AVIATION MAINTENANCE TECHNOLOGY (AMT)

AMT 103. Basic Electricity. (2 Credits)
Introduces electrical theory and concepts for the aviation mechanic, including Ohm's law, electrical circuits, diagrams, and a variety of electrical components. Lecture 1 hour per week. Laboratory 4 hours per week. Total 5 hours per week. Prerequisite: MTH 111.

AMT 104. Aviation Science for Mechanics Lab I. (1 Credit)
Introduces students to the applications of mechanics; levers, sound, fluid and heat dynamics, basic aircraft structures, aerodynamics, starting, moving, servicing, securing and fueling aircraft. Laboratory 3 hours per week. Total 3 hours per week.

AMT 105. Aviation Science for Mechanics. (1 Credit)
Introduces students to the fabrication and installation of rigid and flexible fluid lines and fittings, basic aircraft cleaning materials, methods, corrosion control, weighing procedures, weight, arms, moments, center of gravity computation, placarding, aircraft loading, required forms, weighing. Lecture 1 hour per week. Total 1 hour per week.

AMT 106. Aviation Science for Mechanics Lab II. (1 Credit)
Introduces students to the fabrication and installation of rigid and flexible fluid lines and fittings, basic aircraft cleaning materials, methods, corrosion control, weighing procedures, weight, arms, moments, center of gravity computations, placarding, aircraft loading, required forms, and weighing. Laboratory 3 hours per week. Total 3 hours per week.

AMT 107. Aircraft Drawing. (2 Credits)
Studies basic drafting, drawings, symbols and schematic diagrams, sketches of repairs and alterations, blueprint information, and graphs and charts. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

AMT 109. Materials & Processes. (2 Credits)
Studies basic shop practices, including selection, identification and installation of aircraft hardware and materials, precision measuring tools and operations, basic heat-treating processes, and forms of nondestructive inspections. Lecture 2 hours per week. Total 2 hours per week.

AMT 110. Materials & Processes Lab. (1 Credit)
Studies basic shop practices, including selection, identification and installation of aircraft hardware and materials, precision measuring tools and operations, basic heat-treating processes, and forms of nondestructive inspections. Laboratory 4 hours per week. Total 4 hours per week. Co-requisite or Prerequisite: AMT 109.

AMT 111. Federal Aviation Regulations. (2 Credits)
Reviews Federal Aviation Regulations for maintenance of aircraft, including maintenance forms and records, publications, privileges and limitations of aircraft mechanics. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

AMT 221. Non-Metallic Structures. (2 Credits)
Studies the inspection, service and repair of wood structures, preliminary and secondary repair of interior and service of plastic, honeycomb, bonded, and composite and laminated structures, including the selection, application, inspection and testing of fabric and fiberglass coverings and methods of repair; and selection of aircraft finishing materials; and the application of paints, dopes, primers and trim. Lecture 2 hours per week. Total 2 hours per week.

AMT 222. Non-Metallic Structures & Covering Lab. (2 Credits)
Studies the inspection, service and repair of wood structures, preliminary and secondary repair of interior and service of plastic, honeycomb, bonded, and composite and laminated structures, including the selection, application, inspection and testing of fabric and fiberglass coverings and methods of repair; and identification and selection of aircraft finishing materials; and the application of paints, dopes, primers and trim. Laboratory 8 hours per week. Total 8 hours per week. Co-requisite or Prerequisite: AMT 221.

AMT 223. Metallic Structures. (2 Credits)
Introduces aircraft sheet metal fabrication, inspection and repair including rivets and fasteners; contemporary welding methods on aircraft structures; oxyacetylene, arc, inert gas and brazing techniques; inspection of welded structure and safety procedures. Lecture 2 hours per week. Total 2 hours per week.

AMT 224. Metallic Structures & Finishes Lab. (2 Credits)
Introduces aircraft sheet metal fabrication, inspection and repair including rivets and fasteners; contemporary welding methods on aircraft structures; oxyacetylene, arc, inert gas and brazing techniques; inspection of welded structure and safety procedures. Laboratory 8 hours per week. Total 8 hours per week. Co-requisite or Prerequisite: AMT 223.

AMT 225. Assembly & Rigging. (1 Credit)
Introduces aerodynamic theory and function of aircraft control surfaces, including the fabrication and installation of control devices for fixed and rotary wing aircraft; jacking and control surface balance. Lecture 1 hour per week. Total 1 hour per week.

