

Course Outline

Marketing, Sales, and Service

REVISED: August/2017

Job Title

Maintenance Supervisor

Career Pathway:

Entrepreneurship/Self-Employment

Industry Sector:

Marketing, Sales, and Service

O*NET-SOC CODE:

49-1011.00

CBEDS Title:

Small Business Services

CBEDS No.:

4132

79-75-75

Maintenance Supervisor: Heating and Ventilation

Credits: 5

Hours: 60

Course Description:

This competency-based course prepares trainees to operate various heating, ventilation, and air conditioning equipment. Instruction includes principles and techniques of various low-pressure boiler operations, fuel systems, unit heating systems, ventilation systems, and air conditioning systems. The competencies in this course are aligned with the California High School Academic Content Standards and the California Career Technical Education Model Curriculum Standards.

Prerequisites:

None.

NOTE: For Perkins purposes this course has been designated as an **concentrator/capstone** course.

It is recommended that students in the Maintenance Supervisor program complete the following courses in the given sequence: Building and Grounds Worker (Fundamentals) (79-75-50), Maintenance Supervisor: Heating and Ventilation (79-75-75), Maintenance Supervisor: Scheduling Practices (79-75-80), and Maintenance Supervisor: Supervisory Practices (79-75-85).

This course cannot be repeated once a student receives a Certificate of Completion.



COURSE OUTLINE COMPETENCY-BASED COMPONENTS

A course outline reflects the essential intent and content of the course described. Acceptable course outlines have six components. (Education Code Section 52506). Course outlines for all apportionment classes, including those in jails, state hospitals, and convalescent hospitals, contain the six required elements:

(EC 52504; 5CCR 10508 [b]; Adult Education Handbook for California [1977], Section 100)

COURSE OUTLINE COMPONENTS

LOCATION

GOALS AND PURPOSES

Cover

The educational goals or purposes of every course are clearly stated and the class periods are devoted to instruction. The course should be broad enough in scope and should have sufficient educational worth to justify the expenditure of public funds.

The goals and purpose of a course are stated in the COURSE DESCRIPTION. Course descriptions state the major emphasis and content of a course, and are written to be understandable by a prospective student.

PERFORMANCE OBJECTIVES OR COMPETENCIES

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Objectives should be delineated and described in terms of measurable results for the student and include the possible ways in which the objectives contribute to the student's acquisition of skills and competencies.

Performance Objectives are sequentially listed in the COMPETENCY-BASED COMPONENTS section of the course outline. Competency Areas are units of instruction based on related competencies. Competency Statements are competency area goals that together define the framework and purpose of a course. Competencies fall on a continuum between goals and performance objectives and denote the outcome of instruction.

Competency-based instruction tells a student before instruction what skills or knowledge they will demonstrate after instruction. Competency-based education provides instruction which enables each student to attain individual goals as measured against pre-stated standards.

Competency-based instruction provides immediate and continual repetition and In competency-based education the curriculum, instruction, and assessment share common characteristics based on clearly stated competencies. Curriculum, instruction and assessment in competency-based education are: explicit, known, agreed upon, integrated, performance oriented, and adaptive.

COURSE OUTLINE COMPETENCY-BASED COMPONENTS
(continued)

COURSE OUTLINE COMPONENTS

LOCATION

INSTRUCTIONAL STRATEGIES

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Instructional techniques or methods could include laboratory techniques, lecture method, small-group discussion, grouping plans, and other strategies used in the classroom.

Instructional strategies for this course are listed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructional strategies and activities for a course should be selected so that the overall teaching approach takes into account the instructional standards of a particular program, i.e., English as a Second Language, Programs for Adults with Disabilities.

UNITS OF STUDY, WITH APPROXIMATE HOURS ALLOTTED FOR EACH UNIT

Cover

The approximate time devoted to each instructional unit within the course, as well as the total hours for the course, is indicated. The time in class is consistent with the needs of the student, and the length of the class should be that it ensures the student will learn at an optimum level.

pp. 7-14

Units of study, with approximate hours allotted for each unit are listed in the COMPETENCY AREA STATEMENT(S) of the course outline. The total hours of the course, including work-based learning hours (community classroom and cooperative vocational education) is listed on the cover of every CBE course outline. Each Competency Area listed within a CBE outline is assigned hours of instruction per unit.

EVALUATION PROCEDURES

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The evaluation describes measurable evaluation criteria clearly within the reach of the student. The evaluation indicates anticipated improvement in performances as well as anticipated skills and competencies to be achieved.

