

# Common Employability Skills for the Energy Industry



# OVERVIEW

In a recent CEWD poll of its member companies, nearly 83% of the respondents replied that high school and community college graduates are not prepared for energy careers. The lack of preparation falls into two main categories: employability and technical skills.

There is significant consensus on where potential employees can gain technical skills, including short-term bootcamps, certificate programs, company technical training, or formal education. On the employability front, however, it's a different story. Many believe these skills are not "teachable" but rather gained through experience and work history. It doesn't seem to make sense that the same skills that keep applicants from gaining a job are primarily learned on the job.

The National Network of Business and Industry Associations (NNBIA) has created a Common Employability Skills (CES) Framework that establishes a vivid, unifying description of the requisite Applied Knowledge along with Personal, People, and Workplace Skills needed to gain employment. CEWD is a sponsor of the CES, along with other leading industries, including Manufacturing, Retail, IT, and Transportation. These skills directly align to the Energy Industry Competency Model. There are a few industry-specific areas, such as engineering and technology, hand and power tools, and some more advanced math concepts, which are part of the CEWD version of the Model.

# CES AT A GLANCE

## PERSONAL SKILLS

- Integrity
- Initiative
- Dependability & Reliability
- Adaptability/Flexibility
- Professionalism

### **Energy Specific Skills**

- Reputation
- Ability to Learn
- Self-Development

## PEOPLE SKILLS

- Teamwork
- Communication
- Respect

## APPLIED KNOWLEDGE

- Reading
- Writing
- Mathematics
- Science
- Information Technology
- Critical Thinking

### **Energy Specific Skills**

- Engineering

## WORKPLACE SKILLS

- Planning/Organizing/Scheduling
- Problem Solving
- Decision Making
- Business Fundamentals
- Customer Focus
- Working with Tools & Technology

### **Energy Specific Skills**

- Ethics
- Following Directions

# PERSONAL SKILLS

## CES Personal Skills

### INTEGRITY:

Treating others with honesty, fairness, and respect

- Demonstrate respect for company's time and property
- Accept responsibility for one's decisions and actions
- *Report unethical behavior demonstrated by others*

### INITIATIVE:

Demonstrating a willingness to work and seek out new work challenges

- Take initiative in seeking out new responsibilities and work challenges, increasing the variety and scope of one's job
- Pursue work with energy, drive, and effort to accomplish tasks
- Establish and maintain personally challenging, but realistic, work goals
- Strive to exceed standards and expectations

### DEPENDABILITY & RELIABILITY:

Displaying responsible behaviors at work

- Behave consistently, predictably, and reliably
- Fulfill obligations, complete assignments, and meet deadlines
- Follow written and verbal directions
- Comply with organization's rules, policies, and procedures
- Demonstrate regular and punctual attendance
- *Do not attend to personal business while on the job*
- *Ensure the job is done safely, accurately, and completely*

### ADAPTABILITY/FLEXIBILITY:

Displaying the capability to adapt to new, different, or changing requirements

- Be open to learning and considering new ways of doing things
- Actively seek out and carefully consider the merits of new approaches to work
- Embrace new approaches when appropriate and discard approaches that are no longer working
- Effectively change plans, goals, actions, or priorities to deal with changing situations
- *Identify logical stopping points in work*
- *Quickly learn new assignments and refocus attention*

*Note: Items in italics are energy-specific.*

## PROFESSIONALISM:

Maintaining a professional demeanor at work

- Demonstrate self-control by maintaining composure and keeping emotions in check, even in difficult situations
- Maintain a professional appearance by dressing appropriately for the job and maintaining personal hygiene
- Use professional language when speaking with supervisors, coworkers, and customers
- Maintain a positive attitude
- Take ownership of one's work

## REPUTATION:

*Maintaining a high degree of personal ethics and behavior*

- *Is free from substance abuse*
- *Demonstrate financial responsibility*
- *Maintain an acceptable grade point average if in school*
- *Has not embarrassed oneself through Internet postings*
- *Maintain a good driving record*

## ABILITY TO LEARN:

*Incorporating classroom and on-the-job training into work performance*

- *Understand and use material taught in the classroom and on-the-job training in work situations*
- *Apply information provided in training to work tasks*
- *Demonstrate and show willingness to learn new assignments, procedures, and technologies*

## SELF-DEVELOPMENT:

*Demonstrating a commitment to self-development and improvement*

- *Identify goals and career interests*
- *Seek opportunities to learn new skills and tasks and to refine current skills*
- *Develop personal career plan that includes goals, objectives, and strategies*
- *Identify industry credentialing requirements*
- *Maintain career portfolio to document knowledge, skills, and experience*
- *Evaluate and compare employment opportunities that match career goals*
- *Identify and exhibit traits for retaining employment*
- *Identify opportunities and research requirements for career advancement*
- *Research the benefits of ongoing personal development*

