & Certification**

To earn the nationally-recognized Building Operator Certification Level 2 credential, participants must:

- Attend 7 of the 8 in-class sessions
- Satisfactorily complete the 4 on-line lessons
- Take and pass 4 exams
- Submit 4 practical project assignments which focus on applying concepts studied in class to the facilities where the participants work

**Prerequisites**

- BOC Level I Credential

**Elective Courses:**

- Fundamentals of Supervision
- Communications Skills for Technical Professionals
- Writing Effective and Efficient E-Mails
- Building Positive Workplace Relationships

**IMPORTANT:**

If a city employee registers for the course but drops out before satisfactory completion, a fee of $1,875 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
Course Description

Building Re-Tuning (BRT) training is designed to give building operators advanced training in analysis of facility operations to further identify efficiency improvements.

The BRT course is offered as 5 in-class sessions that include integrated project-based work that is completed by participants in between classroom meetings. The course is aimed at operators and managers with previous energy management training (BOC Level 1 and/or BOC Level 2, Certified Energy Manager, etc.)

BRT is designed to teach participants the skills that are needed to conduct a re-tuning of facilities that use a BAS/BMS system.

The course is designed to walk participants through the BRT process from foundational concepts through an initial BRT tune-up. Topics include:

- What BRT involves
- How to obtain operational data from the BAS to create graphs and charts
- How to analyze the data to diagnose operational problems and uncover no-cost and low-cost improvement opportunities in equipment operations.

BRT training requires hands-on implementation practice in the participants’ facilities.

NOTE: participants must be able to access trend logging functions in a BAS/BMS.

Course Overview:

Term: Spring 2017
Days: Thursdays
Dates: Apr 13, Apr 20 Apr 27, May 4 May 18
Sessions: 5
Hours: 9AM-12PM
Locations: Citywide Training Center, 1 Centre Street, 24th Floor South Tower
Code: C7300
Registration Deadline: March 13
Objectives

At the conclusion of this course, participants will be able to:

- Explain the overall BRT process from start to finish
- Identify how BRT protocol relates to retro-commissioning and continuous commissioning concepts/practices.
- Create trend logs using BAS data collection function.
- Create graphic displays from BAS/BMS data using basic methodologies
- Interpret graphical trend data for diagnostics and identification of energy reduction/optimization opportunities.

Who Should Enroll

This course is designed for building operators with previous energy efficiency/energy management training. It is also beneficial to facility managers who have entered the field from a management background and seek to gain skills in data-driven facility diagnostics. Participants should have a working knowledge of energy efficiency in building systems and the ability to access trend log functions in their facility's BAS/BMS.

Grading & Practical Projects

Participants will be evaluated based on their ability to conduct an initial BRT project, using BAS/BMS data, in discrete steps during the five weeks of the course.

Course Materials

Each participant will receive a course handbook based on materials from the Pacific Northwest National Lab and access to on-line study materials.

The field project component will be conducted over the course of the 5-week program.

*CUNY student engineering interns will be available to assist with various aspects of the project, especially related to new graphing software applications.*

Prerequisites

- BOC Level I Credential

Elective Courses:

- Fundamentals of Supervision
- Communications Skills for Technical Professionals
- Writing Effective and Efficient E-Mails
- Building Positive Workplace Relationships

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $975 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
Course Description

The Certified Building Commissioning Professional credential (CBCP), sponsored by the Association of Energy Engineers, acknowledges an individual’s deep understanding of the commissioning process, and recognizes them as a Subject Matter Expert in applying commissioning techniques. Holding the CBCP credential prepares the building operator or facility professional to meet the requirements of Local Law 87 which requires all buildings in New York City over 50,000 square feet to perform retro-commissioning of systems and to submit an energy efficiency report based on a building audit. This five-day course is designed to prepare participants to sit for the CBCP certification exam, and will include several workshops where participants are challenged to produce real retro-commissioning (RCx) deliverables, and come up with practical solutions to typical RCx problems. The CBCP exam will be administered on the last day of the course (separate application required).

