

# Aircraft Maintenance Tech (AIRM)

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## 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