# PEOPLE SKILLS

## CES People Skills

### TEAMWORK:

Demonstrating the ability to work effectively with others

- Establish a high degree of trust and credibility with others
- Interact professionally and respectfully with supervisors and coworkers
- Develop constructive working relationships and maintain them over time
- Use appropriate strategies and solutions for dealing with conflicts and differences to maintain a smooth workflow

### COMMUNICATION:

Maintaining open lines of communication with others

- Demonstrate sensitivity and empathy
- Listen to and consider others' viewpoints
- Recognize and interpret the verbal and nonverbal behavior of others
- Speak clearly, in precise language, and in a logical, organized, and coherent manner

### RESPECT:

Working effectively with those who have diverse backgrounds

- Demonstrate sensitivity and respect for the opinions, perspectives, customs, and individual differences of others
- Be flexible and open-minded when dealing with a wide range of people
- Value diversity of approaches and ideas

# APPLIED KNOWLEDGE

## CES Applied Knowledge

### READING:

Understanding written sentences and paragraphs in work-related documents

- Read and comprehend work-related instructions, policies, memos, bulletins, notices, letters, policy manuals, and governmental regulations
- Read and comprehend documents ranging from simple and straightforward to more complex and detailed
- Attain meaning and comprehend core ideas from written materials
- Integrate what is learned from written materials with prior knowledge
- Apply what is learned from written materials to work situations
- *Sort through distracting information*

### WRITING:

Using Standard English to clearly communicate thoughts, ideas, and information in written form

- Prepare written materials that are easy to understand using correct wording
- Communicate thoughts, ideas, information, messages, and other information conveyed in written form in a logical, organized, and coherent manner
- Use correct grammar, spelling, punctuation, and capitalization
- Write in a factual manner in a tone appropriate for the target audience in multiple formats, clearly developing ideas and elaborating on them with relevant supporting examples and specific details

### MATHEMATICS:

Using mathematics to solve problems

- Add, subtract, multiply, and divide whole numbers, fractions, decimals, and percents
- Convert decimals to fractions; convert fractions to percents
- Calculate averages, ratios, proportions, and rates
- Take measurement of time, temperature, distance, length, width, height, and weight; convert one measurement to another
- Translate practical problems into useful mathematical expressions
- *Able to determine slope, midpoint, and distance*
- *Calculate perimeters, areas, and volumes of basic shapes and solids*
- *Read, track, and calculate gauge measurements*
- *Solve simple algebraic equations*

## SCIENCE:

Knowing and applying scientific principles and methods to solve problems

- Understand basic scientific principles
- Understand the scientific method (i.e., identify problem, collect information, form opinion, and draw conclusion)
- Apply basic scientific principles and technology to solve problems and complete tasks
- *Discuss the role of creativity in constructing scientific questions, methods, and explanations*
- *Formulate scientifically investigable questions, construct investigations, collect and evaluate data, and develop scientific recommendations based on findings*
- *Identify physical principles such as force, friction, and energy*
- *Determine weight and mass and how it relates to rigging, wind, and structure supports*
- *Identify and evaluate the characteristics and hazards of electricity*
- *Recognize and explain the interactions of compatible and incompatible substances*

## INFORMATION TECHNOLOGY:

Demonstrating IT skills for workplace efficiency and work flow

- Navigation and File Management
  - Understand common computer terminology
  - Use scroll bars, a mouse, and dialog boxes to work within the computer's operating system
  - Access and switch between applications and files of interest
  - Adhere to standard conventions for safeguarding privacy and security
- Internet and Email
  - Navigate the Internet to find information
  - Open and configure standard browsers
  - Use searches, hypertext references, and transfer protocols (enter URLs)
  - Send and retrieve electronic mail (email)
- *Use Personal Information management applications to increase workplace efficiency*
- *Use basic computer technology to receive work orders, report progress, and maintain records*
- *Employ technological tools to expedite workflow, including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email, and Internet applications*
- *Employ computer operations applications to access, create, manage, integrate, and store information*
- *Employ collaborative/groupware applications to facilitate group work*

## CRITICAL THINKING:

Using logical thought processes to analyze and draw conclusions

- Identify inconsistent or missing information
- Critically review, analyze, synthesize, compare, and interpret information
- Draw conclusions from relevant and/or missing information
- Test possible hypotheses to ensure the problem is correctly diagnosed and the best solution is found

## ENGINEERING:

*Possessing an appropriate mastery of knowledge, techniques, skills, modern tools, and advanced technology*