Evaluation procedures are detailed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructors monitor students' progress on a continuing basis, assessing students on attainment of objectives identified in the course outline through a variety of formal and informal tests (applied performance procedures, observations, and simulations), paper and pencil exams, and standardized tests.

REPETITION POLICY THAT PREVENTS PERPETUATION OF STUDENT ENROLLMENT

Cover

After a student has completed all the objectives of the course, he or she should not be allowed to reenroll in the course. There is, therefore, a need for a statement about the conditions for possible repetition of a course to prevent perpetuation of students in a particular program for an indefinite period of time.

ACKNOWLEDGMENTS

Thanks to CARLOS MACIAS, LETICIA MADDOX, and JEFFREY PRATT for developing and editing this course outline. Acknowledgment is also given to ERICA ROSARIO for designing the original artwork for the course covers.

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CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS

Marketing, Sales, and Services Industry Sector Knowledge and Performance Anchor Standards

1.0 Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Marketing, Sales, and Services academic alignment matrix for identification of standards

2.0 Communications

Acquire and accurately use Marketing, Sales, and Services sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Marketing, Sales, and Services sector workplace environment.

5.0 Problem Solving and Critical Thinking

Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Marketing, Sales, and Services sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Marketing, Sales, and Services sector workplace environment.

7.0 Responsibility and Flexibility

Initiate and participate in a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Marketing, Sales, and Services sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the DECA career technical student organization

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Marketing, Sales, and Services sector, following procedures when carrying out experiments or performing technical tasks.

11.0 Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the Marketing, Sales, and Services anchor standards, pathway standards, and performance indicators in classroom, laboratory and workplace settings, and through the DECA career technical student organization.

Marketing, Sales, and Services Pathway Standards

C. Entrepreneurship/Self-Employment Pathway

Develop knowledge and skills common to entrepreneurs and entrepreneurship, including the human characteristics vital for entrepreneurial thinking in a twenty-first century global world. Entrepreneurial thinking may be applied to all industry sectors. The performance indicators provide business knowledge and skills required for entrepreneurs, as well as intangible skills and knowledge such as creativity and innovation skills.

Sample occupations associated with this pathway:

- ◆ Business Owner
- ◆ Consultant
- ◆ Insurance Broker
- ◆ Meeting/Event Planner
- ◆ Travel Agent

- C1.0 Define the role the entrepreneur plays in the free-enterprise system.
- C2.0 Analyze the development of successful personal entrepreneurial traits.
- C3.0 Understand the basic aspects of entrepreneurship.
- C4.0 Develop creative and innovative thinking skills that apply to entrepreneurship and the products/services created.
- C5.0 Evaluate leadership styles and management functions for the small business.
- C6.0 Demonstrate an understanding of the elements and purpose of business and strategic planning in entrepreneurship.
- C7.0 Identify strategies for business startup and growth.
- C8.0 Understand financial planning, reports, and projections.
- C9.0 Understand effective marketing of a small business.
- C10.0 Identify and evaluate technology used by entrepreneurs.
- C11.0 Understand the role of human resources in a successful small business.

