

Course Outline

Transportation

REVISED: August/2017

Job Title:

Airframe Technician

Career Pathway:

Systems Diagnostics and Service

Industry Sector:

Transportation

O*NET-SOC CODE:

49-3011.00

CBEDS Title:

Aircraft Mechanics

CBEDS No.:

5653

79-70-70

Airframe Technician Trainee

Credits: 40

Hours: 900

Course Description:

This competency-based course includes instruction in aircraft airframe theory: modern techniques, equipment, and materials used in the repair and maintenance of airframes; electrical, hydraulic, instrument, and environmental control systems, blueprint reading, measurement, sheet metal development, fabrication, welding, heat treating, finishing, aircraft assembly and rigging, fabric covering, and repair. 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 minimum 9.0 reading level as measured by the TABE D9/10 and a minimum 9.0 math level as measured by the TABE 9M. Complete Battery Test and the minimum age of 16. Successful completion of the Airframe and Powerplant Technician (79-70-50) course.

NOTE: For Perkins purposes this course has been designated as a **concentrator/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. 7-13

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. 7-13

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

pp. 15-16

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

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CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS

Transportation 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 Transportation academic alignment matrix for identification of standards.

2.0 Communications

Acquire and accurately use Transportation 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 Transportation 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 Transportation 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 Transportation 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 Transportation 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 organization

10.0 Technical Knowledge and Skills

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

Transportation Pathway Standards

C. Systems Diagnostics and Service Pathway

The Systems Diagnostics and Service pathway prepares students for postsecondary education and employment in the transportation industry, which includes but is not limited to motor vehicles, rail systems, marine applications, and small-engine and specialty equipment.

Sample occupations associated with this pathway:

- ◆ Service Technician/Maintenance Worker/Shop Foreman
- ◆ Technical Writer
- ◆ Dispatcher
- ◆ Engineer
- ◆ Investigator/Inspector

- C1.0 Demonstrate the practice of personal and occupational safety and protecting the environment by using materials and processes in accordance with manufacturer and industry standards.
- C2.0 Practice the safe and appropriate use of tools, equipment, and work processes.
- C3.0 Use scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems.
- C4.0 Perform and document maintenance procedures in accordance with the recommendations of the manufacturer.
- C5.0 Apply and understand appropriate business practices.
- C6.0 Demonstrate the application, operation, maintenance, and diagnosis of engines, including but not limited to two- and four-stroke and supporting subsystems.
- C7.0 Demonstrate the function, principles, and operation of electrical and electronic systems using manufacturer and industry standards.
- C8.0 Demonstrate the function and principles of automotive drivetrain, steering and suspension, brake, and tire and wheel components and systems in accordance with national industry standards.

