Course Outline

Transportation **REVISED: January/2023**

Job Title
Aircraft Mechanics & Service Technicians

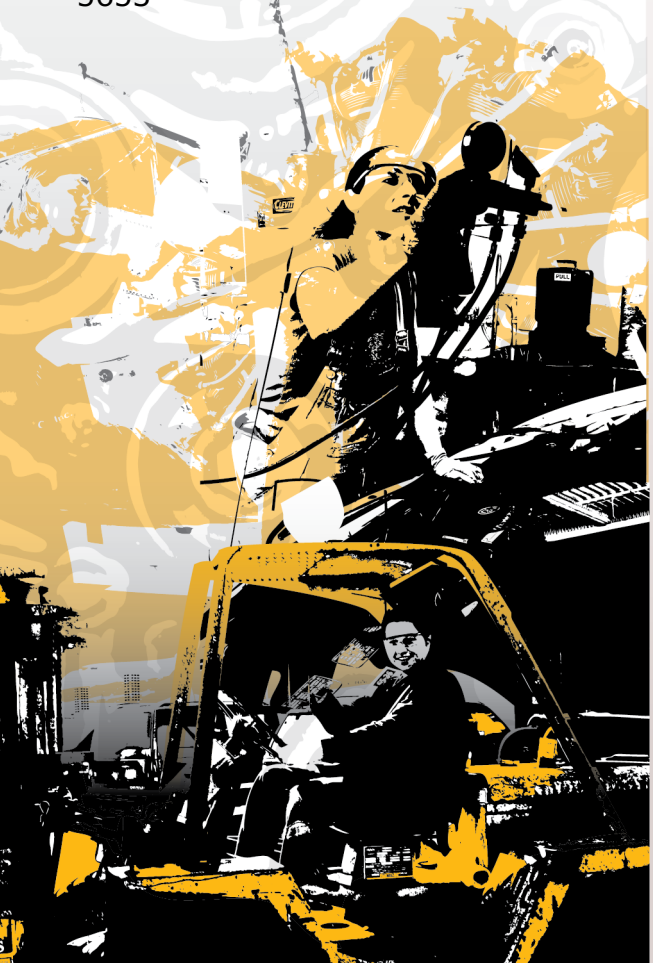
Career Pathway:
Systems Diagnostics, Service, & Repair

Industry Sector:
Transportation

O*NET-SOC CODE:
49-3011.00

CBEDS Title:
Aircraft Mechanics

CBEDS No.:
5653



79-70-73

Aviation Mechanic Systems II - Powerplant

Credits: 20 **Hours:** 292.5

Course Description:
This competency-based course includes instruction in general subjects related to aviation maintenance including orientation and safety, engine electrical systems, ignition and starting systems, engine lubrication systems, engine fuel and fuel metering systems, and engine instrument systems. It prepares students to pass parts of the Federal Aviation Administration (FAA) airframe and powerplant mechanic examinations. The competencies in this course are aligned with the FAA Title 14 CFR Part 147 Airman Certification Standards requirements, 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 CASAS GOALS test and a minimum 9.0 math level as measured by the CASAS GOALS test and the minimum age of 16.

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

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

Los Angeles Unified School District
Division of Adult and Career Education
Instructional and Couseling Services Unit
Adult Curriculum Office
www.wearedace.org

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 ROBERT GIBSON and DANIEL D. PERKINS for developing and editing this curriculum. 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
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.

