Aircraft Maintenance Tech (AIRM)

Courses

AIRM 1100 Introduction to Aircraft Maintenance and Aviation Aerodynamics: 2 semester hours.
Familiarization of aircraft structures and forces that act upon an airframe in flight. PREREQ: Minimum score of 14 on ALEKS or equivalent. F

AIRM 1101 Mathematics: 3 semester hours.
Math topics relevant to technical drawings, aircraft weight and balance, area calculations, volumes, ratios/proportions, and calculating physical forces on an aircraft. PREREQ: Minimum score of 14 on ALEKS or equivalent. F

AIRM 1104 Materials and Processes: 4 semester hours.
Includes the use of non-destructive testing, selection of hardware and materials for repair, repair fittings/fluid lines, cleaning and corrosion testing, testing/inspection of repairs, and shop/tool safety. PREREQ: Minimum score of 14 on ALEKS or equivalent. F

AIRM 1107 Forms and Regulations: 2 semester hours.
Familiarization with new electronically-based FAA forms and regulations to include: maintenance forms, inspections, airworthiness criteria, repairs/alterations, Title 14 CFRs, section 43 (preventative maintenance and rebuilding) and airman certification. PREREQ: Minimum score of 14 on ALEKS or equivalent. F

AIRM 1108 Basic Electricity: 3 semester hours.
Provides knowledge of electrical voltage, current, resistance, continuity, and includes practical application of theory to repair of aircraft. Blueprints, wiring diagrams, and diagnostic procedures will be included in the lab. S

AIRM 1109 Fluid Systems: 2 semester hours.
Identification, uses, and safe handling of all fluids related to aircraft maintenance through practical application. Emphasis will be given to hydraulics, fuels, plumbing, and instrumentation associated with fluids. S

AIRM 1110 Landing Gear Systems: 2 semester hours.
Operational theory, services, component inspection/replacement, and comprehensive maintenance of landing gear. S

AIRM 1111 Auxiliary Systems: 3 semester hours.
Cabin pressure/atmospheric controls, ice/rain/snow/fire protection systems, inspection, troubleshooting, and service of systems. Su

AIRM 1112 Aircraft Electrical Systems: 3 semester hours.
Installation, trouble-shooting, and servicing of aircraft electrical systems to include: wiring, controls, switches, speed indicators, alternators, generators, and generators. Su

AIRM 1113 Rigging and Inspection: 2 semester hours.
Proper rigging for fixed and rotary winged aircraft followed by inspection in accordance with FAA conformity and airworthiness standards. PREREQ: Minimum score of 14 on ALEKS or equivalent. F

AIRM 1114 Metallic Structures: 4 semester hours.
Combination of welding skill development in SMAW, GMAW, and GTAW processes combined with joining structural airframe materials using multiple types of rivets and fasteners. S

AIRM 1115 Aircraft Instruments, Communications, and Navigation: 2 semester hours.
Service and inspection of electronic flight control instruments, communications systems, and navigation components. S

AIRM 1116 Non-Metallic Structures: 3 semester hours.
All non-metallic components of the airframe are covered from wood to composites, fabric coverings, and painting. Emphasis will be given to inspection of repaired components and bonded structures to include: fiberglass, plastic, composite, and honeycomb structures. F

AIRM 2221 Reciprocating Engine Theory and Practice: 3 semester hours.
Engine design, engine purpose, functions, diagnostics, maintenance, services, and troubleshooting. S

AIRM 2222 Advanced Reciprocating Engine Inspection and Maintenance: 2 semester hours.
Repair/overhaul using approved FAA procedures used to check engines for conformity to manufacturer's specifications, testing, and installation. S

AIRM 2223 Basic Turbine Engines: 3 semester hours.
Design, construction, operating principles, and materials used in turbine engines. Inspection, maintenance, and troubleshooting will be covered. F

AIRM 2224 Advanced Turbine Engines: 2 semester hours.
Testing of repaired engines to determine compliance with manufacturer's specifications, airworthiness, and phased inspections. F

AIRM 2225 Powerplant Lubrication Systems: 2 semester hours.
Components of engine lubrication, system diagnosis, troubleshooting, and repair of lubrication systems. Concepts of pressure maintenance, lubrication specifications, and overall preventative maintenance will be included. F

AIRM 2227 Engine Fuel Metering Systems: 2 semester hours.
Design, purpose, and function of carburetors, fuel injection, and hydro-mechanical fuel systems for reciprocating and jet engines. S

AIRM 2228 Engine Ignition Systems: 2 semester hours.
Design, operation, and overhaul of magneto ignition and capacitor discharge ignition, and cooling systems. S

AIRM 2229 Engine Electrical and Instrument Systems: 2 semester hours.
Design, operation, and overhaul of the various electrical components and system indicators used on aircraft engines. S

AIRM 2230 Propeller Systems: 2 semester hours.
Propeller design, purpose, and components will be covered to include controllable, reversing, and feathering propellers. Service, maintenance, and installation will be covered. F

AIRM 2296 Independent Study: 1-8 semester hours.
Addresses specific learning needs of individuals for the enhancement of knowledge and skills within the program area under the guidance of an instructor. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D

AIRM 2298 Special Topics: 1-8 semester hours.
Addresses the specific needs of industry, enabling students to upgrade technical skills that are not included in the current program curriculum. PREREQ: Permission of the instructor. D