CBE
Competency-Based Education

COMPETENCY-BASED COMPONENTS
for the Maintenance Supervisor: Heating and Ventilation Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>A. ORIENTATION</p> <p>Identify the duties and responsibilities of a certified boiler operator.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Describe this custodial class description. 2. Identify various systems of heating, ventilating, and air conditioning found in the district. 3. Pass a safety test with 100% accuracy. 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3, 2.4, 2.5 Career Planning and Management: 3.4 Technology: 4.1, 4.3, 4.4 Problem Solving and Critical Thinking: 5.1, 5.3, 5.4 Health and Safety: 6.2, 6.5 Responsibility and Flexibility: 7.2 Ethics and Legal Responsibilities: 8.1, 8.5 Technical Knowledge and Skills: 10.1, 10.5, 10.7</p> <p>CTE Pathway: C3.1, C3.2, C3.3, C3.4, C3.5, C3.6, C4.1, C5.1, C6.1, C6.3, C7.1, C9.1, C9.4, C9.5, C10.1</p>
<p>B. SAFETY REGULATIONS</p> <p>Identify regulatory compliance and codes.</p>	<ol style="list-style-type: none"> 1. Identify Uniform Mechanical Code. 2. Identify Title 24 - California Energy Regulations. 3. Identify Indoor Air Quality-amount of outside air per student. 4. Identify SCAQMD (South Coast Air Quality Management District). 5. Identify Air Compressor Regulation 8. 6. Identify EPA Rule 608 of the Clean Air Act Regulation. 	<p>Career Ready Practice: 1, 2, 5, 6, 11, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3, 2.4 Technology: 4.1, 4.3, 4.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(4 hours)	7. Understand the conditions for renewal of permit.	<p>Problem Solving and Critical Thinking: 5.3</p> <p>Health and Safety: 6.2, 6.3, 6.6</p> <p>Responsibility and Flexibility : 7.2, 7.3</p> <p>Ethics and Legal Responsibilities: 8.5</p> <p>Technical Knowledge and Skills: 10.1, 10.2, 10.5, 10.7, 10.12</p> <p>CTE Pathway: C1.2, C3.1, C3.3, C3.5, C6.1, C6.3, C6.5, C8.2, C9.4, C11.1, C11.2, C11.5</p>
<p>C. GAS-FIRED HEATING SYSTEMS</p> <p>Identify the basic characteristics of steam and hot water boiler and gas-fired forced air unit.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. List components of steam water boiler and their specific functions. 2. List components of hot water boiler and their specific functions. 3. List components of gas-fired forced air unit and their specific functions. 	<p>Career Ready Practice: 1, 2, 3, 4, 9, 10, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3</p> <p>Technology: 4.1, 4.3, 4.4</p> <p>Problem Solving and Critical Thinking: 5.3, 5.4</p> <p>Health and Safety: 6.3</p> <p>Responsibility and Flexibility: 7.2, 7.3</p> <p>Ethics and Legal Responsibilities: 8.2</p> <p>Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C3.1, C3.4, C8.1, C8.2, C10.1, C10.2, C11.2</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>D. AIR CONDITIONING (AC) SYSTEM</p> <p>Identify the components of air conditioning systems.</p> <p>(4 hours)</p>	<p>1. List components of AC systems and their specific functions.</p>	<p>Career Ready Practice: 1, 2, 3, 4, 9, 10, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3 Technology: 4.1, 4.3, 4.4 Problem Solving and Critical Thinking: 5.3, 5.4 Health and Safety: 6.3 Responsibility and Flexibility: 7.2, 7.3 Ethics and Legal Responsibilities: 8.2 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C3.1, C3.4, C8.1, C8.2, C10.1, C10.2, C11.2</p>
<p>E. BOILER CONTROLS AND AIR CONDITIONING CONTROLS</p> <p>Identify accessory controls and fittings.</p>	<p>1. Demonstrate ability to draw boiler controls, gas trains, and outside air.</p> <p>2. Demonstrate ability to draw air-conditioning controls.</p>	<p>Career Ready Practice: 1, 4, 5, 6, 7, 8, 9, 10, 12</p> <p>CTE Anchor: Problem Solving and Critical Thinking: 5.2 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.4, 7.5, 7.6, 7.7 Leadership and Teamwork: 9.7 Technical Knowledge and Skills: 10.3 Demonstration and Application: 11.1, 11.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(4 hours)		CTE Pathway: C1.1, C3.1, C4.4, C4.2, C6.1, C6.3, C6.4, C6.5, C9.4, C10.1
F. BOILER OPERATION AND AIR CONDITIONING OPERATION Safely operate a boiler and air-conditioning system according to acceptable procedures.	<ol style="list-style-type: none"> 1. Demonstrate proper and safe firing procedures for gas-fired boilers and air-conditioning systems in a school site. 2. Demonstrate proper and safe shut down procedures for gas-fired and air-conditioning systems in a school site. 3. Demonstrate ability to check color of a flame for correct combustion. 	Career Ready Practice: 1, 4, 5, 6, 7, 8, 9, 10, 12 CTE Anchor: Problem Solving and Critical Thinking: 5.2 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.4, 7.5, 7.6, 7.7 Leadership and Teamwork: 9.7 Technical Knowledge and Skills: 10.3 Demonstration and Application: 11.1, 11.3, 11.4 CTE Pathway: C1.1, C3.1, C4.1, C4.2, C6.1, C6.3, C6.4, C6.5, C9.4, C10.1, C10.2
(10 hours)		
G. TROUBLE-SHOOTING OPERATIONAL PROBLEMS Identify and correct operational start up problems according to acceptable procedures.	<ol style="list-style-type: none"> 1. Identify proper procedure for checking water level of boiler. 2. Identify proper procedure for checking pilots to boiler. 3. Identify proper procedure for checking burner switches to boiler. 4. Identify proper procedure for checking power to boiler. 5. Identify proper procedure for checking manual reset switch or valve to boiler. 6. Identify proper procedure for checking earthquake valve to gas line. 7. Identify proper procedure for checking water hammer. 8. Identify proper procedure for checking smoke in the chimney. 9. Identify proper procedure in detecting air conditioning problems. 10. Identify proper procedure for checking airflow at supply register. 11. Identify proper procedure for checking temperature at supply and return air registers. 	Career Ready Practice: 1, 4, 5, 6, 7, 8, 9, 10, 12 CTE Anchor: Problem Solving and Critical Thinking: 5.2 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.4, 7.5, 7.6, 7.7 Leadership and Teamwork: 9.7 Technical Knowledge and Skills: 10.3 Demonstration and Application: 11.1, 11.4