CBE
Competency-Based Education

COMPETENCY-BASED COMPONENTS
for the Airframe Technician Trainee Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>A. ORIENTATION AND SAFETY</p> <p>Understand, apply, and evaluate classroom and workplace policies and procedures.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Explain the safe use of shop equipment and storage areas. 2. Pass the designated shop safety examination with 100% accuracy. 3. Demonstrate the safe use of hand tools and power tools. 4. Explain safety issues unique to aircraft operation and maintenance. 5. Describe the Material Safety Data Sheet (MSDS) as it applies to the aviation industry. 6. Define the FAA (Federal Aviation Administration) involvement with aviation safety. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7 Technical Knowledge and Skills: 10.2</p> <p>CTE Pathway: C1.1, C1.2, C1.3, C1.4, C1.5, C2.2, C2.3, C2.5</p>
<p>B. AIRCRAFT STRUCTURES AND AIRFRAME STRUCTURAL REPAIR</p> <p>Understand, apply, and evaluate the techniques, tools, and materials for repairing the components of an aircraft structure and reporting a proper sheet metal structural repair.</p>	<ol style="list-style-type: none"> 1. Identify and describe the fuselage; its structure and construction materials. 2. Describe the wings and their components; spars, ribs, stringers, and skin. 3. Describe the engine nacelles, cowling, and pylons. 4. Describe the empennage; the vertical and horizontal stabilizers. 5. Explain the significance of the primary control surfaces. 6. Describe the landing gear. 7. Identify the construction materials of airframe skin and fairings. 8. Identify the access panels and inspection doors. 9. Describe and identify helicopter airframe structures and construction materials. 10. Differentiate between basic sheet metal repair types. 11. Perform a damage assessment of sheet metal structure. 12. Identify and demonstrate the use of sheet metal repair tools and machines. 13. Perform sheet metal repairs. 14. Hand form, straight-line bend, and joggle sheet metal parts. 15. Identify, lay-out, install, and remove rivets. 16. Identify, install, and remove special rivets. 17. Explain the implications of structural sealing. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.3</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(162 hours)	18. Describe and identify composite structures. 19. Describe metal-bonded honeycomb. 20. Identify particular types of composite structure repairs. 21. Perform a repair on a composite structure. 22. Describe and identify types of plastics. 23. Describe fiberglass components.	
C. ASSEMBLY AND RIGGING Understand, apply, and evaluate the assembly and rigging techniques for aircraft components to produce optimum performance.	1. Fully understand the theory of flight. 2. Describe the atmosphere; pressure, temperature, density, and humidity. 3. Explain the theory and operation of primary and secondary flight controls. 4. Understand the significance of high-speed aerodynamics. 5. Demonstrate the process of installation and rigging of flight control surfaces. 6. Explain stability and control of and around the three axis of motion. 7. Describe rigging flight checks and related flight handling characteristics. 8. Demonstrate control surface balancing procedures. 9. Demonstrate knowledge of helicopter aerodynamics and control.	Career Ready Practice: 1 CTE Anchor: Technical Knowledge and Skills: 10.1 CTE Pathway: C6.1
D. AIRCRAFT FABRIC COVERING Understand, apply, and evaluate the selection and application techniques for organic and synthetic fabric covering materials.	1. Identify cotton and polyester covering fabrics. 2. Describe acceptable seams and fabric cementing techniques. 3. Demonstrate the application of covering to airframe structures. 4. Explain and demonstrate stitching techniques. 5. Describe drain and inspection openings. 6. Describe types and classes of fabric repairs. 7. Demonstrate fabric material testing. 8. Identify doping materials. 9. Demonstrate dope application to fabric covering.	Career Ready Practice: 1 CTE Anchor: Technical Knowledge and Skills: 10.1 CTE Pathway: C6.3
E. AIRCRAFT PAINT AND FINISHES Understand, apply, and evaluate the painting and material finishing techniques for aircrafts.	1. Identify paint and finishing materials. 2. Demonstrate paint removal and surface preparation. 3. Identify paint primer materials. 4. Demonstrate spray-painting techniques. 5. Apply paint and dope. 6. Demonstrate application of trim colors and registration numbers. 7. Perform final finish inspection and identify defects.	Career Ready Practice: 1 CTE Anchor: Technical Knowledge and Skills: 10.1 CTE Pathway: C6.3

