



**Attention:** New York State Agency/Facility Directors of Human Resources and CSEA Local Presidents

## NYS & CSEA Applied Skilled Trades Traineeship & Certificate Program

Announcing a two-year training and development program that provides CSEA-represented New York State employees with focused, up-to-date classroom and hands-on training for the following skilled trades:

- Carpenter
- Electrician
- Mason and Plasterer
- Plumber and Steamfitter
- Refrigeration Mechanic



Application Forms must be returned to your agency director of human resources by July 1, 2008.

Courses scheduled to begin September 2008

[www.nyscseapartnership.org](http://www.nyscseapartnership.org)

# NYS & CSEA Applied Skilled Trades Traineeship and Certificate Program

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# NYS & CSEA Applied Skilled Trades Traineeship and Certificate Program

## Background

During the 2003-07 collective bargaining negotiations, New York State and CSEA agreed to have the NYS & CSEA Partnership for Education and Training (Partnership) re-examine the three-year NYS/CSEA Joint Apprenticeship Program and explore alternative approaches to qualify CSEA-represented New York State employees for skilled trades positions in five non-competitive journey-level titles - Carpenter; Electrician; Mason and Plasterer; Plumber and Steamfitter; and Refrigeration Mechanic. After research and discussion, two skilled trades training opportunities were established and continue during the term of the 2007-2011 Agreements:

### 1. Applied Skilled Trades Traineeship

- The two-year Applied Skilled Trades Traineeship (Traineeship) replaced the NYS/CSEA Joint Apprenticeship Program. The Traineeship provides training and experience more commensurate with the nature and job responsibilities of public sector trade positions, expedites the time required for employees to reach journey-level status, and increases the state's ability to "grow its own."
- Agencies are required to dedicate a vacant non-competitive trade title line item that will be used for appointment to the Traineeship. Trainees typically enter the Traineeship at the SG-9 level and, upon successful completion, are appointed permanently to the SG-12 journey level.
- The Traineeship requires employees to complete at least 144 hours of trade theory instruction and 2,000 hours of on-the-job training annually. Trade-specific course requirements and on-the-job training tasks are based on the apprenticeship model and New York State classification standards of journey-level job titles. NOTE: Agencies are responsible for providing and monitoring the required on-the-job training.

### 2. Applied Skilled Trades Certificate Program

- The two-year Applied Skilled Trades Certificate Program (Certificate Program) provides agencies with the means to develop a more highly-skilled workforce and a larger pool of qualified candidates for future journey-level vacancies. Additionally, a greater number of operations and maintenance employees will have the opportunity to receive skill development training and increase their promotional opportunities.
- The Certificate Program provides operations and maintenance employees with the same trade theory courses as those in the Traineeship. Agencies may provide employees with the necessary on-the-job training required for future appointment to a non-competitive trade title.
- Unlike the Traineeship, participation in the Certificate Program does not require an agency to dedicate a journey-level line item as a precondition to participation. Successful completion of the course work does not guarantee an appointment to a journey-level position but does meet the educational minimum qualifications for appointment to SG-12 journey-level positions. A certificate will be issued to those employees who successfully complete the two-year program.

## Participant Eligibility

Participants in the Applied Skilled Trades Program must meet the following minimum qualifications:

- Be 18 years of age or older
- Possess a high school diploma or a general equivalency diploma (GED)
- Be a full-time CSEA-represented NYS employee (SG-12 or below) with at least one year of service

## Required Course Work

All participants in the Applied Skilled Trades Program are required to complete the following course work:

### Refresher courses

- *Math Fundamentals* (12 hours)
- *Reading Fundamentals* (12 hours)

### Trade-specific courses

- Four courses (72 hours each)

### Core courses

- *Technical Math* (44 hours)
- *Blueprint Reading Fundamentals* (12 hours)
- *Workplace Communications* (42 hours)

Participants may also elect to complete either or both of the Occupational Safety and Health Administration (OSHA) courses described on page 5. Any core course may be waived upon providing evidence of completing equivalent training during the previous five years and achieving a minimum score of 85% on the competency exam for the course. Participants are required to maintain a “C” average to remain in the Applied Skilled Trades Program.

## How Agencies/Facilities Apply

New York State agencies/facilities interested in participating in the Applied Skilled Trades Program must complete the worksite application form on page 11 and return it to their agency (central office) director of human resources by July 1, 2008. Once the Partnership makes a final determination on the number of Traineeships and Certificate Programs to be held statewide, all applicants will be notified.

## Selection Process

After the Partnership approves an agency/facility’s request to participate in a Traineeship, the agency/facility begins a formal recruitment and selection process which includes a job posting (Traineeship only), an application form from the employee which details education and experience, and an oral interview conducted by management and CSEA representatives.