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(10 hours)	<ol style="list-style-type: none"> 12. Identify proper procedure for checking thermostat set point. 13. Identify proper procedure for checking cold/hot water temperature at coil. 14. Identify proper procedure for checking blower motor operation. 	<p>CTE Pathway: C1.1, C3.1, C3.4, C4.1, C4.2, C6.1, C6.3, C6.4, C6.5, C8.1, C8.2, C9.4, C10.1, C10.2, C11.2</p>
<p>H. VARIOUS GAS PILOTS</p> <p>Demonstrate safe lighting of standing pilots and spark ignitor pilots according to acceptable procedures.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Identify various types of pilots. 2. Identify various types of pilot gas valves. 3. Identify safe lighting procedures for standing pilots. 4. Identify safe lighting procedures for spark ignitors. 	<p>Career Ready Practice: 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3 Technology: 4.1, 4.3, 4.4 Problem Solving and Critical Thinking: 5.2, 5.3, 5.4 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.2, 7.3, 7.4, 7.5, 7.6, 7.7 Ethics and Legal Responsibilities: 8.2 Leadership and Teamwork: 9.7 Technical Knowledge and Skills: 10.1, 10.3 Demonstration and Application: 11.1, 11.4</p> <p>CTE Pathway: C1.1, C3.1, C3.4, C4.1, C6.1, C6.3, C6.3, C8.1, C8.2, C9.4, C10.1, C10.2, C11.2</p>
<p>I. COOLING PUMPS AND HEATING PUMPS</p> <p>Identify the difference between various types of cooling and heating pumps and understand their functions.</p>	<ol style="list-style-type: none"> 1. Identify proper operations of heating pumps such as circulating pumps and vacuum pumps. 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3 Technology: 4.1, 4.3, 4.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(4 hours)		<p>Problem Solving and Critical Thinking: 5.3 Health and Safety: 6.3, Responsibility and Flexibility: 7.2, 7.3 Ethics and Legal Responsibilities: 8.2 Technical Knowledge and Skills: 10.1, 10.3</p> <p>CTE Pathway: C1.1, C3.1, C4.1, C6.1, C6.3, C6.5, C9.4, C10.1, C10.2</p>
<p>J. CONTROLLING TIME CLOCKS</p> <p>Identify types of time clocks and control settings.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Identify and understand the difference between mechanical and electronic programmable time clocks. 2. Identify what the Energy Management system is. 3. Identify what the By-timer (6-hr or 12-hr timer) Holiday switch is. 	<p>Career Ready Practice: 1, 2, 5, 11, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3, 2.4 Technology: 4.1, 4.3, 4.4 Problem Solving and Critical Thinking: 5.3 Health and Safety: 6.2 Responsibility and Flexibility: 7.2 Ethics and Legal Responsibilities: 8.5 Technical Knowledge and Skills: 10.1, 10.7</p> <p>CTE Pathway: C1.1, C3.1, C3.4, C4.1, C6.1, C6.4, C6.5, C8.1, C8.2, C9.4, C10.1, C10.2, C11.2</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>K. HOUSEKEEPING AND INSPECTION</p> <p>Identify proper boiler room cleaning according to acceptable procedures.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Demonstrate proper boiler room cleaning methods. 2. Identify location of fire extinguishers. 3. Demonstrate proper use of fire extinguishers. 4. Understand negatives of poor boiler room housekeeping. 	<p>Career Ready Practice: 1, 2, 4, 5, 6, 7, 8, 9, 10, 12</p> <p>CTE Anchor: Communications: 2.2, 2.3 Technology: 4.1, 4.3, 4.4 Problem Solving and Critical Thinking: 5.2, 5.3, 5.4 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.2, 7.3, 7.4, 7.5, 7.6, 7.7 Ethics and Legal Responsibilities: 8.2 Leadership and Teamwork: 9.2 Technical Knowledge and Skills: 10.1, 10.3 Demonstration and Application: 11.1, 11.4</p> <p>CTE Pathway: C1.1, C3.1, C3.4, C4.1, C6.1, C6.3, C6.5, C8.1, C8.2, C9.4, C10.1, C10.2, C11.2</p>
<p>L. REVIEW AND EVALUATION</p> <p>Review examination on competency areas.</p>	<ol style="list-style-type: none"> 1. Demonstrate ability to pass an objective exam based on minimal competency areas. 2. Demonstrate ability to fire and shut down gas-fired boilers according to acceptable procedures. 3. Demonstrate ability to secure HVAC equipment in case of gas smell and fire. 	<p>Career Ready Practice: 1, 4, 5, 6, 7, 8, 9, 10, 12</p> <p>CTE Anchor: Problem Solving and Critical Thinking: 5.2 Health and Safety: 6.3, 6.6, 6.7 Responsibility and Flexibility: 7.4, 7.5, 7.6, 7.7 Leadership and Teamwork: 9.7 Technical Knowledge and Skills: 10.3</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(4 hours)		Demonstration and Application: 11.1, 11.4 CTE Pathway: C1.1, C1.2, C1.3, C1.4, C2.1, C2.2, C3.1, C4.2, C5.4, C6.1, C6.3, C9.4, C9.5, C10.1, C11.2

