



*Making the Co-op Tech Choice:*

# Course Handbook

Revised fall 2010

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**To be of use**  
by Marge Piercy

The people I love the best  
jump into work head first  
without dallying in the shallows  
and swim off with sure strokes almost out of sight.

They seem to become natives of that element,  
the black sleek heads of seals  
bouncing like half submerged balls.

I love people who harness themselves, an ox to a heavy cart,  
who pull like water buffalo, with massive patience,  
who strain in the mud and the muck to move things forward,  
which do what has to be done, again and again.

I want to be with people who submerge  
in the task, who go into the fields to harvest  
and work in a row and pass the bags along,  
who stand in the line and haul in their places,  
who are not parlor generals and field deserters  
but move in a common rhythm  
when the food must come in or the fire be put out.

The work of the world is common as mud.  
Botched, it smears the hands, crumbles to dust.

But the thing worth doing well done  
has a shape that satisfies, clean and evident.

Greek amphoras for wine or oil,  
Hopi vases that held corn, are put in museums  
but you know they were made to be used.

The pitcher cries for water to carry  
and a person for work that is real.

# **Making the Co-opTech Choice:**

(\* Denotes New Course)

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*Principal's Greeting:*

All eligible Trade and Technical school applicants are assured entrance into one of our free trade and technical programs. I know that the search for a career is incredibly exciting for our new students. This booklet is geared toward helping 16-20 year-old students make the appropriate course selection at the School of Cooperative Technical Education (SCTE). There are currently 17 technical and trade courses available to our applicants. This booklet will supply you with the information needed to make an informed choice before you attend our program.

**We feature:**

- Totally free enrollment
- Programs that lead to certification, city or state licenses, apprenticeships and higher education.
- OSHA certification (10 hour safety card/ construction & general industry)
- Referral to the Construction Skills program, the MTA, and the Upper Manhattan Green Jobs Academy (for selected programs)
- School to Work Program
- Career and College Counseling
- Career & Financial Management (CFM)
- A fully licensed staff and support team

The explanation for our popularity is clear: we offer trade and technical training that is both functional and marketable. Our completing students are our best spokespeople; come in and visit our school and speak with our staff.

Once you have chosen a program, you will find that the application process is quite simple. Call or visit with one of our counselors on site or visit our webpage ([www.co-optech.org](http://www.co-optech.org)).

I wish you the all the best in choosing a course that is right for you.

*John Widlund, Principal*

## **Air Conditioning & Refrigeration**

**There is currently a tremendous demand for the AC technician. This course is designed for an entry level job as an installer, serviceman or technician helper. Students learn troubleshooting and the service and repair of domestic and commercial systems. The course covers refrigerant recovery and review for the Environmental Protection Agency (EPA) Technician Certification Examination. This is a one or two year program.**

**The Co-opTech student will receive instruction in the following areas:**

- 1. Electrical Theory (DC/AC current) symbols and schematics**
- 2. Electrical Installation**
- 3. Refrigeration Theory**
- 4. Motors**
- 5. Refrigeration Components**
- 6. EPA Protection Technician Certificate**
- 7. Career & Financial Management**

## **Automotive Mechanics**

**The Automotive Technology Program teaches basic electronic skills, computerized systems and the mechanical skills necessary to compete in the ever changing world of auto repair. In addition, students will be trained in various aspects of the ownership and management of the automobile industry. Students will also be trained to become NYS vehicle and safety inspectors in our authorized NYS safety inspection station. This is a one, a one and one half, or a two year program.**

**The Co-op Tech student will receive instruction in the following areas:**

- 1. Engine Repair**
- 2. Trans Axle Service & Transmission**
- 3. Manual Drive Train & Axles**
- 4. Suspension and Steering**
- 5. Brakes**
- 6. Heating and Air-conditioning systems**
- 7. Electrical Systems**
- 8. Automotive Engine Performance**
- 9. Career & Financial Management**