For a Certificate Program, when the number of applicants exceeds the maximum number of training seats available, the same selection process is followed. The Partnership will provide agencies/facilities and CSEA locals with employee applications, interview questions, scoring criteria, and applicant scoring sheets, as needed.

## Cost to Agencies/Facilities and Employees

Both the Traineeship and Certificate Program, including textbooks and instruction, is available at no cost to agencies/facilities and participating employees for the duration of the 2007-2011 collective bargaining agreements. Agencies/facilities are required to grant release time to employees to attend all courses which are held during regular work hours.

# Timeline for Implementation of NYS & CSEA Applied Skilled Trades Program (2008-2010)

- May and June 2008: Partnership meets with agency directors of human resources (central office) and CSEA local presidents to provide informational materials and worksite applications for distribution to agencies/facilities.
- July 1, 2008: Deadline for agencies/facilities to return worksite applications (see page 11) to agency directors of human resources.
- July 8, 2008: Deadline for agency directors of human resources to return worksite applications and agency summary sheets to Partnership.
- July 2008: Partnership reviews number and locations of requested Traineeships and Certificate Programs and determines availability of instructors and training sites.
- August 4, 2008: Partnership makes final decisions regarding specific trades and locations of Traineeships and Certificate Programs and notifies agencies/facilities. Where applicable, agencies/facilities initiate selection process among interested employees.
- August 20, 2008: Deadline for agencies/facilities to submit to the Partnership a roster of employees selected to participate in Traineeships or Certificate Programs.
- September 2008: *Math Fundamentals* (12 hours) and *Reading Fundamentals* (12 hours) refresher courses are held.
- October - December 2008: *Technical Math* (44 hours) and *Blueprint Reading Fundamentals* (12 hours) core courses are held.
- January – April 2009: First trade-specific course (72 hours) is held.
- September – December 2009: Second trade-specific course (72 hours) is held.
- January – April 2010: Third trade-specific course (72 hours) is held.
- April – May 2010: *Workplace Communications* (42 hours) core course is held.
- September – December 2010: Fourth trade-specific course (72 hours) is held.
- December 2010: Applied Skilled Trades Program concludes.

**NOTE:** The above timeline is subject to change based on the availability of qualified instructors and training sites.

# Refresher and Core Courses (Required)

All participants in the Applied Skilled Trades Program (Traineeship and Certificate Program) are required to complete the refresher and core courses described below. These courses have been designed to provide the foundational skills necessary to succeed in the specialized trade courses.

## Refresher Courses

**Math Fundamentals (12 hours):** This course will introduce participants to the fundamental mathematical functions of addition, subtraction, multiplication, and division of whole numbers. It will also introduce concepts involving whole numbers with heavy emphasis placed on elementary fractions, decimals, and percents. The course will help prepare participants for the *Technical Math* core course (see below).

**Reading Fundamentals (12 hours):** This course is designed to help employees improve their ability to comprehend and interpret written materials. Participants will develop skills to build their confidence in reading such information as warning labels on chemicals and cleaning liquids as well as work procedures and product manuals.

## Core Courses

**Technical Math (44 hours):** This course is designed to provide a thorough review of the math principles needed for employees to successfully complete the trade theory instruction required for technical occupations. It focuses on the use of whole numbers, fractions, decimals, and percents to solve practical word/story problems as they relate to various trades. The course progresses to using and interpreting graphs as well as applying the concepts of plane and solid geometry, algebra, and trigonometry to solving practical word problems.

**Blueprint Reading Fundamentals (12 hours):** This course will give participants the fundamental skills necessary to read and interpret blueprints and schematic drawings. Participants will learn to use an architectural ruler to read scaled drawings; convert designs into a blueprint; comprehend basic abbreviations, symbols, and line types within a blueprint; and interpret different types of drawings (for example, architectural, electrical, plumbing, or landscaping).

**Workplace Communications (42 hours):** This course provides a practical introduction to effective oral and written communication for employees working in trade occupations. The two-way nature of communication, including verbal and non-verbal expression, will be addressed. Techniques for successfully communicating with and relating to others in the workplace are an essential ingredient of the course. Emphasis will be placed on basic writing skills, including principles of grammar and sentence structure in the preparation of memos, letters, and simple reports.

## Safety and Health Courses (Optional)

All participants in the Applied Skilled Trades Program (Traineeship and Certificate Program) may elect to complete either or both of the safety and health courses described below. These courses have been designed to address the regulations for the most common workplace hazards, using OSHA standards as a guide.

**Occupational Safety and Health Standards for the Construction Industry (10 hours):** This course covers OSHA policies, procedures, and standards, as well as construction safety and health principles. Topics include: introduction to OSHA; the OSH Act; general safety and health provisions; recordkeeping; fall protection; personal protective and life-saving equipment; materials handling, storage, usage, and disposal; tools (hand and powered); scaffolds; cranes, derricks, hoists, elevators and conveyors; excavations; and stairways and ladders.

