

# **Appendix J**

## **INFORMATION TECHNOLOGY (IT) YOUTH APPRENTICESHIP**

### **REQUIRED SKILLS CURRICULUM UNITS 1-2**

## Unit 1: Required Skills

### Core Skills

Competency

#### 1. Apply applicable academic knowledge

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Reads and comprehends work related materials
- Applies mathematical operations involving whole numbers, fractions, decimals, percentages, formulas and methods of measurement accurately when necessary
- Interprets charts, tables, and graphs

Learning Objectives

#### MATH

- Add, subtract, multiply, and divide whole numbers, fractions, decimals and percents
- Calculate averages, ratios, proportions, and rates
- Convert decimals to fractions, fractions to percents and vice versa
- Measure and accurately report measurements of time, temperature, length, width, height, width, perimeter, area, volume, and weight
- Use appropriate formulas
- Convert measurements correctly (e.g., English (standard) to metric)
- Interpret meaning from data

#### ENGLISH

- Use standard English to compile information and prepare written reports
- Apply English language correctly (spelling, grammar, structure)
- Derive meaning from text through summarizing
- Discern meaning from written word
- Use acceptable language
- Write legibly

#### SCIENCE

- Compare and contrast subjective and objective information

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 2. Apply applicable career knowledge

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Demonstrates understanding of career development in the IT industry
- Obtains necessary skills and knowledge to meet position requirements

Learning Objectives

- Explain the process for seeking employment
- Describe the major functions and duties of the career pathways within the IT career cluster
- Discuss educational, training, and credentialing requirements for a selected job
- Research job requirements and characteristics of a selected job
- Contrast "positive" and "less positive" aspects of a selected job
- Describe opportunities for advanced training in IT

**Comments:**

# Unit 1: Required Skills

## Core Skills

Competency

### 3. Communicate effectively

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Delivers coherent verbal messages in words that can be understood
- Uses appropriate and bias-free language
- Uses appropriate body language
- Listens actively to others
- Demonstrates courtesy with self-introduction
- Responds to inquiries or statements within the scope of current responsibilities and understanding
- Does not provide confidential information without appropriate authorization
- Does not overreact in response to anger
- Records information in a timely manner
- Records written information legibly and accurately
- Organizes and compiles messages, technical information, and summaries accurately
- Uses email, the Internet, printer, copier, scanner, and fax machine equipment appropriately as applicable
- Is sensitive to special, multicultural, and/or multilingual needs
- Utilizes alternative communication services to assist customers with specialized needs

Learning Objectives

GENERAL

- Explain the importance of clear and understandable communication
- Describe verbal and nonverbal behaviors that might inhibit communication
- Explain how empathy and bias can be communicated verbally & non-verbally
- Describe the impact of non-verbal communication
- Explain ways to improve communication

LISTEN

- Discuss effective and active listening skills
- Differentiate between hearing and listening
- Evaluate different styles of listening
- Identify the effects of physical, social, and psychological factors on ability to listen

WRITTEN

- Discern meaning from written instructions
- Write clearly to communicate written ideas such as for business letters, journals, newsletters, or articles
- Discuss common recording errors and how to avoid them

CUSTOMER

- Identify internal and external customers at your facility
- Discuss steps to assess customer understanding
- Explain communication strategies to be used with a diverse customer and coworker population
- Describe the steps to follow when dealing with complaints

#### SPECIAL

- Discuss methods to accommodate for communication with special needs customers/clients

#### TOOLS

- Describe technology used in communicating such as, telephone, texting, instant messaging (IM), computers, fax, intercom, beepers, tube systems, etc.
- Explain the proper use and etiquette required for these forms of communication technology
- Review the policies and procedures for using written communication tools in your company such as email, Internet, printer, copier, scanner, and/or fax

