



STATE OF NEW YORK  
DEPARTMENT OF LABOR

APPENDIX A

MICRO-COMPUTER REPAIR TECHNICIAN  
D.O.T. CODE 828.261-022

This training outline represents a minimum standard in terms of work processes and related instruction which are required to achieve skilled worker status. It is recognized that rapid technological and regulatory changes will frequently result in the need for mastery of additional on-the-job or theoretical instruction.

WORK PROCESSES

	<u>Approximate Hours</u>
A. <u>Basic Repair Skills</u>	100
1. Soldering/desoldering techniques	
a. Desoldering – single sided boards, double sided boards, multi-layered boards, surface mount components, RF Shields/heat sinks	
b. Soldering – single sided, double sided, multi-layered, surface mount components, wire splices, cable connectors	
c. Miscellaneous – solder types, solder temperatures, circuit board repairs	
2. Safety procedures	
a. High voltage	
b. Electro-static	
3. Tools and Equipment	
a. Basic knowledge of hand tools	
b. Basic knowledge of power tools	
B. <u>Theory of Operation</u>	160
1. CPU's – Microprocessor, ROM, RAM, Buffering, Input-Output	
2. Keyboards	
3. Monitors – Monochrome, color/graphics, enhanced color/graphics, video graphics array, projection panels and projectors	
4. Diskette drives – 5.25" 360KB, 5.25" 1.2 MB, 3.5" 720 KB, 3.5" 1.44 MB	
5. Fixed disks – internal, external, removable	
6. CD-ROM drives – internal compact disc, external compact disc	
7. Tape Backups – internal tape drives, external tape drives	

B.	<u>Theory of Operation</u> – continued	
	8. Printers – DOT Matrix Daisy Wheel, Thermal, Ink Jet, Impact, Laser	
	9. Local networks	
C.	<u>Diagnostics</u> : Various models of at least two brands of micro-computers	400
D.	<u>Test Equipment</u>	100
	1. Multimeter	
	a. Analog	
	b. Digital	
	2. Transistor tester	
	3. Capacitor tester	
	4. Frequency counter	
	5. Oscilloscope	
	6. Fluke 9010A	
	7. Diagnostic ROM cards	
	8. Miscellaneous Testing Hardware	
	a. Wrap plugs, SCSI test boards, Busmaster test boards, light meter, laser power meter	
E.	<u>Preventive Maintenance</u>	700
	1. On at least two brands of micro-computers; CPU's Disk drives, Keyboards, Monitors, Fixed discs, Networks	
	2. On various types of printers made by at least two different manufacturers	
	3. Card Readers	
	4. Tape Backup Units	
	5. CD-ROM drives	
F.	<u>Field Service &amp; Installation</u>	1,000
	1. Customer Relations	
	2. Operational check of equipment	
	3. Minor repairs	
	4. Transport of major repairs	
	a. Lab	
	1. computers	5. fixed disks
	2. monitors	6. printers
	3. keyboards	7. networks
	4. diskette drives	

F.	<u>Field Service &amp; Installation</u> – continued	
	5. Installation	
	a. All systems	
G.	<u>Trouble Shooting and Repair</u>	4,000
	1. Computers (at least two different brands)	
	2. Monitors (at least two different brands)	
	3. Keyboards (at least two different brands)	
	4. Diskette drives (at least two different brands)	
	5. Fixed disk (at least two different brands)	
	6. Miscellaneous Tape Backup Drives	
	7. Printers (at least two different brands)	
	8. Networks (at least two different brands)	
H.	<u>Inventory</u>	100
	1. Inventory and control	
	a. Parts, tools and test equipment, supplies	
I.	<u>Procurement</u>	80
	1. Parts	
	a. New	
	b. Exchange	
	2. Tools	
	a. Contract	
	b. Non-contract	
	3. Supplies	
	a. Contract	
	b. Non-contract	
J.	<u>Commercial Software Packages</u>	1,200
	1. Operating systems	
	2. Word processors	
	3. Spread sheets	
	4. Data bases	
	5. Desk top publishing	
	6. CAD/CAM software	
	7. Graphic software	
	8. Network operating systems	

Micro-Computer Repair Technician – continued

Approximate Hours

K. Service Manuals 160

1. Procurement
2. Updating
3. Maintenance of library

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Total hours 8,000

*Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>.*

APPENDIX B

MICRO-COMPUTER REPAIR TECHNICIAN

RELATED INSTRUCTION

Safety

Basic Job Safety (50 hours)  
Standard First Aid – minimum 6.5 hours every 3 years  
CPR – annually  
OSHA Regulations

Math for the Workplace (100 hours)

Basic Algebra Review (including Boolean)  
Problem Solving  
Physics  
Financial  
Statistics  
Graphs  
Budget Management

Software Applications (226 hours)

(These should be current and state of the art.  
They should include the following categories)

Operating Systems  
a. Disk Operated  
b. Network Operated  
Word Processing  
Data Base Management  
Desktop Publishing  
Spreadsheets  
CAD  
Graphics (presentation, mapping, graphing)

Hardware Related (125 hours)

Preventative Maintenance and Troubleshooting  
Maintaining PC Equipment  
Manufacturer Certification Courses

Micro-Computer Repair Technician Related Instruction – continued

Human Relations/Effective Communications (72 hours)

- Identifying and dealing with different personality types
- How perceptions influence behavior
- What motivates people
- Effective verbal, written and listening skills
- Typical language problems
- Team Work
- Customer Relations

Sexual Harassment Prevention Training (3 hours minimum)

A Minimum of 144 Hours of Related Instruction are Required for Each Apprentice for Each Year.