Objectives

The goals of the CBCP program are to distinguishing facility professionals who possess the full scope of knowledge requisite for the effective commissioning of existing buildings, and who demonstrate high levels of experience, competence, and specialized knowledge within the field.

Course Overview:

Term: Spring 2017
Days: Daily
Dates: Mar 13, Mar 14
Mar 15, Mar 16
Sessions: 4
Hours: 8:30AM-4:30PM
Locations: CUNY SPS
119 W. 31st St.
Room TBA
Code: C7101
Registration Deadline: February 13
Certification Process

To obtain the CBCP credential, each applicant is required to (a) attend the four-day exam prep course, (b) submit an AEE exam application form before sitting for the exam (available from proctor, immediately before the exam), and (c) pass the certifying exam. Note: The CBCP application fee will be covered by DCAS Energy Management for the initial exam; exam re-takes are $100.

Prerequisites

- BOC Level I Credential

Elective Courses:

- Fundamentals of Supervision
- Communications Skills for Technical Professionals
- Writing Effective and Efficient E-Mails
- Building Positive Workplace Relationships

Who Should Enroll

This five-day course is not intended as an immersive opportunity for building operators and others to learn about the Commissioning process; rather, it will review the technical details of the commissioning process for participants interested in earning the CBCP credential. Building Operators, Senior Stationary Engineers, Stationary Engineers, Custodian Engineers, Building Managers, Architects, Engineers, Engineering Project Managers, Construction Project Managers, and Supervisors of trades teams such as Electricians and Maintenance Mechanics who have earned their BOC Level I credential are encouraged to enroll.

Textbooks

AEE course materials will be provided to registrants two weeks in advance of the course start date.

IMPORTANT:

DCAS Energy Management covers the cost of city staff participation in this CBCP exam prep course in order to improve the energy efficiency of building operations & maintenance, and to encourage building staff to develop, implement and monitor energy efficiency projects. If a city employee registers for this course but drops out before satisfactory completion, a fee of $1,450 will be assessed to their agency’s training department for “no show” in accordance with CTC cancellation policy.
The Certified Energy Manager (CEM) credential has become widely used as a measure of professional accomplishment within the energy management field. It has gained recognition as the standard for qualifying energy professionals both in the United States and abroad. It is recognized by the U.S. Department of Energy, the Office of Federal Energy Management Programs (FEMP), and by numerous state energy offices, major utilities, corporations and energy service companies. This course is a comprehensive four-day exam preparation course designed to prepare facility professionals to earn their CEM certification. The CEM exam will be administered at the conclusion of the four-day review (separate application required). The certification is sponsored by the Association of Energy Engineers (AEE), and is hosted by the City University of New York’s School of Professional Studies (CUNY SPS).

**Objectives**

The objectives of the CEM program are to raise the professional standards of those engaged in energy management, to improve the practice of energy management by encouraging energy managers in a continuing program of professional development and to award special recognition to those energy managers who have demonstrated a high level of competence and ethical fitness for energy management.

**Course Overview:**

- **Term:** Spring 2017
- **Days:** Daily
- **Dates:** Jun 12, Jun 13, Jun 14, June 15, June 16
- **Sessions:** 5
- **Hours:** 8:30AM-4:30PM
- **Locations:** CUNY SPS 119 W. 31st St. Room TBA
- **Code:** C7100
- **Registration Deadline:** May 7
Eligibility

The CEM candidate must meet one of the following eligibility criteria sets:

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<td>4-yr degree in Engineering or Architecture, OR be a PE or RA</td>
<td>And 3+ yrs in energy engineering or energy management</td>
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<tr>
<td>4-yr degree in environmental science, physics or earth science</td>
<td>And 4+ yrs of experience in energy engineering or energy management</td>
</tr>
<tr>
<td>4-yr degree in business (or related field)</td>
<td>And 5+ yrs experience in energy engineering or energy management</td>
</tr>
<tr>
<td>2-yr Associate’s degree in Energy Management</td>
<td>And 6+ yrs experience in energy engineering or energy management</td>
</tr>
<tr>
<td>2-yr Associates degree in a technical topic</td>
<td>And 8+ yrs experience in energy engineering or energy management</td>
</tr>
<tr>
<td>NONE</td>
<td>And 10+ yrs experience in energy engineering or energy management</td>
</tr>
</tbody>
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Who Should Enroll

Building Operators, Senior Stationary Engineers, Stationary Engineers, Deputy Directors of Facilities, Custodian Engineers, Building Managers, Architects, Engineers, Engineering Project Managers, Construction Project Managers, and Supervisors of trades are encouraged to enroll if they meet the eligibility requirements noted in the chart above.

Textbooks

AEE course materials will be provided to registrants two weeks in advance of the course start date.

Prerequisites

- BOC Level I Credential
- BOC Level II Credential

Certification Process

- Meet the stated eligibility criteria
- Attend the 5-day exam prep course
- Submit an AEE exam application form before sitting for the exam (provided during the exam prep)
- Pass the 4-hr, written, open-book CEM exam

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $1,875 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
Course Description

In recognition of the critical role they play in the repair and maintenance of city operated facilities, particularly in relation to lighting systems, DCAS has invested resources in developing an energy management program geared to the 400+ Electricians and Electrical Supervisors working in city agencies. The program will include training on topics related to Lighting and Lighting Controls, Motors and Motor Controls, Planned Maintenance, Meters and Sub-meters, Commissioning, Safety, and others. While the program will include some basic training on concepts and the primary systems Electricians come into contact with on a daily basis, it is not intended to serve as an apprenticeship training program. This energy management program will rely on the Electricians’ working knowledge of lighting, heating and electrical systems, and train the employees on optimal operations and maintenance techniques.

Online Classes

The program has been designed to maximize employee skill building while being sensitive to the need for Electricians to be in the field. Five (5) in-classroom training sessions will be complimented with self-paced, online lessons taken on days that work best for the trainee. The trainees will be provided with access to the online learning system, and trainers and help desk personnel at CUNY will be available to support the employees while in training if they experience any log-on issues.

Course Overview:

Term: Spring 2017
Days: Wednesdays
Dates: Feb 8, Feb 22, Mar 8, Mar 22, Apr 5
Sessions: 5
Hours: 8:30AM-3:30PM
Locations: CUNY SPS 119 W. 31st St. Room TBA
Code: C7105
Registration Deadline: January 6
Objectives

➢ Train the Electrician and Electrical Supervisor on the City’s greenhouse gas reduction goals, and their role in achieving them.
➢ Emphasize the importance of identifying waste as an important step toward energy consumption reduction, with a concentration on the key areas where waste can be identified and reduced.
➢ Explain what Planned Maintenance is, the various types of planned maintenance, and how to create and use planned maintenance schedules.
➢ To understand what Power Quality is, why it matters, where efficiency problems come from, and how to investigate and mitigate power quality issues.
➢ How Solar Photovoltaic (PV) systems work, monitoring their effectiveness, and troubleshooting maintenance problems.
➢ Safety protocols to follow, and personal protective equipment to wear, during the course of their day.

Who Should Enroll

Any Electrician or Electrical Supervisor working in city agencies.

Textbooks

Learning materials will be provided to the participants on the first day of training.

Prerequisites

➢ Saving Energy In NYC; It’s All About Us!
➢ Advice from NYC’s Operations & Maintenance Champions

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $750 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
Facility personnel trained in control systems play a critical role in managing energy at agencies across the city. Proper operation and maintenance of the pneumatic and DDC systems in city owned and managed buildings dictate whether or not our greenhouse gas emission reduction goals are met.