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Los Angeles Unified School District. [Maintenance Supervisor, The Training Manual for Managers: Heating and Ventilation.](#)

RESOURCES

Employer Advisory Board members

CDE Model Curriculum Standards for Marketing, Sales, and Services
<http://www.cde.ca.gov/ci/ct/sf/documents/mktsaleservices.pdf>

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

- A. Lectures
- B. Demonstration/observation
- C. Boiler room practice
- D. Field trips
- E. Individualized instruction

EVALUATION

SECTION A – Orientation– Pass all assignments and exams on orientation with a minimum score of 80% or higher.

SECTION B – Safety Regulations– Pass all assignments and exams on safety regulations with a minimum score of 80% or higher.

SECTION C – Gas-Fired Heating System – Pass all assignments and exams on gas-fired heating system with a minimum score of 80% or higher.

SECTION D – Air Conditioning (AC) System – Pass all assignments and exams on air conditioning system with a minimum score of 80% or higher.

SECTION E – Boiler Controls and Air Conditioning Controls – Pass all assignments and exams on boiler controls and air conditioning controls with a minimum score of 80% or higher.

SECTION F – Boiler Operation and Air Conditioning Operation – Pass all assignments and exams on boiler operation and air conditioning operation with a minimum score of 80% or higher.

SECTION G – Trouble Shooting Operational Problems – Pass all assignments and exams on trouble shooting operational problems with a minimum score of 80% or higher.

SECTION H – Various Gas Pilots – Pass all assignments and exams on various gas pilots with a minimum score of 80% or higher.

SECTION I – Cooling Pumps and Heating Pumps – Pass all assignments and exams on cooling pumps and heating pumps with a minimum score of 80% or higher.

SECTION J – Controlling Time Clocks – Pass all assignments and exams on controlling time clocks with a minimum score of 80% or higher.

SECTION K– Housekeeping and Inspection – Pass all assignments and exams on housekeeping and inspection with a minimum score of 80% or higher.

SECTION L– Review and Evaluation – Pass all assignments and exams on review and evaluation with a minimum score of 80% or higher.

Standards for Career Ready Practice

1. Apply appropriate technical skills and academic knowledge.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and performing other work-related practices.

2. Communicate clearly, effectively, and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others: they are active listeners who speak clearly and with purpose, and they are comfortable with terminology that is common to workplace environments. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

3. Develop an education and career plan aligned with personal goals.

Career-ready individuals take personal ownership of their educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and they understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

4. Apply technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

5. Utilize critical thinking to make sense of problems and persevere in solving them

Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve a problem and, once agreed upon, follow through to ensure the problem is resolved.

6. Practice personal health and understand financial literacy.

Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

7. Act as a responsible citizen in the workplace and the community.

Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them, and they think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

8. Model integrity, ethical leadership, and effective management.

Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

9. Work productively in teams while integrating cultural and global competence.

Career-ready individuals contribute positively to every team, as both team leaders and team members. To avoid barriers to productive and positive interaction, they apply an awareness of cultural differences. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

10. Demonstrate creativity and innovation.

Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.

11. Employ valid and reliable research strategies.

Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

12. Understand the environmental, societal, and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

Statement for Civil Rights

All educational and vocational opportunities are offered without regard to race, color, national origin, gender, or physical disability.



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