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 Aviation Mechanic Systems II - Powerplant Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
A. ORIENTATION AND SAFETY Understand, apply, and evaluate classroom and workplace policies and procedures. (2 hours)	1. Review the scope and purpose of the course. 2. Review the FAA requirements for attendance. 3. Review the federal certification requirements. 4. Review and explain classroom policies, grading, and procedures. 5. Review the different occupations in the Transportation Industry Sector which have an impact on the role of aviation mechanics. 6. Review the opportunities available for promoting gender equity and the representation of non-traditional populations. 7. Review and recognize the importance of teamwork, respecting individual and cultural differences and diversity in the workplace. 8. Review the impact of Environmental Protection Agency (EPA) legislation on Transportation Industry Sector practices in protecting and preserving the environment. 9. Review OSHA-10 policies, procedures, and regulations for the workplace environment. 10. Review and demonstrate the procedures for contacting proper authorities for the removal of hazardous materials based on the EPA standards. 11. Review the California Occupational Safety and Health Administration (Cal/OSHA) and its electrical safety standards governing aviation mechanics. 12. Review the Safety Data Sheet (SDS) as it applies to the aviation industry. 13. Review classroom and workplace first aid and emergency procedures based on the American Red Cross (ARC) standards. 14. Review school safety regulations. 15. Review the safe use of shop equipment and storage areas. 16. Pass the safety test with 100% accuracy.	**Career Ready Practice:** 1, 3, 9, 10 **CTE Anchor:** Academics: 1.0 Career Planning and Management: 3.4, 3.6, 3.9 Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7 Leadership and Teamwork: 9.6 Technical Knowledge and Skills: 10.2 Demonstration and Application: 11.1 **CTE Pathway:** C1.2, C1.3, C1.4, C2.2, C4.2, C5.1, C5.2
B. ENGINE ELECTRICAL SYSTEMS Demonstrate and understand the knowledge, risk management, and skill elements required for aircraft engine electrical systems.	1. The student demonstrates understanding and terminology of: a. DC generators, AC alternators, and starter-generator systems b. voltage regulators, overvoltage/overcurrent protection, Constant Speed Drive (CSD) and Integrated Drive Generator (IDG) system and components c. procedures for locating the correct electrical cable/wire size needed to fabricate a cable/wire harness assembly d. purpose and procedure for paralleling a dual-generator electrical system e. engine electrical wiring, switches, and protective devices	**Career Ready Practice:** 1, 4, 5, 10, 11 **CTE Anchor:** Academics: 1.0 Technology: 4.1

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(Refer to FAA-ACS Subject F) (63 hours)	2. The student demonstrates the ability to identify, assess, and mitigate risk associated with: a. polarity when performing electrical system maintenance b. actions in response to a warning or caution annunciator light c. maintenance on energized aircraft circuits/systems d. routing and security of wiring near flammable fluid lines 3. The student demonstrates the ability to: a. inspect an engine-driven generator or alternator, cable, wiring, switches, connectors, and circuit protection devices in a system b. determine wire size and suitability of a replacement component by part number in an electrical system c. remove and replace an engine-driven generator, alternator, and direct-drive electric starter d. troubleshoot an aircraft electrical system generator, starter, and starter-generator using a schematic or wiring diagram e. repair a broken engine electrical system wire, replace wire bundle lacing, and fabricate a bonding jumper	Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.2 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1 **CTE Pathway:** C2.2, C2.3, C2.4, C2.5, C2.6, C3.4, C3.5, C3.7, C6.3, C7.1, C7.7
C. IGNITION AND STARTING SYSTEMS Demonstrate and understand the knowledge, risk management, and skill elements required for aircraft ignition and starting systems. (Refer to FAA-ACS Subject H) (65 hours)	1. The student demonstrates understanding and terminology of: a. ignition system and spark plug theory, shower of sparks, and impulse couplings b. magneto system circuits, components, and operation c. solid-state ignition systems and digital engine control modules (e.g., FADEC) d. engine starters and turbine engine ignition systems 2. The student demonstrates the ability to identify, assess, and mitigate risk associated with: a. advanced and retarded ignition timing (piston engine) b. maintenance on engines with capacitor discharge ignition systems c. working around reciprocating engines with an ungrounded magneto 3. The student demonstrates the ability to: a. inspect magneto braker points and impulse coupling, set internal timing and time magneto to engine b. remove and clean a spark plug, inspect, and check gap, and identify correct spark plug type for installation or replacement c. inspect, troubleshoot, and repair a turbine engine or reciprocating engine ignition system harness, and ignition and starting system circuit d. inspect and troubleshoot a turbine engine ignition system, ignitors, and identify correct ignitor plugs for installation or replacement	**Career Ready Practice:** 1, 4, 5, 10, 11 **CTE Anchor:** Academics: 1.0 Technology: 4.1 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.3 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1 **CTE Pathway:** C2.2, C2.3, C3.4, C3.5, C3.7, C4.3, C6.4, C5.1, C5.6, C6.1, C7.1, C7.7,

