

Course Outline

Manufacturing and Product Development

REVISED: July/2022

Job Title

Welder

Career Pathway:

Welding and Materials Joining

Industry Sector:

Manufacturing and Product Development

O*NET-SOC CODE:

51-4121.00

CBEDS Title:

Welding Technology

CBEDS No.:

5619

77-95-80

Gas Tungsten Arc Welding

Credits: 10

Hours: 120

Course Description:

This competency-based course is designed for students who have completed welding levels 1/2/3 or who have equivalent experience in the field of welding (verified by instructor). It provides students with technical instruction and practical experience in gas tungsten arc welding (GTAW). Instruction includes a review of safety policies and procedures in GTAW fundamentals. Emphasis is placed on GTAW tools and equipment, fillet and groove weld techniques with base metals in accordance with the American Welding Society (AWS) D1.1 / D1.1M: Structural Welding Code – Steel, D17.1 Specification for fusion Welding of Aerospace, and D1.2 Structural Welding Code-Aluminum. 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:

Enrollment requires a reading level of 8.0 as measured by the CASAS GOALS test. Enrollment requires completion of the Welding/3 (77-95-70) course or equivalent experience in the field of welding as verified by the instructor.

NOTE: For Perkins purposes this course has been designated as a **capstone** course.

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

pp. 7-11

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. 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

p. 13

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. 7-11

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

p. 13

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 ERIK LANGARICA for developing and editing this curriculum. Acknowledgment is also given to ERICA ROSARIO for designing the original artwork for the course covers.

ANA MARTINEZ
Specialist
Career Technical Education

MATTHEW OBERLANDER
Coordinator
Adult Education Instruction

ROSARIO GALVAN
Administrator
Division of Adult and Career Education

APPROVED:

JOE STARK
Executive Director
Division of Adult and Career Education

CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS

Manufacturing and Product Development 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 Manufacturing and Product Development academic alignment matrix for identification of standards.

2.0 Communications

Acquire and accurately use Manufacturing and Product Design 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 Manufacturing and Product Design 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 Manufacturing and Product Design 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 Manufacturing and Product Design 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 Manufacturing and Product Design 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 SkillsUSA career technical student organizations.

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Manufacturing and Product Design 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 Manufacturing and Product Design anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.

Manufacturing and Product Development Pathway Standards

C. Welding and Materials Joining Pathway

The Welding and Materials Joining pathway provides students with an understanding of manufacturing processes and systems common to careers in welding and related industries. The following pathway standards are based on, but not limited to, well established American Welding Society (AWS) EG2.0 Guidelines for the Entry Level Welder. Representative topics include the interpretation and layout of welded and assembled-part prints, cutting, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening.

Sample occupations associated with this pathway:

- ◆ Metal Fabricator
- ◆ Sales
- ◆ Welders, Cutters, and Fitters
- ◆ Welding Inspector
- ◆ Welding Engineer

- C1.0 Interpret and demonstrate the planning and layout operations used in the welding processes.
- C2.0 Understand and demonstrate how materials can be processed through the use of welding tools and equipment.
- C3.0 Differentiate and apply various types of welding assembly processes.
- C4.0 Understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.
- C5.0 Understand and defend the purposes and processes of inspection and quality control in welding manufacturing processes.
- C6.0 Explore and understand various welding systems that require standard hand and machine tools.
- C7.0 Understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems, and materials resource planning.
- C8.0 Understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.
- C9.0 Understand how a manufacturing company is organized and the elements of welding production management.