#### **Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 4. Communicate effectively on the phone

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Answers the telephone promptly
- Follows company guidelines for identifying self
- Greeting is pleasant and courteous
- Determines purpose of call
- Transfers call to appropriate individual when necessary
- Listens carefully to caller before giving any response
- Does not provide confidential information without appropriate authorization
- Uses appropriate language
- Minimizes the time caller is put on hold
- Ends conversation with courteous closure
- Records telephone conversation and/or takes messages accurately

Learning Objectives

- Explain how to use the telephone in your company to place callers on hold and to transfer calls
- Describe voice qualities that convey pleasantness
- Describe the proper telephone answering procedure
- Discuss the potential for violating customer confidentiality during telephone conversations
- List the types of questions or information received from a telephone call which should be referred to the worksite professional
- Emphasize the importance of accuracy in taking telephone messages
- Detail some uses of the company telephone which would be considered unethical
- Explain the appropriate way(s) of bringing closure to a telephone conversation
- Describe the use of telephone documentation/logs required by some departments/facilities

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 5. Act professionally

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Follows oral and written instructions
- Is pleasant, courteous, and professional with coworkers and internal and external customers
- Appearance and dress are appropriate according to the requirements of the employer
- Takes personal responsibility for attendance
- Is punctual
- Begins work promptly
- Organizes and prioritizes tasks efficiently
- Exhibits positive attitude and commitment to task at hand
- Completes assigned tasks accurately and in a timely manner
- Takes responsibility for actions and decisions
- Recognizes lack of knowledge and seeks help from information sources
- Evaluates work goals periodically with worksite professional
- Accepts constructive criticism and applies suggestions
- Communicates safety, training, and job-specific needs
- Adheres to safety rules and regulations

Learning Objectives

- Locate and explain written organizational policies, rules and procedures to help employees perform their jobs
- Locate and explain your company's employee manual for policies on Appearance, Breaks, Time Off, Cell Phone Use, Weather, Personal Issues, etc.
- List qualities of successful IT employees
- Describe how you can demonstrate enthusiasm and commitment at the worksite
- Define initiative
- Explain ways that you can show initiative at a worksite
- Explain methods to evaluate work assignments and prioritize them
- Describe how to effectively receive feedback
- Identify ways in which honesty and integrity of co-workers affect work performance

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 6. Demonstrate customer service skills

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Is knowledgeable about products and services
- Addresses the customer, either in person, by telephone, e-mail or other means
- Gathers information about customer's needs, and customer's knowledge of products or services
- Responds to customer's comments and questions
- Solicits supervisor or co-worker support and advice when necessary to meet customer needs
- Coordinates as needed with other services to expedite delivery of service or product
- Handles complaints tactfully without insult or conflict
- Provides feedback to management to enhance operations

Learning Objectives

- Define customer service.
- Identify internal and external customers at your facility
- Describe how customer service affects a company's "bottom line"
- Describe standards of service
- Evaluate customer service scenarios
- Determine appropriate customer service solutions
- List strategies for maximizing customer satisfaction
- Describe the functions of other departments or units to serve the customer
- Describe the steps to follow when dealing with complaints
- Identify customer service methods to use when encountering an angry customer
- Review material pertaining to products and services produced by your department or company

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 7. Cooperate with others in a team setting

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Demonstrates respect relating to people
- Contributes to a group with ideas, suggestions, and effort
- Listens and responds appropriately to team member contributions
- Works collaboratively with people from other backgrounds/cultures
- Resolves differences for the benefit of the team
- Completes their share of tasks necessary to complete a project

Learning Objectives

- Explain the functions of each department or unit within the larger organization
- Compare teams and groups
- Identify roles found in teams such as leader, facilitator, recorder, etc.
- List effective meeting management skills
- Demonstrate techniques which show respect for others
- Explain how empathy and bias can be communicated verbally & non-verbally
- Describe how to effectively give and receive feedback
- Discuss effective and active listening skills
- Describe conflict resolution methods
- Discuss ways to foster group communication and productivity
- Discuss ways to participate within a team setting
- Explain how to interact appropriately with diverse ethnic, age, cultural, religious, and economic groups in different situations
- Describe how work teams coordinate work flow and help manage resources