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>F. AIRCRAFT WELDING</p> <p>Understand, apply, and evaluate the welding and metal joining techniques for aircraft.</p> <p>(42 hours)</p>	<ol style="list-style-type: none"> 1. Realize the many and varied welding processes. 2. Demonstrate oxyacetylene gas welding. 3. Name welding positions and joint-types. 4. Describe welding techniques of both ferrous and non-ferrous metals. 5. Describe brazing and soldering. 6. Describe arc-welding techniques. 7. Describe metal cutting using oxyacetylene gas cutting torch. 8. Demonstrate welding of aircraft steel structures. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.3</p>
<p>G. ICE AND RAIN PROTECTION</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the ice and rain protection systems.</p> <p>(15 hours)</p>	<ol style="list-style-type: none"> 1. Grasp the significance of the hazards of icing. 2. Describe pneumatic de-icer boot system and operation. 3. Explain inspection and repair of de-icer boot systems. 4. Describe thermal anti-icing system and operation. 5. Explain inspection and repair of anti-icing systems. 6. Be aware of ground de-icing processes. 7. Describe windshield icing control systems. 8. Describe rain elimination systems. 9. Explain the inspection and repair of rain elimination systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Health and Safety: 6.2, 6.5 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.3</p>
<p>H. HYDRAULIC AND PNEUMATIC POWER SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the hydraulic and pneumatic power systems.</p> <p>(80 hours)</p>	<ol style="list-style-type: none"> 1. Describe aircraft hydraulic systems. 2. Identify and describe the differences in hydraulic fluids. 3. Explain the purpose and function of hydraulic system components. 4. Fully understand hydraulic system pressure regulation. 5. Describe the process of servicing hydraulic systems. 6. Identify filters and methods of their servicing. 7. Describe pneumatic systems on aircraft. 8. Inspect and service pneumatic systems on aircraft. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C3.3</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>I. LANDING GEAR SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for landing gear components and systems.</p> <p>(85 hours)</p>	<ol style="list-style-type: none"> 1. Describe types of landing gear configurations. 2. Demonstrate gear retraction methods and construction. 3. Fully understand emergency gear extension systems. 4. Describe wheels, tires, and brakes. 5. Describe shock strut operation and servicing. 6. Explain the operation of nose wheel steering systems. 7. Describe anti-skid braking systems. 8. Inspect, check, service, and repair landing gear systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Health and Safety: 6.5 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C8.3, C8.4, C8.5</p>
<p>J. FIRE PROTECTION SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for aircraft fire detection/extinguishing systems and smoke and carbon monoxide systems.</p> <p>(15 hours)</p>	<ol style="list-style-type: none"> 1. Describe types of fire detection systems. 2. Explain the designated fire zones of an aircraft. 3. Explain the four types of fires. 4. Differentiate among the types of fire extinguishing agents. 5. Identify the two major types of fire extinguishing systems. 6. Describe smoke detector and carbon monoxide systems. 7. Demonstrate the maintenance of fire detection and extinguishing systems. 8. Troubleshoot and repair aircraft fire detection and extinguishing systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Health and Safety: 6.5 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.3</p>
<p>K. AIRCRAFT ELECTRICAL SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for aircraft electrical systems and components.</p> <p>(127 hours)</p>	<ol style="list-style-type: none"> 1. Review theory of electricity. 2. Review electrical generator and motor theory. 3. Describe electrical power distribution systems. 4. Identify wire sizes and types. 5. Demonstrate wiring practices. 6. Differentiate between bonding wires and static dischargers. 7. Describe connectors, terminal lugs, and junction boxes. 8. Define wire bundles and conduits. 9. Describe electrical equipment installation. 10. Describe lighting systems. 11. Repair electrical system components. 12. Inspect, check, service, troubleshoot, and repair electrical systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C3.5, C7.1, C7.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>L. AIRCRAFT INSTRUMENT SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for aircraft instruments and instrument systems.</p> <p>(35 hours)</p>	<ol style="list-style-type: none"> 1. Explain the categories of aircraft instruments. 2. Fully understand instrument system parameters. 3. Describe flight instruments. 4. Differentiate between pilot-static and gyroscopic instruments. 5. Describe magnetic compass and heading indication systems. 6. Describe airframe system instrument sensing and indication systems. 7. Explain autopilot operation, components, and systems. 8. Demonstrate instrument installation procedures. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C7.7</p>
<p>M. COMMUNICATION AND NAVIGATION SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the communication and navigation components and systems.</p> <p>(35 hours)</p>	<ol style="list-style-type: none"> 1. Explain radio principles. 2. Identify and describe communication components. 3. Name and describe communication systems of various radio frequency ranges. 4. Describe the instrument landing systems (ILS). 5. Explain en-route and long range navigation systems. 6. Describe the installation of communication and navigation systems. 7. Check the operation of communication and navigation systems. 8. Describe the installation procedure of antenna systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C7.7</p>
<p>N. CABIN ATMOSPHERE CONTROL SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the cabin atmosphere control systems.</p> <p>(46 hours)</p>	<ol style="list-style-type: none"> 1. Explain the atmospheric gases and the human need for oxygen. 2. Describe air conditioning and cabin pressurization systems. 3. Describe supercharger operation and its application to the cabin atmosphere control system. 4. Fully understand the function of cabin pressurization control valves. 5. Describe cabin environmental system controls. 6. Explain air ducts and air distribution systems. 7. Describe the two major types of air conditioning systems. 8. Describe cabin environmental control system inspection and maintenance. 9. Define the types of supplemental oxygen systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Health and Safety: 6.5, 6.6 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C7.5</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>O. FUEL SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the airframe fuel systems and components.</p> <p>(46 hours)</p>	<ol style="list-style-type: none"> 1. Describe characteristics and properties of aviation gasoline and jet fuels. 2. Explain fuel contamination testing and prevention. 3. Describe fuel system components and configurations. 4. Describe fuel system design requirements for both single and multi-engine aircraft. 5. Explain fuel quantity indication systems. 6. Describe fuel transfer and jettison systems. 7. Explain fuel tank construction, inspection, and repair procedures. 8. Inspect, check, service, and repair fuel system components. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.4</p>
<p>P. POSITION AND WARNING SYSTEMS</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the flight deck position and warning systems.</p> <p>(19 hours)</p>	<ol style="list-style-type: none"> 1. Describe landing gear and flap position indication and warning systems. 2. Explain take-off warning systems. 3. Differentiate between visual and aural flight crew warning systems. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C7.7</p>
<p>Q. WOOD STRUCTURES</p> <p>Understand, apply, and evaluate the inspection, maintenance, and troubleshooting techniques for the wood airframe structures.</p> <p>(15 hours)</p>	<ol style="list-style-type: none"> 1. Describe wood airframe structures. 2. Explain inspection and repair of wood components. 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C6.3</p>
<p>R. AIRFRAME INSPECTION</p> <p>Understand, apply, and evaluate techniques for airframe inspection.</p>	<ol style="list-style-type: none"> 1. Fully understand methods of airframe visual and non-destructive (NDT) inspections. 2. Explain the various types of scheduled and non-routine inspections. 3. Describe inspection planning and record keeping methods. 4. Discuss FAA regulations concerning airframe inspections. 5. Perform a 100-hour airframe inspection. 	<p>Career Ready Practice: 1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(38 hours)		<p>CTE Anchor: Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: C2.3, C5.2, C5.6</p>
<p>S. EMPLOYABILITY SKILLS</p> <p>Understand, apply, and evaluate employability skills required in aircraft inspection, operation, and repair.</p> <p>(2 hours)</p>	<ol style="list-style-type: none"> 1. Describe the different hiring requirements of the airlines. 2. Describe what tests may be given to the job applicant before the interview is given. 3. Describe what knowledge is important to have prior to an interview. 4. Explain what information is necessary for a security background check. 5. Explain how to locate employment in other cities. 6. Explain how to locate an airline web site. 7. Explain how to prepare for an interview. 8. Explain what documents besides extra résumés to take to an interview. 9. Describe what technical questions that may be directed to an inexperienced technician at an interview. 10. Describe the common mistakes that are made on job applications. 11. Write your résumé. 	<p>Career Ready Practice: 1, 3</p> <p>CTE Anchor: Career Planning and Management: 3.1, 3.2, 3.4, 3.7, 3.8, 3.9 Technical Knowledge and Skills: 10.1 Demonstration and Application: 11.1, 11.2</p> <p>CTE Pathway: C1.4, C2.6, C3.7, C4.2, C4.4, C5.6, C6.4, C7.7</p>