## **Barbering**

**Barbering is the study of the practice and skills of a Barber. This course requires the completion of 500 hours of study (one and one half years) to be eligible to sit for the NYS Barbering licensing examination. The study of Barbering includes (and is not limited to) shaving or trimming of the beard, hair cutting, facial and scalp massage, styling and dyeing hair, as well as sanitation, sterilization and health regulations. This is a one and one half year program.**

**The Co-op Tech student will receive instruction in the following areas:**

- 1. Proper use of tools and equipment.**
- 2. Safety**
- 3. Sterilization, sanitation and health regulations**
- 4. Haircutting**
- 5. Clipper and scissor over comb**
- 6. Shaving or trimming of the beard**
- 7. Facial and scalp massage**
- 8. Styling and dyeing hair**
- 9. Career and financial management**

## **Building Superintendent's Academy**

The Building Superintendent's course will offer the student a one-year program of study. The program is divided into four, ten-week sequences; carpentry, electrical, building maintenance and plumbing and heating. Students will also take the EPA boiler course and those students over 18 years old will be eligible to take the FDNY examination to earn their certificate of fitness for boiler operator. In addition, the student will also take the ten hour OSHA safety course.

The Co-op Tech student will receive instruction in the following areas:

1. Introduction to safety, hand tools and equipment
2. Basic framing
3. Replacing doors and windows
4. Basic lock maintenance
5. Basic electricity
6. Repairing and replacement of fixtures and switches
7. Maintaining electrical equipment (drills, saws, etc.)
8. Cleaning and polishing floors
9. Window repair, glazing and cleaning
10. Repairing vinyl tiles
11. Measuring, cutting and soldering pipe (black pipe)
12. Repairing simple leaks and cleaning drains (clogs)
13. Heating systems
14. Career & Financial Management

## **Green Construction Carpentry**

The Carpentry course will prepare our students for entry level employment as *carpenters* in both new construction and renovation applications. Students will receive basic theory, including occupational math, related to the trade of carpentry. The course will provide hands-on training in the installation of doors, windows and roofing. In addition, students will receive instruction on operations such as drywall, trim, joinery and molding. This is a one year course.

In addition, the Green Construction/Carpentry class is designed to increase the efficiency of a building's use of resources while decreasing waste and offering the basic beginning skills of a carpenter.

The Co-opTech student will receive instruction in the following areas:

1. Construction site competencies
2. Introduction to hand tools
3. Wall and floor framing
4. Introduction to portable power tools
5. Gypsum wallboard installation
6. Taping and patching of gypsum wallboard
7. Rough Carpentry
8. Introduction to Green Construction essentials
9. Career & Financial Management

## **Computer Maintenance & Repair (A+)**

**The Electronics/Computer Maintenance & Repair course is designed to help students pass the COMP-TIA A+ computer repair examination. The course covers troubleshooting and maintenance, hardware systems and components, memory systems, ports and sub-systems, operating systems and commercial and occupational competencies. This is a one year program.**

**The Co-opTech student will receive instruction in the following areas:**

- 1. Safety**
- 2. Assembling and disassembling computer systems**
- 3. Loading operating systems software**
- 4. Use of power on self test and diagnostic techniques**
- 5. Identifying hardware components**
- 5. Troubleshooting computer conflicts**
- 6. Partitioning FDisk, booting analysis**
- 7. Printers, networking & schematic reading and drawing**
- 9. Learning computer system construction and architecture**
- 10. Operating systems – DOS, Windows**
- 11. Peripheral operation and repair**
- 12. Customer relations**
- 13. Career & Financial Management**

## **\*CONSTRUCTION DESIGN** (New Course)

**This one semester, four credit course combines Blueprint Reading, Layout Design, Cost Analysis and Project Planning. This program is designed for students with an interest in Computer Aided Drafting & Design (CAD), Pre-Architecture or Construction Management.**

- **Basic CAD concepts**
- **Basic Blueprint reading**
- **Cost estimating and analysis**
- **Project planning and management**
- **Basic architectural concepts**
- **Career and Financial Management**

## **CISCO Network Academy / Mouse Squad**

The Cisco Network Academy course introduces students to the nature and technology of networking, network design and wiring, programming and configuration of equipment. Students should have prior computer maintenance and repair knowledge before attempting this course. Our students who successfully complete our one year course and receive certification have immediate employment awaiting them at salaries upwards of \$50,000.