To ensure City controls operators’ know the full range of energy savings strategies available, DCAS Energy Management engaged CUNY to deliver a customized training program that involves in-classroom instruction, as well as self-paced online courses.

This program has been designed to maximize employee skill building while being sensitive to the need for the controls operators’ to be in the field responding to work orders.

Five (5) in-classroom training sessions will be complimented with self-paced, online lessons. The participants will be given access to the online learning system, and instructors and help desk personnel at CUNY SPS. They will be available to support employees during training if they experience any log-on issues.

Course Overview:
- **Term:** Spring 2017
- **Days:** Tuesdays
- **Dates:** Apr 4, Apr 18, May 2, May 16, Jun 6
- **Sessions:** 5
- **Hours:** 8:30AM-3:30PM
- **Locations:** CUNY SPS 119 W. 31st St. Room TBA
- **Code:** C7106
- **Registration Deadline:** March 4
Objectives

Upon completion of this course participants will be able to:

- Identify the differences between single input versus multiple input pneumatic receiver controllers
- Explain variable speed drive, control valve and control damper applications
- Complete assigned daily work orders in the most energy efficient manner possible
- Perform planned maintenance that will extend equipment life and reduce repairs
- Protect your personal safety and the safety of those around you
- Communicate more effectively with building occupants, colleagues and supervisors

Who Should Enroll

Any Thermostat Repairer, TR Supervisors or other facility personnel working on controls systems in City agencies.

Course Materials

Each participant will receive a course handbook on the first day of training.

Video Prerequisites


- Saving Energy In NYC; It’s All About Us!
- Advice from NYC’s Operations & Maintenance Champions

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $750 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
**Course Description**

DCAS Energy Management and CUNY are now offering a training program that focuses on belts, shafts, couplings, bearings, hoses, valves, coils, filters, strainers that mechanical personnel encounter. This training will cover installation, maintenance and troubleshooting. Time will also be spent discussing controls and building management system sensors. The training will include both classroom sessions, and self-paced online lessons, and be delivered by CUNY Subject Matter Expert Trainers.

**Online Classes**

The program has been designed to maximize employee skill building while being sensitive to the need for frontline employees to be in the field responding to work orders. Four (4) in-classroom training sessions will be complimented with self-paced, online lessons taken on days that work best for the trainee. The trainees will be provided with access to the online learning system, and trainers and help desk personnel at CUNY will be available to support the employees while in training if they experience any log-on issues.

**Course Overview:**

- **Term:** Spring 2017
- **Days:** Tuesdays
- **Dates:** Mar 7, Mar 21, Apr 4, Apr 18, May 2
- **Sessions:** 5
- **Hours:** 8:30AM-3:30PM
- **Locations:** CUNY SPS 119 W. 31st St. Room TBA
- **Code:** C7108
- **Registration Deadline:** February 6
Objectives

Upon completion of this training program you will be able to:

- Name the different types of belts, and explain uses for each.
- Explain the factors that impact bearing performance.
- Complete your assigned daily work orders in the most energy efficient manner possible.
- Perform planned maintenance that will extend equipment life and reduce repairs.
- Protect your personal safety and the safety of those around you.
- Communicate more effectively with building occupants, colleagues and supervisors.

Who Should Enroll

Supervisors of Mechanics, Mechanics, Oilers, Stationary Engineers, Building Operators, High Pressure Plant Tenders or other facility personnel.

Textbooks

Learning materials will be provided to the participants on the first day of training.

Prerequisites

- Saving Energy In NYC; It’s All About Us!
- Advice from NYC’s Operations & Maintenance Champions

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $545 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
The work Plumbers and Plumbing Supervisors perform in city buildings each day is essential to conserving water, one of the city’s most valuable resources. By using less water, we also reduce the amount of sewage that is processed and reintroduced into our natural systems. As city plumbing personnel know from first-hand experience, some of the water systems in New York City can be as much as 100 years old. These systems suffer from constant leaks and damage, which exposes water to pollutants and limits the amount of water that can be supplied directly to office buildings, schools and hospitals. With this program, properly trained personnel will be more equipped to identify and troubleshoot supply systems and infrastructure problems.