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
D. ENGINE LUBRICATION SYSTEMS Demonstrate and understand the knowledge, risk management, and skill elements required for aircraft engine lubrication systems. (Refer to FAA-ACS Subject G) (65 hours)	1. The student demonstrates understanding and terminology of: a. types, grades, and uses of engine oil b. lubrication system operation, components, inspection, servicing, and analysis c. wet-sump and dry-sum oil systems d. chip detectors and causes of excessive oil consumption 2. The student demonstrates the ability to identify, assess, and mitigate risk associated with: a. use or mixing of engine oils b. following other than manufacturer's recommendations regarding the use of engine lubricants c. handling, storage, and disposal of used lubricating oil 3. The student demonstrates the ability to: a. inspect an oil cooler or oil lines and replace an oil system component b. determine the correct type of oil for a specific engine and determine approved oils for different climatic temperatures c. identify turbine engine oil filter bypass indicator and locate procedures for obtaining oil samples and inspecting an oil filter, screen or system flow d. perform oil pressure adjustment and troubleshoot an engine oil temperature/pressure system malfunction e. remove and inspect an engine oil chip detector and identify types of metal found in an oil filter	**Career Ready Practice:** 1, 4, 5, 10, 11 **CTE Anchor:** Academics: 1.0 Technology: 4.1 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.2 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1 **CTE Pathway:** C1.2, C2.2, C2.3, C3.7, C4.1, C4.3, C5.1, C5.6, C6.1, C6.2, C6.3
E. ENGINE FUEL AND FUEL METERING SYSTEMS Demonstrate and understand the knowledge, risk management, and skill elements required for engine fuel and fuel metering systems.	1. The student demonstrates understanding and terminology of: a. float type carburetor, fuel/air mixture ratio and fuel metering theory, components, operation, and adjustment b. pressure carburetor and continuous-flow fuel injection theory, components, operation, troubleshooting, and adjustment c. digital engine control modules (e.g., FADEC), components theory and operation of turbine engine fuel metering systems d. hydromechanical fuel control systems, fuel nozzles and manifold components, design, operation, and maintenance e. operation and inspection requirements for engine fuel systems f. fuel heaters, lines, pumps, valves, filters, and engine fuel drains 2. The student demonstrates the ability to identify, assess, and mitigate risk associated with: a. adjusting a turbine engine fuel control unit and a reciprocating engine fuel control system b. handling fuel metering system components and control units that may contain residual fuel	**Career Ready Practice:** 1, 4, 5, 10, 11 **CTE Anchor:** Academics: 1.0 Technology: 4.1 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.2 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(Refer to FAA-ACS Subject I) (65 hours)	c. considerations during fuel system maintenance 3. The student demonstrates the ability to: a. inspect, troubleshoot, repair, and adjust a continuous flow fuel injection system b. remove, inspect, install, and determine correct spray pattern for a turbine engine fuel nozzle c. identify components and correct fuel and air flow through a float-type carburetor d. remove and install a float-type carburetor, main metering jet, and inspect the fuel inlet screen e. inspect the needle, seats, float level, and adjust idle speed and mixture on a float-type carburetor f. locate and explain procedures for removing and installing a turbine engine fuel control unit with inspection procedures or a turbine engine RPM overspeed inspection g. locate procedures for adjusting a hydromechanical fuel control unit and inspect fuel metering cockpit controls for proper adjustment h. identify and inspect engine fuel system fluid lines and components i. remove, install, troubleshoot, inspect, and adjust an engine-driven fuel pump, boost-pump, and warning lights for proper fuel flow and pressure j. remove, clean, reinstall, and inspect fuel system selector valves and filters k. locate and identify an engine fuel heater and respective troubleshooting procedures l. locate and identify fuel selector placards	**CTE Pathway:** C2.1, C2.2, C2.3, C3.7, C5.1, C5.6, C6.1, C6.3
F. ENGINE INSTRUMENT SYSTEMS Demonstrate and understand the knowledge, risk management, and skill elements required for aircraft engine instrument systems.	1. The student demonstrates understanding and terminology of: a. fuel flow, torquemeters, and Engine Pressure Ratio (EPR) b. engine temperature and pressure indicating instruments c. engine speed indicating systems, instrument range markings, and instrument indication conditions d. annunciator indicating systems and Engine Indicating and Crew Alerting Systems (EICAS) e. digital engine control module, FADEC, and electronic centralized Aircraft Monitor (ECAM) 2. The student demonstrates the ability to identify, assess, and mitigate risk associated with: a. maintenance damage to the instrument or indicating system b. engine instrument calibration or instrument error 3. The student demonstrates the ability to: a. inspect, troubleshoot, and repair engine oil temperature and pressure instruments and respective warning indication system b. locate, inspect, and troubleshoot low fuel pressure indicating and warning systems c. Remove inspect, install, and check fuel-flow transmitter and respective power supply	**Career Ready Practice:** 1, 4, 5, 10, 11 **CTE Anchor:** Academics: 1.0 Technology: 4.1 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.2 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(Refer to FAA-ACS Subject D) (32.5 hours)	d. Identify and troubleshoot components of an electrical tachometer system and inspect instrument markings for accuracy e. Remove, inspect, troubleshoot, resistance check, and install reciprocating and turbine Exhaust Gas Temperature (EGT), Cylinder Head Temperature (CHT), thermocouple probes, and indicating system components f. Locate procedures for troubleshooting a turbine Engine Pressure Ratio (EPR) system g. Inspect and check engine manifold pressure and respective gauge for proper operation	**CTE Pathway:** C2.1, C2.2, C2.3, C2.5, C2.6, C3.5, C3.7, C4.1, C4.2, C6.4, C5.1, C5.6, C7.1, C7.7

