# Applied Academics

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.2.3 Identify and use verbal, nonverbal, and active listening skills to communicate effectively.

### 1.2.5 Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

### 1.2.7 Use problem‐solving and consensus‐building techniques to draw conclusions and determine next steps.

### 1.2.10 Use interpersonal skills to provide group leadership, promote collaboration, and work in a team.

### 1.2.12 Use technical writing skills to complete forms and create reports.

### Construction Technologies:

### 4.2.3 Analyze wiring schematics and diagrams to troubleshoot circuits.

### 6.1.2 Apply measurement scales to layout length, width, and angle measurements.

### 6.1.3 Apply algebraic procedures and geometric concepts to reading construction documents.

### 6.1.6 Perform calculations and conversions with fractions, decimals, and percents.

### Engineering and Science Technologies:

### 2.2.10 Analyze wiring schematics and diagrams for accuracy and function.

# Communication Skills

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

1.1.8 Identify the correlation between emotions, behavior, and appearance and manage those to establish and maintain professionalism.

1.1.9 Give and receive constructive feedback to improve work habits.

1.1.10 Adapt personal coping skills to adjust to taxing workplace demands.

1.2.3 Identify and use verbal, nonverbal, and active listening skills to communicate effectively.

1.2.4 Use negotiation and conflict‐resolution skills to reach solutions.

1.2.5 Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

1.2.6 Use proper grammar and expression in all aspects of communication.

* Construction Technologies:

4.4.9 Install, service, and troubleshoot low‐voltage systems (e.g., communication systems, telephone systems, control systems, lighting systems, security systems, fire alarm systems).

# Critical Thinking

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.1.7 Apply problem‐solving and critical‐thinking skills to work‐related issues when making decisions and formulating solutions.

### 1.1.8 Identify the correlation between emotions, behavior, and appearance and manage those to establish and maintain professionalism.

### 1.1.9 Give and receive constructive feedback to improve work habits.

### 1.2.7 Use problem‐solving and consensus‐building techniques to draw conclusions and determine next steps.

### Construction Technologies:

### 4.4.9 Install, service, and troubleshoot low‐voltage systems (e.g., communication systems, telephone systems, control systems, lighting systems, security systems, fire alarm systems).

### Information Technology:

### 4.3.6 Identify the advantages and disadvantages of cabling systems.

### 4.3.7 Describe typical problems associated with cable installation.

# Information Use

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.2.1 Extract relevant, valid information from materials and cite sources of information.

### 1.2.5 Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

### 1.3.5 Access and implement safety compliance measures (e.g., quality assurance information, safety data sheets [SDSs], product safety data sheets [PSDSs], United States Environmental Protection Agency [EPA], United States Occupational Safety and Health Administration [OSHA]) that contribute to the continuous improvement of the organization.

### Construction Technologies:

### 4.4.1 Select materials and lay out rough‐in wiring runs according to specifications, drawings and code requirements.

### 4.4.8 Install rough‐in wiring following specifications, drawings and code requirements.

### Engineering and Science Technologies:

### 7.1.1 Use Occupational Safety and Health Administration (OSHA)‐defined procedures for identifying employer and employee responsibilities, working in confined spaces, managing worker safety programs, using ground fault circuit interrupters (GFCIs), maintaining clearance and boundaries and labeling.

### Information Technology:

### 4.4.1 Compare wireless standards in common use (e.g., Institute of Electrical and Electronics Engineers [IEEE] 802.11, Cellular, Bluetooth, Worldwide Interoperability for Microwave Access [WiMAX], Radio Frequency Identification [RFID], Near Field Communication [NFC]).

# Interpersonal Skills

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.2.3 Identify and use verbal, nonverbal, and active listening skills to communicate effectively.

### 1.2.4 Use negotiation and conflict‐resolution skills to reach solutions.

### 1.2.5 Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.

### 1.2.10 Use interpersonal skills to provide group leadership, promote collaboration, and work in a team.

### 1.5.3 Use cultural intelligence to interact with individuals from diverse cultural settings.

### 1.10.2 Determine the customer's needs and identify solutions.

### 1.10.3 Communicate features, benefits and warranties of a product or service to the customer.

### Engineering and Science Technologies:

### 6.11.5 Maintain customer interaction to ensure quality.

# Personal Qualities

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.1.5 Develop strategies for self‐promotion in the hiring process (e.g., filling out job applications, resumé writing, interviewing skills, portfolio development).

### 1.1.6 Explain the importance of work ethic, accountability, and responsibility and demonstrate associated behaviors in fulfilling personal, community, and workplace roles.

### 1.1.8 Identify the correlation between emotions, behavior, and appearance and manage those to establish and maintain professionalism.

### 1.1.9 Give and receive constructive feedback to improve work habits.

### 1.1.10 Adapt personal coping skills to adjust to taxing workplace demands.

### 1.3.3 Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).

### 1.7.9 Conduct a self‐assessment to determine entrepreneurial potential.

# Resource Management

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.1.8 Identify the correlation between emotions, behavior, and appearance and manage those to establish and maintain professionalism.

### 1.6.11 Describe how all business activities of an organization work within the parameters of a budget.

### 1.8.9 Develop a budget that reflects the strategies and goals of the organization.

### 1.9.1 Create, analyze, and interpret financial documents (e.g., budgets, income statements).

### 1.9.8 Identify income sources and expenditures.

### Construction Technologies:

### 6.3.2 Identify necessary material, time, personnel, and equipment to be used in construction projects.

### 6.3.3 Calculate cost of identified materials, time, personnel and equipment to be used in construction projects.

### 6.3.4 Develop a program list including intended use, budget, economics, customer wants and needs, and maintenance.

# Systems Thinking

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.1.7 Apply problem‐solving and critical‐thinking skills to work‐related issues when making decisions and formulating solutions.

### 1.6.3 Explain the importance of planning your business.

### Construction Technologies:

### 4.4.9 Install, service, and troubleshoot low‐voltage systems (e.g., communication systems, telephone systems, control systems, lighting systems, security systems, fire alarm systems).

# Technology Use

## Ohio Department of Education and Workforce Standards:

### Business Operations/21st Century Skills (Construction Technologies, Engineering and Science Technologies, Information Technology):

### 1.4.3 Verify compliance with security rules, regulations, and codes (e.g., property, privacy, access, accuracy issues, client and patient record confidentiality) pertaining to technology specific to the industry pathway.

### 1.4.5 Use information technology tools to maintain, secure, and monitor business records.

### Construction Technologies:

### 4.4.2 Identify and install fasteners, anchors, and fire stop systems.

### 4.4.7 Lay out and install conduit or cable runs, raceways and cable systems (e.g., electrical metallic tubing [EMT], galvanized rigid conduit [GRC], intermediate metal conduit [IMC], polyvinyl chloride [PVC], electrical nonmetallic tubing [ENT or ENMT], armored cable [AC], metal clad cable [MC]).

### 4.4.12 Make conductor terminations.

### 4.4.14 Check and test installation.