CBE
Competency-Based Education

COMPETENCY-BASED COMPONENTS
for the Gas Tungsten Arc Welding Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>A. ORIENTATION AND SAFETY</p> <p>Review, apply, and evaluate classroom and workplace policies and procedures used in accordance with federal, state, and local safety and environmental regulations.</p> <p>(3 hours)</p>	<ol style="list-style-type: none"> 1. Review the scope and purpose of the course. 2. Review the overall course content as a part of the Linked Learning Initiative. 3. Review classroom policies and procedures. 4. Review the different occupations in the Manufacturing Industry Sector which have an impact on the role of welders. 5. Review the opportunities available for promoting gender equity and the representation of non-traditional populations in the welding industry. 6. Review the purpose of the California Occupational Safety and Health Administration (Cal/OSHA) and its laws governing welders. 7. Review and demonstrate the use of the Safety Data Sheet (SDS) as it applies to the welding industry. 8. Review classroom and workplace first aid and emergency procedures according to American Red Cross (ARC) standards. 9. Review how each of the following ensures a safe workplace: <ol style="list-style-type: none"> a. employees' rights as they apply to job safety b. employers' obligations as they apply to job safety c. role of the Division of Workers' Compensation (DWC) d. safe use and storage of flammable liquids and gases, materials, and safety supplies e. wearing of eye protection f. removal of jewelry g. wearing properly fitted clothing h. never leaving an operating machine unattended i. not stopping and starting a machine for someone else 10. Pass the safety exam with 100% accuracy. 	<p>Career Ready Practice: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.1, 2.2, 2.3, 2.4 Technology: 4.3 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 Responsibility and Flexibility: 7.2, 7.3, 7.4, 7.7 Ethics and Legal Responsibilities: 8.1, 8.2, 8.4, 8.7 Leadership and Teamwork: 9.3, 9.4, 9.5, 9.6 Technical Knowledge and Skills: 10.1, 10.2, 10.4 Demonstration and Application: 11.1, 11.3</p> <p>CTE Pathway: C1.1, C1.3, C2.2, C2.3, C2.4, C3.1, C3.2, C5.3, C5.5, C6.1, C6.2, C6.3, C9.1, C9.2, C9.3</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>B. GAS TUNGSTEN ARC WELDING (GTAW)</p> <p>Understand, apply, and evaluate the tools and techniques used in gas tungsten arc welding.</p> <p>(5 hours)</p>	<ol style="list-style-type: none"> 1. Define the following: <ol style="list-style-type: none"> a. Gas Tungsten-Arc Welding (GTAW) equipment b. arc length c. fillet welds d. autogenous welding e. tungsten 2. Identify and describe the following: <ol style="list-style-type: none"> a. setting up the different types of inverter and syncrowave welding machines b. operation of the different types of inverter and syncrowave welding machines c. selection of tungsten d. striking and maintaining an arc e. producing the appropriate electrode angle f. producing the appropriate arc length g. selection of current and polarity h. surface stringer beads i. padding techniques j. weld contour k. stopping and restarting a continuous bead l. GTAW welding equipment 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 10, 11</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.1, 2.2, 2.4 Career Planning and Management: 3.1 Technology: 4.3 Problem Solving and Critical Thinking: 5.2, 5.3</p> <p>CTE Pathway: C1.1, C1.3, C2.2, C2.3, C3.1, C3.2</p>
<p>C. GAS TUNGSTEN ARC WELDING (GTAW) TOOLS AND EQUIPMENT</p> <p>Understand, apply, and evaluate the tools, equipment and safety issues in gas tungsten arc welding.</p>	<ol style="list-style-type: none"> 1. Describe the following in relation to welding: <ol style="list-style-type: none"> a. fire hazards b. electrical hazards c. machinery hazards d. hazardous fumes e. compressed gas cylinder hazards f. hazardous obstacles g. suffocation hazards 2. Identify and demonstrate proper use of safety apparel for welders. 3. Describe and demonstrate the following: <ol style="list-style-type: none"> a. proper use of fire extinguishers b. first aid procedures or first, second, and third degree burns c. procedures for safe handling of asbestos d. procedures for tool use, maintenance, and repair e. procedures for handling compressed gas cylinders 4. Define the following: <ol style="list-style-type: none"> a. alternating current (AC) b. direct current (DC) c. amperes d. Unit of Electrical Resistance (OHMS) e. volts f. tungsten g. Cubic Feet per Hour (CFH) h. frequency i. hertz 	<p>Career Ready Practice: 1, 5, 10, 11</p> <p>CTE Anchor: Academics: 1.0 Problem Solving and Critical Thinking: 5.2, 5.3, 5.4 Health and Safety: 6.1, 6.3, 6.5, 6.6, 6.7, 6.8 Demonstration and Application: 11.1</p> <p>CTE Pathway: C3.1, C5.3, C5.5, C6.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(10 hours)	<ul style="list-style-type: none"> j. pulsar 5. Identify each of the following and describe its use in welding: <ul style="list-style-type: none"> a. AC and DC power supplies and their operation b. electrode classification and sizes c. gases and their cylinder identifications d. gases used on specific metals and jobs 6. Define, identify, and describe the following and their welding applications: <ul style="list-style-type: none"> a. relationship between voltage and current b. direct current straight polarity (DCSP) c. direct current reverse polarity (DCRP) d. hoses e. gauges f. regulators g. benches h. grinders 7. Describe the following: <ul style="list-style-type: none"> a. Identification and selection of correct electrodes for various metals. b. Selection and use of various torches, tips, and hoses c. Selection and use of various filters 	
<p>D. FILLET WELDS</p> <p>Understand, apply, and evaluate the tools and techniques used in gas tungsten arc welding of fillet welds in all positions.</p> <p>(50 hours)</p>	<ul style="list-style-type: none"> 1. Identify and describe the following: <ul style="list-style-type: none"> a. fillet welding terminology b. Joint design and fit-up for fillet welds c. welding sequences d. computation of measurements e. welding defects f. corrective techniques for welding defects g. size of metal deposit 2. Describe and demonstrate the following: <ul style="list-style-type: none"> a. Electrode manipulation and technique b. Single pass fillet welds c. Welding sequence on multiple pass fillet welds d. Using a fillet gauge e. Welding dissimilar metals f. Welding thin gauge g. Inspecting metal for welding defects h. Welding for joint design i. Welding plate to plate j. Fillet soundness k. Fillet welds in flat, horizontal, vertical, overhead 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 10, 11</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.1, 2.2, 2.4 Career Planning and Management: 3.1 Technology: 4.3 Problem Solving and Critical Thinking: 5.2, 5.3 Demonstration and Application: 11.1</p> <p>CTE Pathway: C1.1, C1.3, C2.2, C2.3, C3.1, C3.2</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>E. GROOVE WELDS</p> <p>Understand and apply the tools and techniques used in gas tungsten arc welding of grooves in all positions.</p> <p>(50 hours)</p>	<ol style="list-style-type: none"> 1. Define groove welding. 2. Identify the various types of groove welds. 3. Identify and describe the features and functions of the following: <ol style="list-style-type: none"> a. corner, butt, groove weld b. lay-out and fit-up of V-groove with backing strip 4. Describe and demonstrate the following: <ol style="list-style-type: none"> a. preparation of lay-out and fit-up of V-butts with backing strip b. tacking procedures c. root pass technique in groove welding d. welding sequence and technique in groove welding e. fit-up procedures on single and double V-groove welds f. fit-up procedures on single and double bevels g. fit-up procedures on double V-grooves and double bevels with a spacer h. single and double "U" grooves i. single and double "J" grooves j. fit-up procedure on single and double square groove welding k. welding techniques for plug or slot welding m. fit-up procedures on various grooves without a back-up strip 5. Identify and perform the following types of groove welds: <ol style="list-style-type: none"> a. corner b. single V-groove with backing strip c. single V-groove open d. single bevel with backing strip e. single bevel open f. double V-groove and double bevel g. groove welds in flat, horizontal, vertical, overhead 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 10, 11</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.1, 2.2, 2.4 Career Planning and Management: 3.1 Technology: 4.3 Problem Solving and Critical Thinking: 5.2, 5.3 Demonstration and Application: 11.1</p> <p>CTE Pathway: C1.1, C1.3, C2.2, C2.3, C3.1, C3.2</p>
<p>F. EMPLOYABILITY SKILLS AND RESUME PREPARATION REVIEW</p> <p>Review, apply, and evaluate the employability skills required in the welding industry.</p>	<ol style="list-style-type: none"> 1. Review employer requirements for the following: <ol style="list-style-type: none"> a. punctuality b. attendance c. attitude toward work d. quality of work e. teamwork f. responsibility g. timeliness h. communication skills 2. Update potential employers through traditional and internet sources. 3. Review the role of electronic social networking in job search. 4. Update sample resumes and cover letters. 5. Review the importance of filling out a job application legibly, with accurate and complete information. 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 Career Planning and Management: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9 Technology: 4.5, 4.6 Problem Solving and Critical Thinking: 5.1, 5.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(2 hours)		Health and Safety: 6.2 Responsibility and Flexibility: 7.3, 7.4 Ethics and Legal Responsibilities: 8.4 Leadership and Teamwork: 9.3, 9.4 Technical Knowledge and Skills: 10.4 Demonstration and Application: 11.5 CTE Pathway: C9.1, C9.2, C9.3