Most importantly, they will have the knowledge to advise building operators and capital planners on where to prioritize system enhancements, and select new technologies where appropriate.

Online Classes
The program has been designed to maximize employee skill building while being sensitive to the need for employees to be in the field. Three (3) in-class training sessions will be complimented with self-paced, online lessons taken on days that work best for the trainee. The trainees will be provided with access to the online learning system, and trainers and help desk personnel at CUNY will be available to support the employees while in training if they experience any log-on issues.

Course Overview:

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<td>Sessions:</td>
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<td>Code:</td>
<td>C7109</td>
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<td>Registration Deadline:</td>
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Topics Covered

- The City’s Sustainability Plan to reduce Greenhouse Gas Emissions.
- How to complete assigned work orders with a more energy conscious mindset.
- Water Conservation opportunities ranging from leaks and fixtures, to repairs.
- Potable Hot Water, in hot water heaters and boilers.
- Compressed Air Systems, Natural Gas and Vacuum Systems.
- Pumps, Circulators and Insulation.
- Green Technologies, and New Piping Technologies.
- How to communicate more effectively with building occupants, colleagues and supervisors.

Who Should Enroll

Any Plumber, Plumbing Supervisor or other facility personnel working in City agencies.

Textbooks

Learning materials will be provided to the participants on the first day of training.

Prerequisites

- Saving Energy In NYC; It’s All About Us!
- Advice from NYC’s Operations & Maintenance Champions

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $725 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
Pipefitters and Steamfitters are important partners in achieving the energy consumption reduction and Greenhouse Gas (GHG) emission reduction goals. DCAS Energy Management Division and CUNY are now offering a training program that focuses on the heating, cooling, steam and hot water, and controls systems Pipefitters and Steamfitters come into contact with each day, and emphasizes the energy efficiency practices for critical equipment in these systems. The training will include both classroom sessions, and self-paced online lessons, and be delivered by CUNY Subject Matter Expert Trainers.

The program has been designed to maximize employee skill building while being sensitive to the need for Pipe & Steamfitters to be in the field responding to work orders. Three (3) in-classroom training sessions will be complimented with self-paced, online lessons which can be taken on days that work best for the trainee. The trainees will be provided with access to the online learning system, a username and password on their first day in class. Trainers and help desk personnel at CUNY will be available to support the employees while in training if they experience any log-on issues.

**Course Description**

**Online Classes**

**Course Overview:**

Term: Spring 2017  
Days: Thursdays  
Dates: May 25  
Jun 8  
Jun 22  
Sessions: 3  
Hours: 8:30AM-3:30PM  
Locations: CUNY SPS  
119 W. 31st St.  
Room TBA  
Code: C7107  
Registration Deadline: April 25
Objectives

Upon completion of this training program you will be able to:

➢ Describe the important role you play in energy efficiency and energy savings.
➢ Complete your assigned daily work orders in the most energy efficient manner possible.
➢ Perform planned maintenance that will extend equipment life and reduce repairs.
➢ Protect your personal safety and the safety of those around you.
➢ Communicate more effectively with building occupants, colleagues and supervisors.

Who Should Enroll

Any Pipe or Steamfitter, or Pipe & Steamfitter Supervisor working in city agencies.

Textbooks

Selected materials will be provided to the participants during each training day.