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 8. Think critically

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Recognizes the existence of a problem
- Applies problem-solving steps
- Differentiates between fact and opinion
- Considers other viewpoints and perspectives
- Applies the principles and strategies of organized thinking
- Evaluates information, ideas, and problems
- Collects information through probing questions and research
- Defines the problem
- Uses techniques such as brainstorming to acquire alternative solutions
- Demonstrates comparison skills
- Makes decisions based on analysis
- Presents ideas for critical evaluation
- Supports viewpoints with evidence

Learning Objectives

- Explain different techniques for problem solving such as the 5 step problem solving cycle or Deming's 14 step problem solving cycle
- Describe how to break a problem down in order to brainstorm, evaluate, and analyze possible solutions
- Discuss the difference between fact and opinion
- Discuss data collection techniques for the problem solving process
- Apply logical reasoning to analyzing problems and solutions
- Identify opportunities for applying problem solving skills
- Practice different problem solving situations
- Describe how to present a solution with evidence
- Explain ways to reach a decision by consensus
- Develop and implement a problem-solving strategy
- Discuss methods to evaluate a solution that has been implemented

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 9. Exhibit regulatory and ethical responsibilities

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Follows all safety and worksite standards and regulations including those required by the Occupational Safety & Health Administration (OSHA) and the Environmental Protection Agency (EPA)
- Performs legally and ethically by all local, state, and national standards
- Complies with legal requirements for documentation
- Stays current with compliance issue legislation and standards
- Uses email, the Internet, printer, copier, scanner, and fax machine equipment appropriately and correctly as applicable
- Operates within scope of authority adhering to company rules, regulations, and policies as established in employee handbook/procedures
- Documents work processes as required
- Records and files appropriate legal reports in timely manner
- Maintains confidentiality of company, customer, and co-worker information
- Documents reportable incidents to worksite professional immediately, if applicable
- Receives, handles, packages, and ships materials and product according to shipping laws and regulations if applicable

Learning Objectives

**GENERAL**

- Explain the role of the government in regulating and managing the IT industry
- Compare national, state and local regulators that oversee the IT industry
- Compare the following Federal regulatory agencies and their laws on the IT industry: Federal Communications Commission (FCC), Department of Homeland Security, Department of Commerce.
- Identify the management structure and employees' roles within your organization
- Describe common legal requirements that must be met in IT facilities
- Describe your legal responsibilities, limitations, and implications for action in your job role
- Identify the rules and regulations of the company as they relate to the employee
- Identify penalties for regulation non-compliance
- Compare and contrast behaviors and practices that could result in liability or negligence
- Explain legal issues faced by IT professionals
- Summarize the rights and responsibilities of IT workers
- Explain what situations are reportable in IT facilities

**ETHICAL**

- Explain the difference between an ethical practice and a legal responsibility

- Identify ethical issues common to the IT field
- Describe ethical work values such as confidentiality, productivity during the day, following safety standards

#### SAFETY

- Define legal and ethical responsibilities for safety procedures
- Describe the certification/license requirements to operate specific equipment or perform specific functions

#### RECORDS

- Identify the main functions of documents and documentation
- Identify the guidelines for retaining common documents

#### **Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 10. Use basic technology

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Uses communication technology (such as pagers, radios, phone, fax, email, Internet) to access and distribute data and other information within the scope of the job
- Follows rules for proper computer and communication technology usage
- Uses calculating tools such as a computer, calculator, and adding machine correctly
- Enters, edits, and stores data on computerized equipment according to worksite guidelines
- Verifies data entry prior to data storage or equipment operation