In addition, beginning with the fall 2010 semester, we will be offering a four credit, one semester Mouse Squad class. Mouse Squad students will be highly trained teams of computer troubleshooters and maintainers who eventually will be responsible for the maintenance of all District 79 computers. Mouse Squad students should have completed a basic computer repair course before beginning on the Mouse Squad.

The Co-opTech student will receive instruction in the following areas:

1. Safety
2. Local Area Network
3. Electronics, Signals & Routers
4. Media Connections and Collisions
5. Concepts; cabling
6. Point to point protocol
7. Integrated Services Digital Network (ISDN)
8. Layers, transport, sessions, presentation, application
9. IP addressing
10. TCP/IPI
11. Network troubleshooting
12. Career and Financial Management

## **Culinary Arts / Introduction to Food Preparation & Catering**

The *Culinary Arts* course is a one year program designed to teach students basic and advanced techniques in culinary, baking and dining room management. The emphasis is upon hands-on training, team work, and individual and group leadership skills. In addition, resume writing, dining room operation and management and phone skills will be developed during the course.

We also offer a one semester *Introduction to Food Services and Nutrition* course. This course will cover the basics of the food service industry.

The Co-op Tech student will receive instruction in the following areas:

1. Safety and Sanitation Skills
2. Nutrition and Healthy Cooking
3. Equipment Identification and use
4. Measurements
5. Product Identification
6. Raw Product Fabrication
7. Cooking Methods
8. Baking Methods
9. Restaurant Management
10. Costing
11. Dining Room Service Technique
12. Employee Responsibilities

## Early Childhood Care & Education

The Early Childhood Care and Education program will offer students the opportunity to learn about child development, nutrition and child care. In addition, the student will be prepared to take the NYS examination for Child Care Certification. The four credit course includes an internship in a local child care facility and may lead to the student opening his/her own child care facility. This is a one year program.

The Co-opTech student will receive instruction in the following areas:  
Health & Safety:

1. Identification of child abuse and maltreatment
2. Fire safety evacuation procedures
3. Hand washing techniques/Environmental disinfection
4. Recognizing & eliminating hazardous conditions in childcare facilities
5. Proper disposal of bio-hazardous materials
6. Assessment of a child's health
7. Agency referral and follow-up procedure
8. Risk reduction procedure

Infant and Toddler Personal Care:

1. Bathing – sponge/tub/basin
2. Dressing appropriately
3. Lifting/carrying /transporting
4. Feeding – bottle/cup/spoon
5. Diapering and skin care/Toilet training and toileting

Education

1. Providing appropriate curriculum
2. Identifying and referring at-risk students
3. Writing a business plan/proposal
4. Career & Financial Management

## **Electrical Installation/Solar Energy Systems**

The Electrical Installation course will stress the fundamentals of basic electrical theory and hands-on experience as it relates to residential wiring. The course will prepare our students to become *electrician's helpers* or skilled *apprentice electricians*. This is a one year course.

*\*The Solar Energy course* is a four credit, one semester program that introduces students to the world of efficient solar energy use in the electrical installation field. Students will learn the basics of solar paneling, installation and conservation in this exciting new field.

The Co-op Tech student will receive instruction in the following areas:

1. Safety
2. Low Voltage Wiring
3. Circuitry Design, Layout and Wire Installation
4. Tool/Machinery Nomenclature & Use
5. Parts Terminology & Usage
6. Troubleshooting Low Voltage Light
7. Installation of Armored Cable
8. Switch Circuit Design & Installation (Single Pole, Three Way & Four Way)
9. Installation of Fastening Devices
10. Thin Wall, Rigid Conduit, Aluminum /Conduit & Wire mold installation.
11. Employee Responsibilities
12. Career & Financial Management

## **Introduction to Trade & Technical Careers (New Course)**

**This one credit, one month course introduces new students to the world of Career & Technical Education (CTE). Students are initially assessed for career choices and explore a variety of CTE careers before taking the correct career pathway at Co-opTech.**

