Aviation Maint Tech (AMT)

Courses

AMT A170 Aircraft Ground Operations and Safety 1 Credit
Examines safety in aviation maintenance including aircraft ground operation and fuel servicing. Presents policies and procedures of the Aviation Maintenance Technology Program, UAA and the FAA.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  

AMT A171 Basic Aerodynamics 3 Credits
Introduces the theory of aerodynamics and factors affecting flight of heavier than air fixed and rotary wing aircraft. Emphasizes aircraft weight and balance, aircraft structures, aerodynamics, theory of flight and aircraft rigging.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  

AMT A172 Aircraft Publications, Regulations and Records 3 Credits
Examines the government's involvement in aviation maintenance, and FAA regulations regarding aviation maintenance and approved training programs. Emphasizes the use of maintenance publications, maintenance forms and records, and technicians' privileges and limitations.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  

AMT A174 Fundamentals of Aircraft Electronics 3 Credits
Examines the theory, derivation, and application of basic DC and AC electrical concepts, definitions, and laws. Introduces passive electrical components, electrical sources, AC waveforms, schematic symbols, and electrical wiring diagrams. Explains troubleshooting fundamentals and circuit analysis of both passive and reactive components.  
Prerequisites: MATH A055.  
Corequisites: AMT A174L.  

AMT A174L Fundamentals of Aircraft Electronics Lab 2 Credits
Introduces the methods of safe and accurate measurement of DC and AC electrical quantities using basic electrical test equipment. Connecting, testing, and operating a variety of DC and AC circuit components, troubleshooting defective components, observing the characteristics of electrical components in test circuits, and wiring circuits from schematic diagrams.  
Prerequisites: MATH A055 and AMT A170 or concurrent enrollment.  
Corequisites: AMT A174.  

AMT A175 Drawing and Precision Measurement 2 Credits
Examines the theory and techniques involved in making and reading aircraft drawings and blueprints. Introduces precision measurement techniques and practice, and the use of blueprint information.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  

AMT A176 Aircraft Materials and Processes 1 2 Credits
Introduces aircraft cleaning, corrosion control, materials, and aircraft hardware. Covers the selection of appropriate cleaning chemicals and processes. Describes the identification, selection, and installation of aircraft hardware, fluid lines, and fittings. Examines the performance of aircraft processes such as heat treating and hardness testing.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  
Prerequisites: AMT A170 or concurrent enrollment.  

AMT A177 Reciprocating Engine Theory 2 Credits
Introduces the theory of operation and construction of the internal combustion engine. Examines the combustion processes, design rationale, cooling and lubrication of internal combustion of reciprocating engines.  
Registration Restrictions: Formal acceptance into the AMT certificate or degree program.  

AMT A181 Aircraft Fuel Systems 3 Credits
Examines aircraft fuels, fuel/air mixtures, basic fuel systems and fuel metering devices. Introduces the application of fuels, metering systems, tanks, valves, fuel lines, carburetors, fuel injection systems, turbochargers, and superchargers utilized in a variety of modern aircraft.  
Prerequisites: AMT A176.  
Corequisites: AMT A181L.  

AMT A181L Aircraft Fuel Systems Lab 1 Credit
Examines the identification, handling, inspection, servicing, and troubleshooting aircraft fuels, basic fuel systems, and fuel metering devices, including complex aircraft systems, tanks, valves, fuel lines, carburetors, fuel injection systems, turbo-chargers, and superchargers.  
Prerequisites: AMT A170 and AMT A176.  
Corequisites: AMT A181.  

AMT A185 Aircraft Sheetmetal Structures 3 Credits
Introduces sheetmetal, its properties, and uses in fabrication of structural and nonstructural components of aerospace vehicles. Inspection techniques are addressed along with fabrication and repair processes of bending, cutting, forming, drilling, and riveting aluminum sheetmetal parts.  
Prerequisites: AMT A176.  
Corequisites: AMT A185L.  