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Jeppesen Sanderson Inc., A & P Technician Powerplant Textbook, 3rd Edition. Jeppesen Sanderson Publishing, 2016

Jeppesen Sanderson Inc., Powerplant Technician Test Guide with Oral and Practical Study Guide, 6th Edition. Jeppesen Sanderson Publishing, 2016

Federal Aviation Administration., Aircraft Inspection, Repair & Alterations: Acceptable Methods, Techniques & Practices, 8th Edition, Aircraft Technical Book Company, 2009

Federal Aviation Administration (FAA)/Aviation Supplies & Academics (ASA), Federal Aviation Regulations for Aviation Maintenance Technicians, 2022 Edition, Aviation Supplies & Academics, 2021

Optional Handbooks and Reference Material

Federal Aviation Administration, Airframe & Powerplant Mechanics, Airframe Handbook, Volume 1, Aircraft Technical Book Co., 2018

Federal Aviation Administration, Airframe & Powerplant Mechanics, Airframe Handbook, Volume 2, Aircraft Technical Book Co., 2018

Crane, Dale and Michmerhuizen, Aviation Mechanic Handbook, 7th Edition, Aviation Supplies & Academics, 2017

RESOURCES

Employer Advisory Board members

California Career Technical Education Model Curriculum 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 & Safety – Pass the safety test with 100% accuracy.

SECTION B – Engine Electrical Systems – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION C – Ignition and Starting Systems – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION D – Engine Lubrication Systems – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION E – Engine Fuel and Fuel Metering Systems – Pass all assignments and exams with a minimum score of 80% or higher.

SECTION F – Engine Instrument Systems – 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.