O.20
WORK PROCESS SCHEDULE
TELECOMMUNICATION TECHNICIAN
O*NET-SOC CODE: 47-9052 RAPIDS CODE:

This trade schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation. This sequence of Related Classroom Instruction is competency based and will be offered as traditional classroom training or independent study, which may include electronic media.

1. **TERM OF APPRENTICESHIP**

    The term of the occupation shall be four (4) years with an OJL attainment of 8,000 hours supplemented by the required hours of related technical instruction.

2. **RATIO OF APPRENTICES TO JOURNEYPERSONS**

    One (1) Apprentice to one (1) Journeyperson: one apprentice for the first skilled journeyperson employed, and one additional apprentice for each additional skilled journeyperson employed thereafter.

3. **APPRENTICE WAGE SCHEDULE**

    Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current journeyperson wage rate**.**

    Term: 8,000 Hours

    1st 1000 hours = 40 % of journeyperson's rate
    2nd 1000 hours = 45 % of journeyperson's rate
    3rd 1000 hours = 50 % of journeyperson's rate
    4th 1000 hours = 55 % of journeyperson's rate
    5th 1000 hours = 60 % of journeyperson's rate
    6th 1000 hours = 65 % of journeyperson's rate
    7th 1000 hours = 75 % of journeyperson's rate
    8th 1000 hours = 80 % of journeyperson's rate

4. **SCHEDULE OF WORK EXPERIENCE** (See attached Work Process Schedule)

    Apprenticeship Oversight Committee may add to the work processes prior to submitting these Standards to the Division of Apprentice Training for approval.

5. **SCHEDULE OF RELATED TECHNICAL INSTRUCTION** (See attached Related Classroom Instruction Outline)

    Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

O.20- WORK PROCESS SCHEDULE   HOURS

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

TELEPHONIC   2,000

A. **Main Distribution Systems and Equipment Room Construction**
    1. Switch installation and termination
    2. Multiplexing equipment and interconnections
    3. Public network interface
    4. Interconnecting related systems equipment
    5. IDF terminations

B. **Intermediate Distribution Cabling**
    1. Twisted pair
    2. Coaxial
    3. Fiber optics
    4. Shielded twisted pair
    5. Combination

C. **Intermediate Distribution Termination Locations**
    1. Patch panels
    2. Cross wiring fields
    3. Local area network apparatus and interconnect

D. **Voice Equipment**
    1. Station cable terminations
    2. Telephone instrument cross wiring
    3. Set installation
    4. Set trouble shooting and repair

E. **Grounding, Filtering and General Signal Integrity Assurance**

II. DATA   2000
A. **CPU Installation and Termination**
B. **Multiplexing Equipment Installation**
C. **Patch Panel Interconnect**
D. **Installation of Specialized Equipment**
    1. Repeaters
    2. Amplifiers
    3. Filters

4. UPS
E. Cable Installation and Termination
    Baluns, connectors, mechanical splices
F. Hardware Installation and Connection
    Modems, CRT, printers, keyboards
G. Device Cable Interconnection

III. ELECTRONICS   2000
  A. Distribution Equipment Testing and
     Turnover Procedures
     1. Schematics
     2. Card distribution
     3. PC Board settings
     4. PC board construction and repair
  B. Cable
     1. Identification
     2. Patch board configuration
     3. Continuity checks
  C. Signal Verification
     1. Probe
     2. Meters
     3. Instruments
  D. CPU and Related Equipment Upgrades

IV. CATV/ALARMS   2000
  A. TV Transmission
     1. Cable
     2. Satellite
     3. Microwave
  B. Interior Wiring
     1. Cable
          Amplifiers, splitters, multiplexers
     2. Closed circuit
        a. Transmitters, receivers
        b. Amplifiers, splitter, multiplexers
        c. Camera mounting
        d. Field of view definitions
        e. Video recording systems
        f. Interconnection of components
  C. Alarms (Fire and Premise)
     1. Panel installation
     2. UPS
     3. Module and card installation
     4. Zone wiring
     5. Sensing device installation
     6. Audio-visual alarm devices
     7. Annunciation boards and circuitry
     8. Central station interconnect
     9. Card access

D. Public Address

<div align="right">

Total   8000

</div>

O.20 – TELECOMMUNICATIONS TECHNICIAN RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules is suggested estimates only.

Modules	Hours
Basic Safety	
Introduction to Construction Math	
Introduction to Hand Tools	
Introduction to Power Tools	
Total Safety and Introductions	72.5

1st Year	2nd Year	3rd Year	4th Year
Electronics 1	Electronics 2	Electronics 3	Electronics 4
Data 1	Data 2	Data 3	Data 4
Telephony	Telephony 2	Telephony 3	Telephony 4
CATV	Job Info	Security Alarm	Fire Alarm

ELECTRONICS
Electrical Theory and Related Math
Electronic Theory and Related Math
Electronic Circuitry Design
Electronic Components
Electronic Test Equipment
Electronic Logic Fundamentals
Job Information and Tools

TELEPHONE
Introduction to telephone Equipment
Telephone Installation practice
Telephone systems Design
Grounding, Shielding and Filtering of Telephone Systems
Integration of Related Information Systems

DATA
Basic Data and Electronic Communications
System Conversion Techniques
Data Codes and Interfaces
Networks and Multiple Systems
Advanced Transmission Forms
Modems and Modulations
Protocols and Hardware

TELEVISION AND ALARMS
Introduction to TV Systems
TV Signals and Transmission
Closed Circuit TV
Cable TV
Cable Systems
Alarm Fundamentals
Fire Alarms
Burglar Alarms
Card Access
Public Address

Each course listed represents 38 hours of classroom related technical instruction, or 152 hours per year.

TOTAL HOURS   **618.50**

DAT apprenticeship program standards recommend 150 hours of related technical instruction per year.