- **Students will take a free Career Zone assessment**
- **Students will be given guided tours of Co-opTech courses**
- **Students will prepare a resume and cover letter**
- **Students will receive CTE related literacy training**
- **Students will receive Career & Financial Management training**

## **Microsoft Word**

**The Microsoft Word Specialist course introduces students to the fundamental business applications of Windows. The program includes instruction in Word, while providing an introduction to Excel, Powerpoint and Access. This program covers the basics of word processing, creating and editing documents. No prior computer expertise is required as the course will provide some training in keyboarding and computer fundamentals. This is a four credit, one semester course.**

**The Co-opTech student will receive instruction in the following areas:**

- 1. Internet Skills**
- 2. Keyboarding Skills**
- 3. Database Applications using Microsoft Access**
- 4. Spreadsheet & Charting Application using Microsoft Excel**
- 5. Graphing & Presentations using Microsoft Power Point**
- 6. Word Processing Applications using Microsoft Word**
- 7. Career & Financial Management**

## **Nail Specialty Technician**

**The Nail Specialty Technician course includes training in nail art, manicuring, acrylic/gel nails, nail wrapping and pedicure techniques. The course also prepares our students for the New York State Education Department's Nail Specialty License. The course is accredited by The Department of State – Division of Licensing Services. This is a one year program.**

**The Co-opTech student will receive instruction in the following areas:**

- 1. Safety**
- 2. Hazardous Materials Communication**
- 3. Sanitation & Sterilization**
- 4. Sales**
- 5. Nail Promotions & Sales**
- 6. Introduction, Color & You**
- 7. Anatomy for the Manicurist**
- 8. Shop Operations**
- 9. Finances & Math**
- 10. Salon Demographics**
- 11. Job Seeking & Job Keeping Skills**
- 12. Customer Relations**
- 13. Massage for the Hands, Nails, Legs & Feet**
- 14. Care of the Hands, Nails, Legs & Feet**
- 15. Nail Wrapping & Mending**
- 16. Introduction and the Art of Sculpturing**
- 17. Nail Design and Tips**
- 18. The Art of Gel Application**
- 19. Nail Technology**
- 20. Career & Financial Management**

## Natural Hair Styling

The Natural Hairstyling course introduces the skills and practice needed to become a *Braid Technician*. A requirement of the class is 300 hours of training required to take the NYS Natural Hairstyling state board license examination. The course includes hair analysis, traditional braiding techniques, locking, weaving, basic styling techniques, grooming and maintenance as well as sanitation, sterilization and health regulations. This is a one year program.

The Co-opTech student will receive instruction in the following areas:

1. Professional Requirements
2. Safety and health, anatomy & physiology
3. Hair Analysis hair and scalp disorders and diseases
4. Chemistry and applied to natural hairstyling
5. Shampoos, rinses, conditioners and treatments
6. Hair braiding, locking, weaving and styling
7. Single braids with and without extensions
8. Cornrows with and without extensions
9. Lock theory and Palm Roll
10. Comb twisting and two-strand twisting
11. Traditional weaving and styling
12. Roller styling
13. Finishing techniques
14. Hair styling implements & tools
15. Blow-drying & Thermal Curling
16. Career & Financial Management

## **Plumbing**

**The Plumbing course teaches students the skills and competencies encountered in the plumbing industry. Students are taught the concept, design, and function of all basic plumbing fixtures and their installation involving roughing, pipe sweating and pipe threading. Maintenance functions and the business aspects of running a plumbing company are included in the course curriculum. This is a one year course.**

**The Co-opTech student will receive instruction in the following areas:**

- 1. Introduction to basic plumbing principles and operations.**
- 2. Pipe repair – replacements, adjustments, installations, and malfunctions**
- 3. Plumbing fixtures – systems, associated hardware**
- 4. Copper tubing, repairs, replacements and installations**
- 5. Waste line installations and repair**
- 6. Plumbing fixtures & appliances**
- 7. Sanitary drainage and vents**
- 8. Career & Financial Management**