- *Apply basic engineering principles*
- *Apply the appropriate technical solution*
- *Apply principles of engineering science and technology, techniques, procedures, and equipment to the design and production of various goods and services*
- *Apply the basics of electricity*
- *Solve problems where a variety of mechanical, electrical, thermal, or fluid faults could be the reason for the problem*

# WORKPLACE SKILLS

## CES Workplace Skills

### PLANNING/ORGANIZING/SCHEDULING:

Planning and prioritizing work to manage time effectively and accomplish assigned tasks

- Able to plan and schedule tasks so that work is completed on time
- Able to prioritize various competing tasks
- Demonstrate the effective allocation of time and resources effectively
- Will take necessary corrective action when projects go off track
- *Find new ways of organizing work area to accomplish tasks more efficiently*
- *Estimate resources needed for project completion*
- *Make arrangements that fulfill all requirements as efficiently and effectively as possible*
- *Respond to the schedules of others affected by arrangements; inform others of arrangements by giving them complete, accurate, and timely information*
- *Keep track of details to ensure work is performed accurately and completely*
- *Effectively coordinate the transition of employees at the beginning and end of each work shift: disseminate crucial information in an organized manner to rapidly bring employees up to speed at the start of their shifts*

### PROBLEM SOLVING:

Demonstrating the ability to apply critical-thinking skills to solve problems by generating, evaluating, and implementing solutions

- Able to identify and define the problem
- Communicate the problem to appropriate personnel
- Capable of generating possible solutions
- Able to choose and implement a solution

### DECISION MAKING:

Applying critical-thinking skills to solve problems encountered in the workplace

- Identify and prioritize the key issues involved to facilitate the decision-making process
- Anticipate the consequences of decisions
- Involve people appropriately in decisions that may impact them
- Respond quickly *and calmly*
- *Decisively choose the best solution in a timely manner after contemplating available approaches to the problem, even in highly ambiguous situations or without assistance, when needed*
- *Observe and evaluate the outcomes of implementing the solution to assess the need for alternative approaches and to identify lessons learned*

## BUSINESS FUNDAMENTALS:

Having fundamental knowledge of the organization and the industry

- Understand the importance of one's role in the functioning of the company and the potential impact one's performance can have on the success of the organization
- Recognize the importance of maintaining privacy and confidentiality of company information, as well as that of customers and coworkers, and comply with intellectual property laws
- Understand the significance of maintaining a healthful and safe environment and report any violations/discrepancies to appropriate personnel
- *Able to articulate the organization's mission, functions, and position in the marketplace*
- *Comply with applicable laws and rules governing work and report loss, waste, or theft of company property to the appropriate personnel*
- *Act in the best interest of the company, community, and environment*

## CUSTOMER FOCUS:

Actively looking for ways to identify market demands and meet customer or client needs

- Understand and anticipate customer needs
- Provide personalized service with prompt and efficient responses to meet the requirements, requests, and concerns of customers or clients
- Be pleasant, courteous, and professional when dealing with internal and external customers or clients
- Evaluate customer or client satisfaction

## WORKING WITH TOOLS & TECHNOLOGY:

Selecting, using, and maintaining tools and technology to facilitate work activity

- Identify, select, and use appropriate tools and technological solutions to frequently encountered problems
- Carefully consider which tools or technological solutions are appropriate for a given job, and consistently choose the best tool or technological solution for the problem at hand
- Operate tools and equipment in accordance with established operating procedures and safety standards
- Seek out opportunities to improve knowledge of tools and technologies that may assist in streamlining work and improving productivity
- *Know how to maintain and troubleshoot tools and technologies*

### *ETHICS:*

*Describing the importance of personal ethics and legal responsibility*

- *Anticipate or recognize the existence of a problem*
- *Evaluate and justify decisions based on ethical reasoning*
- *Evaluate alternative responses to workplace situations based on personal, professional, ethical, and legal responsibilities and employer policies*
- *Identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace*
- *Interpret and explain written organizational policies and procedures*

### *FOLLOWING DIRECTIONS:*

*Receiving, understanding, and carrying out assignments with minimal supervision*

- *Receive, interpret, understand, and respond to verbal messages and other clues*
- *Pick out important information in verbal messages*
- *Interpret complex instructions and their relevance to the work assignment*
- *Ask questions to clarify unclear directions*
- *Act upon the instruction to complete the assignment*

Formed in March 2006, the Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric, natural gas, and nuclear utilities and their associations—Edison Electric Institute, American Gas Association, American Public Power Association, Nuclear Energy Institute, and National Rural Electric Cooperative Association.



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