Learning Objectives

- Identify the parts and functions of a computer system using correct terminology including the keyboard, monitor, mouse, printer
- Point out the storage device locations on the computer such as the Hard drive, Floppy drive, CD-ROM drive, and Portable File Storage drive, etc
- Show the appropriate connections and positioning of peripheral devices such as a mouse, keyboard, monitor, and printer
- Discuss the importance of backing up computerized files
- Compare communication technologies (phone, email, texting, instant messaging) and their uses in a business setting
- Describe how to evaluate internet web sites and information for validity and reliability
- Explain appropriate and inappropriate uses of email and internet while at work
- Describe how to develop effective presentations using appropriate technologies (e.g., tables, charts, and visual graphics)
- Explain the use of writing/publishing/presentation applications
- Describe how database and spreadsheet technology is used at your worksite to manage worksite operations

**Comments:**

## Unit 1: Required Skills

### Core Skills

Competency

#### 11. Use resources wisely

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Follows the facility pollution/waste prevention plan
- Chooses most appropriate and efficient sources of energy
- Recycles whenever possible
- Disposes of materials appropriately
- Disposes of hazards legally and with regard to environmental impact

Learning Objectives

- Identify environmental issues affecting the IT industry
- Determine effects of environmental issues on the IT industry
- Define what is meant by making “green” choices
- Compare renewable and nonrenewable natural resources
- Explain the meaning of sustainable resources use
- Identify practices that contribute to sustainability
- Describe your responsibility to a global environment
- Describe why wise use of resources at the worksite is important
- Give examples of wasteful uses of resources (unnecessary waste and duplication) at the worksite
- Explain how your choices of resources impact your department, your facility, your environment and the planet
- List materials that can be recycled
- Describe recycling methods
- Describe materials that require special disposal
- Explain purpose of pollution control systems
- Relate power generation to energy sources
- Compare environmental impact of energy sources
- Compare characteristics of energy sources (e.g., fuel cells, chemical, wind, hydro, nuclear, electric, mechanical, solar, biological)

**Comments:**

## Unit 2: Required Skills Safety & Security

Competency

### 1. Follow personal safety requirements

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when the learner:**

- Participates in all required safety training
- Follows all worksite guidelines for personal safety
- Applies principles of proper body mechanics when necessary
- Reports any exposures, injuries, or accidents, personal or to others, immediately, if applicable
- Locates and can find key information on Material Safety Data Sheets (MSDS)
- Handles and disposes of any hazardous materials appropriately, if applicable
- Operates only equipment that he/she is trained on
- Adheres to equipment safety standards
- Visually inspects equipment to ensure safety compliance and function before operation
- Wears the required Personal Protective Equipment (PPE) at all times as required by the worksite for specific tasks

Learning Objectives

- Discuss the regulatory purpose and responsibility of the Occupational Safety and Health Administration (OSHA)
- List your rights as a worker according to OSHA
- Explain the procedure to follow in case of an exposure, injury, or accident to self or to another
- Explain ways your company prevents accidents
- List engineering controls that are taken to protect workers from accidents
- Describe safe and unsafe work habits and their implications
- List safety hazards common in your facility
- Explain potential hazards associated with blood borne pathogens
- Explain the ergonomic impact of work techniques
- Describe proper techniques for lifting loads
- Describe the Material Safety Data Sheet (MSDS) and its purpose
- Discuss the procedures of handling & disposing of hazardous material
- List mechanical, chemical, electrical, compressed air, and equipment safety hazards at your facility
- Explain how Lock Out/Tag Out procedures prevent accidents
- Define the Personal Protective Equipment (PPE) required for specific tasks in your facility
- Explain the use of safety equipment such as eyeball washers and chemical safety showers and when you would use them
- Explain the safe use of ladders

- Describe ways to prevent burns
- Demonstrate safe use of equipment you will commonly use

**Comments:**

## Unit 2: Required Skills Safety & Security

Competency

### 2. Maintain a safe work environment

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when the learner:**

- Complies with posted safety warnings and symbols
- Identifies unsafe conditions and/or work habits and reports them to the worksite professional immediately, if applicable
- Helps maintain a clean and safe working environment free of debris and obstacles
- Cleans, organizes, puts away items in the work area
- Safely identifies, handles, stores, and uses hazardous materials according to company procedure, if applicable
- Reports any indications of insects or pests