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Airframe and Powerplant Mechanics: General (FAA-H-8083-30). U.S. Department of Transportation, FAA, 2008.

Airframe and Power Plant Mechanics: Airframe Handbook (AC 65-15A). U.S. Department of Transportation, FAA, 1988.

Airframe and Power Plant Mechanics: Powerplant Handbook (AC 65-12A). U.S. Department of Transportation, FAA, 1985.

Federal Aviation Regulations for Aviation Maintenance Technicians (FAR-AMT). U.S. Department of Transportation, FAA, 2011.

Acceptable Methods, Techniques and Practices: Aircraft Inspections, Repair and Alterations (AC43. 13-1B, AC43. 13-2A). U.S. Department of Transportation, FAA, 1989.

RESOURCES

Employer Advisory Board members

Foundation Standards

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

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

- A. Lecture and discussion
- B. Multimedia presentations
- C. Visual aids
- D. Projects
- E. Individualized instruction

EVALUATION

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

SECTION B – Aircraft Structures and Aircraft Structural Repair – Pass all assignments and exams on aircraft structures and aircraft structural repair with a minimum score of 80% or higher.

SECTION C – Assembly and Rigging – Pass all assignments and exams on assembly and rigging with a minimum score of 80% or higher.

SECTION D – Aircraft Fabric Covering – Pass all assignments and exams on aircraft fabric covering with a minimum score of 80% or higher.

SECTION E – Aircraft Paint and Finishes – Pass all assignments and exams on aircraft paint and finishes with a minimum score of 80% or higher.

SECTION F – Aircraft Welding – Pass all assignments and exams on aircraft welding with a minimum score of 80% or higher.

SECTION G – Ice and Rain Protection – Pass all assignments and exams on ice and rain protection with a minimum score of 80% or higher.

SECTION H – Hydraulic and Pneumatic Power Systems – Pass all assignments and exams on hydraulic and pneumatic power and fittings with a minimum score of 80% or higher.

SECTION I – Landing Gear Systems – Pass all assignments and exams on landing gear systems with a minimum score of 80% or higher.

SECTION J – Fire Protection Systems – Pass all assignments and exams on fire protection systems with a minimum score of 80% or higher.

SECTION K – Aircraft Electrical Systems – Pass all assignments and exams on aircraft electrical systems II with a minimum score of 80% or higher.

SECTION L – Aircraft Instrument Systems – Pass all assignments and exams on aircraft instrument systems with a minimum score of 80% or higher.

SECTION M – Communication and Navigation Systems – Pass all assignments and exams on communication and navigation systems with a minimum score of 80% or higher.

SECTION N – Cabin Atmosphere Control Systems – Pass all assignments and exams on cabin atmosphere control systems with a minimum score of 80% or higher.

SECTION O – Fuel Systems – Pass all assignments and exams on fuel systems with a minimum score of 80% or higher.

SECTION P – Position and Warning Systems – Pass all assignments and exams on positioning and warning systems with a minimum score of 80% or higher.

SECTION Q – Wood Structures – Pass all assignments and exams on wood structures with a minimum score of 80% or higher.

SECTION R – Airframe Inspection – Pass all assignments and exams on airframe inspection with a minimum score of 80% or higher.

SECTION S – Employability Skills – Pass all assignments and exams on employability skills with a minimum score of 80% or higher.

Statement for Civil Rights

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