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Prosser, Mark A. and Minnick, William H. Gas tungsten Arc Welding Handbook, 7th Edition, G-W Publisher, 2021

RESOURCES

Employer Advisory Board members

CTE Model Curriculum Standards for Manufacturing and Product Development:

<http://www.cde.ca.gov/ci/ct/sf/documents/manproddev.pdf>

American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126; Phone: 800-443-9353,

<http://www.aws.org>

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

- A. Lectures and discussions
- B. Demonstrations and participation
- C. Multimedia presentations
- D. Individualized instruction
- E. Role-playing
- F. Guest speakers
- G. Field trips and field study experiences
- H. Projects

EVALUATION

SECTION A – Orientation and Safety – Pass the safety test with 100% accuracy.

SECTION B – Gas Tungsten Arc Welding (GTAW) – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION C – Gas Tungsten Arc Welding (GTAW) Tools and Equipment – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION D – Fillet Welds – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION E – Groove Welds – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION F – Employability Skills & Resume Preparation Review – Pass all assignments and exams 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.



This copyrighted material is provided by the Los Angeles Unified School District ("District"), Division of Adult and Career Education solely for educational purposes. You may not reproduce, distribute, republish, transfer, upload, download, or post the material except as authorized, without prior written authorization of the District. You may not modify, adapt or create derivative works therefrom without express written