## **Pre – Emergency Medical Technician**

**The Pre – Emergency Medical Technician course introduces the high school student to the Emergency Medical Service industry, while preparing the student to go on to become Emergency Medical Technicians (EMT). Classes will cover the nature of the health care industry and the role and responsibilities of the ambulance crew member. In addition, students will receive CPR certification as well as Red + First Responder certification. This is a four credit, one semester program.**

**The Co-op Tech student will receive instruction in the following areas:**

- 1. Cardiopulmonary resuscitation**
- 2. Medical/legal/ethical situations**
- 3. Treating specific medical and traumatic emergencies**
- 4. Patient assessment and taking baseline vital signs**
- 5. Communications and documentation**
- 6. Oxygen therapy and general pharmacology**
- 7. Obstetrics and gynecological emergencies**
- 8. Automatic External Defibrillator (AED) training**
- 9. Lifting and moving a patient and ambulance operations**
- 10. Career & Financial Management**

## Welding

The Welding program teaches students the use of oxyfuel equipment to produce gas welding tasks and the use of a wide variety of welding related tools and techniques such as gas cutting, burning, brazing and heat treatment. At the completion of the program the student may be able to take the New York State welding license examinations. This is a one year program.

The Co-opTech student will receive instruction in the following areas:

1. Arc Welding – All position steel plate
2. Oxyacetylene Welding, Brazing & Oxyacetylene Burning
3. Introduction to MIG & TIG Welding
4. Introduction to Welding Symbols
5. Introduction to Blueprint Reading
6. Introduction to and use of plasma cutting machine
7. Introduction to layout and fabrication of metals
8. Introduction to pipe welding
9. Career & Financial Management
10. The Gas and Electric Welding Courses were written and implemented to adhere to the following rules and regulations of the following agencies:

- Occupational Safety and Health Administration
- American Welding Society
- Fire Department of the City of New York
- Department of Buildings of the City of New York
- New York State Department of Transportation

## **The Application Process**

1. For information regarding our program, parents, students and school personnel should contact our guidance counselors (please call to make an appointment if you would like to visit);
  - a. Jim Crowley (X 1251) Monday, Wednesdays & Thursdays  
College Counseling
  - b. Lynne Dayton (X1151) - all regular admissions and high school graduates (including GED grads)
  - c. Rachel Lazarus (X 1291) – all regular admissions, bilingual & alternate week/Wildcat/Learn admissions
2. Visit our Website: [www.co-optech.org](http://www.co-optech.org)
3. \*Applicants must attend a NYC high school or GED program and be between the ages of 16-20 years old.
  - a. all post diploma students between the ages of 16-20 should call the guidance office (x 115) regarding availability of courses.
4. All programs are free for NYC residents only and slots are filled on a first come basis.
5. For information with regards to applying for a GED program in your neighborhood call 311 or your Department of Education regional office.
6. For information regarding the on-site GED program, please call Ms. Carrero (X 1461) or Ms. Milatz (X 1463).
7. For all general information questions regarding the SCTE application process you may contact the principal's secretary, Ms. Kelly Calderon (x 1411) or the information desk (dial 0).

# *School of Cooperative Technical Education*

## **Mission Statement**

Co-op Tech staff is dedicated to fostering a learning environment that welcomes mainstream students and students who have struggled in a regular high school setting. We provide rigorous Career and Technical instruction in order to prepare students with a marketable skill upon completion.

Co-op Tech collaborates with staff, local businesses, trade unions and community based organizations to prepare our students with the skills necessary to enter the world of work or post-secondary education.

*It is the policy of the City of New York Department of Education not to discriminate on the basis of race, color, creed, religion, national origin, age, disability, marital status, sexual orientation, or sex, in its educational programs, activities and employment policies and to maintain an environment free of sexual harassment, as required by law. Any person who believes he or she has been discriminated against should contact:*

Director, Office of Equal Opportunity,  
65 Court Street, Room 923,  
Brooklyn, New York 11201  
Telephone (718) 935-3320.