**Occupational Safety and Health Standards for General Industry (10 hours):** This course covers OSHA policies, procedures, and standards, as well as general industry safety and health principles. Topics include: introduction to OSHA; the OSH Act; general safety and health provisions; walking and working surfaces; exit routes; emergency action plans; fire prevention plans and fire protection; electrical; flammable and combustible liquids; personal protective and life-saving equipment; machine guarding; hazard communication; introduction to industrial hygiene/bloodborne pathogens; ergonomics; and safety and health programs.

## Two-year Course Sequence for CARPENTER Track

**Carpentry: Tools and Materials** - This course introduces the theory and practice of carpentry with a focus on tools and materials. Topics include wood products; engineered wood products; fasteners; hand tools; stationary power tools; scaffolding and worksite safety; material calculations; and basic building codes. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Carpentry: Light Framing** - This course covers the theory and practice of carpentry with a focus on residential light frame construction. Topics include print-reading; safety factors; material calculations; floor framing systems; wall framing; ceiling framing; roof framing; roof sheathing; roof finishes; window installation; and exterior door installation. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Carpentry: Interior** - This course covers the theory and practice of carpentry with a focus on interior finish and trim. Topics include partition layout; insulation and ventilation; drywall installation; wall paneling and wall tile; suspended ceilings; interior door installation; interior trim; stair framing and finishing; and cabinets and countertops. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Carpentry: Special Projects** - This course applies and builds upon skills learned in the three previous carpentry courses. Topics and projects include project planning; changing interior partitions; changing closets and shelves; institutional furniture repair; table tops and laminates; installing wall products; storage buildings and shed roofs; outdoor benches and tables; and porches and steps. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**NOTE:** Each course listed above is expected to be completed over a 12-week period (6 hours per week).

# Two-year Course Sequence for ELECTRICIAN Track

**Direct Current Electricity** - This course introduces the basic concepts of direct current electricity. Topics will include how electricity works; measuring electrical quantities; reading electrical prints; resistance and conductivity; Ohm's Law; series and parallel circuits; combination circuits; switches; batteries; capacitors; and inductors. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Alternating Current Electricity** - This course covers the basic concepts of alternating current electricity. Topics will include the differences between DC and AC circuits; the AC sine wave; using vectors to solve AC problems; calculating impedance in circuits having inductance, capacitance, and resistance; AC power relationships in single-phase and three-phase circuits; and principles of transformer operation and maintenance. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Electrical Installation** - This course is designed to provide participants with the principles and practices of installing electrical circuits in commercial buildings. Topics will include electrical safety and codes; print-reading; load computation and layout; branch circuit installation; switches and receptacles; motor and appliance circuits; feeder circuits, panel boards, and lighting circuits; and the electrical service entrance. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Electrical Systems and Motors** - This course covers the design, installation, troubleshooting, and repair of electric motors. Topics will include motors and print-reading; split phase motors; capacitor motors; repulsion motors; universal and special motors; synchros and servos; motor installation and maintenance; motor starters, switches, and controls; and motor relays. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**NOTE:** Each course listed above is expected to be completed over a 12-week period (6 hours per week).

## Two-year Course Sequence for MASON AND PLASTERER Track

**Masonry: Concrete Flat Work** - This course introduces the theory and practice of creating and maintaining horizontal concrete structures such as walks and slabs. Topics will include concrete measurements and calculations; safety factors; properties of concrete; foundation design; concrete forms; concrete placement; and concrete finishing and curing. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Masonry: Block Work** - This course provides the theory and practice of maintaining block walls using concrete (cement) blocks and bricks. Topics will include block measures and calculations; print-reading; safety factors; block wall construction; block wall repair and maintenance; bricklaying; and brick wall maintenance and repair. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Masonry: Tile and Gypsum Products** - This course covers the theory and practice of maintaining and repairing structures such as tile floors and walls, drywall and plaster walls, and ceilings. Topics will include product measures and calculations; safety issues; and the installation, maintenance, and repair of ceramic tile, soft tile, marble, terrazzo, cultured stone, drywall, lath, and plaster. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Masonry: Special Projects** - This course covers the theory and practice of maintaining special masonry structures such as pavers and stone walkways, retaining walls, brick and stone veneer walls, and glass block walls. Also included are topics in material measurements and job estimates, and safety issues related to the job site. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**NOTE:** Each course listed above is expected to be completed over a 12-week period (6 hours per week).