Prerequisites

➢ Saving Energy In NYC; It’s All About Us!
➢ Advice from NYC’s Operations & Maintenance Champions

IMPORTANT:

If a city employee registers for the course but drops out before satisfactory completion, a fee of $750 will be assessed to their agency training department for “no show” in accordance with CTC cancellation policy.
ENERGY MANAGEMENT INSTITUTE

RENEWABLE ENERGY 101: FUNDAMENTALS IN SOLAR PV

Course Description
DEM has partnered with the NY-Sun PV Trainers Network (PVTN) and New York City College of Technology Division of Continuing Education to develop Renewable Energy 101: Fundamentals in Solar PV for City of New York employees involved with renewable energy project site selection, implementation, system operation and maintenance.

This program targets a broad audience that includes:
• Facilities Managers, Construction Project Managers, Energy Managers, and other key decision makers
• Trades staff and Building Operators (Electricians, Plumbers, Oilers, Custodial Engineers, Maintenance Workers)
• Other interested stakeholders, such as Capital Planning staff, Sustainability staff and IT Personnel

Blended Learning
Renewable Energy 101: Fundamentals in Solar PV incorporates a blended teaching approach that includes both in-person classroom and an interactive hands-on lab.

Topics to be covered in this program include:
• Overview of Renewable Energy Technologies and Policies
• Site Selection and Planning, Codes, and Inspections
• Installation Fundamentals
• Operations & Maintenance for Solar PV
• Solar PV and Safety
• Innovations in Solar PV and Battery Energy Storage

Course Overview:
Term: Spring 2017
Days: 3
Dates: 6/7, 6/8 (lecture)
• 6/9 (hands-on training)
Hours: 9:00AM-3:00PM (lecture)
• 9:00AM-5:00PM (hands-on training)
Locations: Lecture:
CUNY SPS
119 W. 31st St
Room #414
Handson Training:
City Tech
4th Flr Howard Building, 25 Chapel St, Brooklyn
Room TBA
Deadline: May 31st 2017
**Objectives**

Upon completion of this training program you will be able to:

- Identify the benefits and most appropriate applications for renewable energy technologies
- Demonstrate in-depth knowledge of solar photovoltaics, including: site selection, installation basics, operations and maintenance and other relevant content to facilitate the execution and ensure the longevity of renewable energy projects

**Who Should Enroll**

City of New York Facilities Managers, Directors, Construction Project Managers, Energy Managers, Engineers, Trades staff, Building Operators and other stakeholders responsible directly or indirectly with renewable energy project implementation, operations and maintenance.

**Textbooks**

Selected materials will be provided to the participants during each training day.

**Prerequisites**

- Saving Energy In NYC; It’s All About Us!
- Advice from NYC’s Operations & Maintenance Champions
- NY-Sun PVTN Training Resources

**What is the NY-Sun PV Trainers Network**

NYSERDA’s NY-Sun PV Trainers Network (PVTN) is a consortium of nine organizations led by Meister Consultants Group, Sustainable CUNY, and Entech Engineering that provides training and education on solar photovoltaics (PV) to municipal officials across New York State. The networks trainings include Safety and Fire Considerations for Solar PV, Solar PV Permitting and Inspection Methods, Solar PV for Engineers and Architects, Introduction to Solar, Creating and Implementing Your Solarize Campaign, Expanding Commercial Solar with a Pace Program, Introduction to Community Distributed Generation: Shared Solar, Land Use Planning for Solar Energy, and Zoning for Solar Energy. PVTN has also developed a set of dedicated resources including guidance documents, factsheets, webinars and podcasts on various solar related topics. Since September of 2014, PVTN has conducted over 180 trainings and trained close to 6,000 municipal officials across New York. The PVTN looks forward to bringing its expertise and experience to providing a tailored course for New York City’s employees on solar PV.

**New York City College of Technology Division of Continuing Education**

The Division of Continuing Education and External Partnerships is committed to creating pathways to higher education, job training and professional development programs as well as personal enrichment opportunities for our community. By serving a diverse population of learners, we help meet the economic and workforce development needs of the evolving New York City workplace as we promote and encourage lifelong learning.