Learning Objectives

- List the major components of a facility safety program
- List the different state and federal agencies that provide regulatory oversight at your facility for personal safety, environmental safety, and equipment safety
- List accident and fire prevention techniques
- Describe posted safety warnings and symbols and what they mean
- Describe safe and unsafe work habits and their implications
- Discuss the importance of keeping the work area and tools/equipment clean
- List mechanical, electrical, and equipment safety hazards at your facility
- Discuss how to identify and report unsafe conditions in your facility
- Discuss safety procedures to prevent accidents
- Describe the requirements at your facility for safety training and auditing
- Assess need for good housekeeping practices
- List accident and fire prevention techniques
- List hazards that contribute to injury due to slips, trips, or falls
- Outline compliance requirements of sanitation and health inspections

**Comments:**

## Unit 2: Required Skills Safety & Security

Competency

### 3. Demonstrate professional role in an emergency

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when the learner:**

- Participates in emergency safety simulations and drills
- Outlines the company's policy and procedure for worksite incidents, accidents, electrical, fire, tornado, bomb threats, robbery, hostage situations, and other emergency situations
- Identifies the closest fire alarms and emergency exits in the assigned worksite area
- Identifies the fire extinguishers in the assigned worksite area
- Identifies appropriate alarms and procedures for using alarms
- Contacts emergency personnel according to company requirements in the event of an emergency
- Documents any emergency incidents according to company requirements

Learning Objectives

- Describe the procedures in your company to report an emergency
- Review your company procedures for responding to exposures, injuries, accidents, spills, fire, tornado, bomb threat, robbery, hostage situations, etc.
- Demonstrate how to use the fire extinguisher
- Explain the evacuation plan for the worksite
- Indicate the demeanor necessary during an emergency
- Identify methods to cope with emergency situations
- Name the resources for assistance in crimes or accidents
- Locate and explain use of first aid emergency care kits
- Detail steps to use in medical emergencies requiring First Aid, CPR, and/or Heimlich maneuver
- Locate and explain use of spill kits, if applicable to worksite
- Explain who in your facility can give first aid care in the event of an emergency
- Explain the local protocols in place with local law enforcement
- Explain the role of the Hazardous Materials (HAZMAT) team
- Detail how to access help in a robbery or terrorist situation
- Explain the use of safety equipment such as eyeball washers and chemical safety showers and when you would use them

**Comments:**

## **Unit 2: Required Skills Safety & Security**

Competency

### **4. Follow security procedures**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when the learner:**

- Follows facility measures to protect confidential data
- Maintains customer and employee security procedures
- Implements security countermeasures as required
- Documents any security procedures taken

Learning Objectives

- Describe potential security threats to information systems
- Define basic security measures for ensuring data integrity, accidental data disclosure, unauthorized access and inappropriate use
- Describe how user identity is checked for access
- Identify the range of security needs and the problems that can occur due to security lapses
- Outline how access to hardware and data is controlled
- Define a virus, Trojan, worm, etc.
- Explain the use of virus/computer protection strategy
- Discuss security procedures and their impact on business ethics

**Comments:**

## Unit 2: Required Skills Safety & Security

Competency

### 5. Maintain confidentiality

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite and classroom

Performance Standard Criteria

**Performance will be successful when the learner:**

- Does not provide confidential information without appropriate authorization
- Safeguards the confidentiality of data, customer records and personal information per requirements
- Complies with legal requirements for confidentiality

Learning Objectives

- Discuss legal regulations pertaining to privacy and security such as the USA Patriot Act
- Identify penalties for regulation non-compliance
- Describe how a customer's identity is confirmed
- Describe methods used to prevent and detect identity theft
- Explain legal issues involved in a company security policy
- Identify legal issues involved concerning a security breach

**Comments:**