## Two-year Course Sequence for PLUMBER AND STEAMFITTER Track

**Plumbing Systems: Waste, Vent, and Drain** - This course introduces the installation and maintenance of piping systems in office buildings. Topics will include sanitary drainage and venting; storm drainage piping; plastic pipe and fittings; cast soil pipe; the plumbing trap; testing drainage systems; and installation measurements and calculations. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Plumbing Systems: Water Supply** - This course focuses on the installation and maintenance of piping systems in office buildings. The special focus of the course is on water supply and related fixtures and equipment. Topics will include copper pipe and fittings; sizing water supply piping; testing water supply piping; fixtures; valves; faucets; water heaters; pressure boosters; re-circulating systems; fixture and appliance repair; water testing; and print-reading and calculations. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Plumbing Systems: Installation** - This course covers the installation and maintenance of piping systems in office, residential or other non-manufacturing-type buildings. The special focus of the course is on the piping system, as opposed to individual fixtures and components. Classroom instruction is devoted to system design and system troubleshooting, along with sessions devoted to estimating and to plumbing codes. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Plumbing Systems: Pipefitting and Welding** - This course deals with the techniques used to permanently join pipes used in plumbing and related systems. Also included are units on basic welding skills as they apply to pipefitting. Topics will include oxy-acetylene cutting; pipe threading and joining; arc and shielded metal arc welding; smaw groove welds; smaw open v groove welds; smaw open root pipe welds; joint fit-up and alignment; and welding safety. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**NOTE:** Each course listed above is expected to be completed over a 12-week period (6 hours per week).

## Two-year Course Sequence for REFRIGERATION MECHANIC Track

**Fundamentals of Refrigeration** - This course covers the installation, maintenance, and repair of refrigeration systems and devices in office buildings. Topics will include the refrigeration cycle; properties of air and gas; tools and test instruments; refrigerants; filters and driers; system testing; compressor maintenance; measurements and calculations; and safety factors. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Air Conditioning** - This course deals with the installation and maintenance of air-conditioning units and systems in office buildings with an emphasis on different compressors and on system maintenance. Topics will include reciprocating compressors; rotary, helical, and scroll compressors; centrifugal compressors; compressor motors and controls; compressor maintenance and repair; evaporator maintenance and troubleshooting; condensers and cooling towers; condenser troubleshooting; and related print-reading and calculations. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Commercial Refrigeration** - This course covers the maintenance of commercial cooling systems found in office buildings. Instruction is directed at various cooling systems and devices found in buildings including water coolers; ice making machines; cold storage units; walk-in coolers; absorption chillers; fans and fan motors; air filtration and ductwork; troubleshooting systems and controls; and related print-reading and calculations. Instruction is supplemented with hands-on activities in a laboratory that support the concepts learned in the classroom.

**Electric Motors** - This course covers the design, installation, troubleshooting, and repair of electric motors associated with air-conditioning systems. Topics include motors and print-reading; split phase motors; capacitor motors; repulsion motors; universal and special motors; motor installation and maintenance; motor starters, switches and controls; and motor relays. Instruction is supplemented by hands-on activities in a laboratory that support the concepts learned in the classroom.

**NOTE:** Each course listed above is expected to be completed over a 12-week period (6 hours per week).

Applications must be returned to  
your agency director of human  
resources (central office)  
by July 1, 2008



Corporate Plaza East - Suite 502  
240 Washington Ave. Ext.  
Albany, New York 12203  
Phone: (518) 486-7814  
(800) 253-4332  
Fax: (518) 473-0056

## NYS & CSEA Applied Skilled Trades Program Worksite Application Form

(Please type or print)

To arrange for an Applied Skilled Trades Traineeship or Certificate Program at your agency/facility, complete this application and mail or fax it to your agency's director of human resources (central office).

Agency Name: \_\_\_\_\_

Facility Name: \_\_\_\_\_

CSEA Local #: \_\_\_\_\_

County where agency/facility is located: \_\_\_\_\_

Please specify the number of employees that you would approve to participate in a Traineeship or Certificate Program according to the following skilled trades:

### Traineeship

Carpenter \_\_\_\_\_  
Electrician \_\_\_\_\_  
Mason and Plasterer \_\_\_\_\_  
Plumber and Steamfitter \_\_\_\_\_  
Refrigeration Mechanic \_\_\_\_\_

### Certificate Program

Carpenter \_\_\_\_\_  
Electrician \_\_\_\_\_  
Mason and Plasterer \_\_\_\_\_  
Plumber and Steamfitter \_\_\_\_\_  
Refrigeration Mechanic \_\_\_\_\_

### Labor-Management Contact Information

By submission of this application, the New York State agency/facility and CSEA local agree to work cooperatively to provide employees accepted into the Applied Skilled Trades Program with the support, supervision, and release time necessary to successfully complete the program's requirements.

Director of Human Resources (or equivalent):

CSEA Local President:

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Job Title: \_\_\_\_\_

Job Title: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Email: \_\_\_\_\_

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_