AMT A185L Aircraft Sheetmetal Structures Lab 2 Credits
Examines the inspection, fabrication, and repair of aircraft sheetmetal structures including the processes of bending, cutting, forming, drilling, and riveting aluminum sheetmetal parts.  
Prerequisites: AMT A170 and AMT A176.  
Corequisites: AMT A185.
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**Corequisites:**
- AMT A170
- AMT A174
- AMT A175
- AMT A274
- AMT A275
- AMT A276
- AMT A277
- AMT A278
- AMT A279
- AMT A282
- AMT A283
- AMT A284
AMT A284L  Aircraft Electrical Machinery Lab 2 Credits
Application of practices in inspecting, servicing, operation, testing, and repair of electrical components such as electrical motors, DC generators, DC alternators, AC alternators, voltage regulators, reverse current relays, generator and alternator protection devices, magnetos, and ignition system components.
Prerequisites: AMT A272.
Corequisites: AMT A284.

AMT A285  Aircraft Bonded Structures 4 Credits
Examines the theory of and techniques used in the fabrication, inspection, repair, and finishing of bonded structures, plastics, wood structures, fabric covering, honeycomb structures, and advanced composite structures.
Prerequisites: AMT A176.
Corequisites: AMT A285.

AMT A285L  Aircraft Bonded Structures Lab 1 Credit
Provides practice in the fabrication, inspection, and repair of bonded structures including plastics, fabric covering, honeycomb structures, advanced composite structures, and painting.
Prerequisites: AMT A176.
Corequisites: AMT A285.

AMT A286  Aircraft Materials and Processes II 2 Credits
Examines the theory of and techniques used in the repair of aircraft steel structures, and certain aluminum, magnesium, and titanium components.
Prerequisites: AMT A176.

AMT A287  Reciprocating Engine Installation and Operation 3 Credits
Provides an in-depth study of the installation, operation, and inspection of aircraft reciprocating engines. Examines the application of performance testing and troubleshooting practices commonly used to diagnose and correct aircraft engine problems.
Prerequisites: AMT A181 and AMT A187.
Corequisites: AMT A287.

AMT A287L  Reciprocating Engine Installation and Operation Lab 2 Credits
Provides practice in the installation, operation and inspection of aircraft reciprocating engines. Details the application of performance testing and troubleshooting practices commonly used to diagnose and correct aircraft engine problems.
Prerequisites: AMT A181L and AMT A187L.
Corequisites: AMT A287.

AMT A289  Turbine Engine Installation and Operation 3 Credits
Provides an in-depth study of the installation, operation and inspection of aircraft turbine engines. Examines the application of performance testing and troubleshooting practices commonly used to diagnose and correct aircraft engine problems.
Prerequisites: AMT A181 and AMT A279.
Corequisites: AMT A289.

AMT A289L  Turbine Engine Installation and Operation Lab 2 Credits
Provides practice in the installation, operation, and inspection of aircraft turbine engines. Details the application of performance testing and troubleshooting practices commonly used to diagnose and correct aircraft engine problems.
Prerequisites: AMT A181L and AMT A279L.
Corequisites: AMT A289.

AMT A364  Aircraft Avionics Systems 3 Credits
Examines the fundamentals of design, installation, operation, testing, and maintenance of airborne communication, navigation, instrument, and auto flight systems.
Prerequisites: AMT A274.

AMT A369  Airframe Assembly and Inspections 3 Credits
Examines the procedures and rules for performance of scheduled and non-scheduled aircraft inspections and evaluation of the condition of aircraft and their systems to determine air worthiness. Details aircraft disassembly, balancing, reassembly, weight and balance, and the procedures for rigging structural assemblies and flight control systems. Students will conduct research on regulations and conformity data; plan and perform inspections, then analyze and record findings.
Prerequisites: AMT A185 and AMT A272.
Corequisites: AMT A369L.

AMT A369L  Airframe Assembly and Inspections Lab 2 Credits
Provides practice in the performance of scheduled and non-scheduled aircraft inspections. Includes practice in the performance of jacking and weighing of aircraft and disassembly, balancing, reassembly, and rigging of aircraft assemblies and flight controls, researching data, inspecting systems and components, evaluating the condition of aircraft and systems to determine air worthiness, recording findings in maintenance records.
Prerequisites: AMT A185L and AMT A272.
Corequisites: AMT A369.