AMT 226. Assembly and Rigging Lab. (1 Credit)
Introduces aerodynamic theory and function of aircraft control surfaces, including the fabrication and installation of control devices for fixed and rotary wing aircraft; jacking and control surface balance. Laboratory 3 hours per week. Total 3 hours per week. Co-requisite or Prerequisite: AMT 225.

AMT 227. Airframe Inspections. (1 Credit)
Introduces the inspection and return of aircraft to service, including the procedural and legal aspects of 100 hour, annual and periodic inspections. Lecture 1 hour per week. Total 1 hour per week.

AMT 228. Airframe Inspections Lab. (1 Credit)
Introduces the inspection and return of aircraft to service, including the procedural and legal aspects of 100 hour, annual and periodic inspections. Laboratory 3 hours per week. Total 3 hours per week. Co-requisite or Prerequisite: AMT 227.

AMT 231. Aircraft Landing Gear Systems. (2 Credits)
Introduces simple and complex systems, including the operation, service and repair of mechanical and hydraulic retraction mechanisms; wheel, tire and brake service; aircraft speed and configuration warning systems, electric brake controls, anti-skid systems, and position and warning systems; operation of systems and uses in aircraft; identification of hydraulic fluids seals, hydraulic and pneumatic control devices. Lecture 2 hours per week. Total 2 hours per week.

AMT 232. Aircraft Landing Gear Systems Lab. (1 Credit)
Introduces simple and complex systems, including the operation, service and repair of mechanical and hydraulic retraction mechanisms; wheel, tire and brake services; aircraft speed and configuration warning systems, electric brake controls, anti-skid systems, and position and warning systems; operation of systems and uses in aircraft identification of hydraulic fluids, seals, hydraulic and pneumatic control devices. Laboratory 5 hours per week. Total 5 hours per week. Co-requisite or Prerequisite: AMT 231.

AMT 233. Communication/Navigation & Control Systems. (2 Credits)
Studies the operation of aircraft avionics, autopilots and antennas, including inspection and installation; aircraft pressurization, air conditioning, heating and oxygen systems, the operation, inspection, troubleshooting, service and repair; and inspection and servicing, and troubleshooting; and inspection, operation and troubleshooting of de-ice and anti-ice systems. Lecture 2 hours per week. Total 2 hours per week.

AMT 234. Communication/Navigation & Control Systems Lab. (1 Credit)
Studies the operation of aircraft avionics, autopilots and antennas, including inspection and installation; aircraft pressurization, air conditioning, heating and oxygen systems, the operation, inspection, troubleshooting, services and repair; and inspection servicing, and troubleshooting; and inspection and troubleshooting of de-ice and anti-ice systems. Laboratory 5 hours per week. Total 5 hours per week. Co-requisite or Prerequisite: AMT 233.

AMT 241. Reciprocating Engines. (2 Credits)
Studies the history and development of the aircraft reciprocating engine including the repair, overhaul and inspection of various types of engines, the operation and troubleshooting of engines. Lecture 2 hours per week. Total 2 hours per week.

AMT 242. Reciprocating Engines Lab. (1 Credit)
Studies the history and development of the aircraft reciprocating engine including the repair, overhaul and inspection of various types of engines, the operation and troubleshooting of engines. Laboratory 6 hours per week. Total 6 hours per week. Co-requisite or Prerequisite: AMT 241.

AMT 243. Turbine Engines. (2 Credits)
Studies the development, theory and operation of turbine engines, including engine design, performance, accessories, subsystems, engine maintenance, and overhaul. Lecture 2 hours per week. Total 2 hours per week.

AMT 244. Turbine Engines Lab. (1 Credit)
Studies the development, theory and operation of turbine engines, including engine design, performance, accessories, subsystems, engine maintenance, and overhaul. Laboratory 6 hours per week. Total 6 hours per week. Co-requisite or Prerequisite: AMT 243.

AMT 245. Powerplant Inspections. (1 Credit)
Introduces the inspection and return of powerplants to service, including the methodology and record-keeping for inspection of aircraft reciprocating and gas turbine engines and propellers. Lecture 1 hour per week. Total 1 hour per week.

AMT 246. Powerplant Inspections Lab. (1 Credit)
Introduces the inspection and return of powerplants to service, including the methodology and record-keeping for inspection of aircraft reciprocating and gas turbine engines and propellers. Laboratory 3 hours per week. Total 3 hours per week. Co-requisite or Prerequisite: AMT 245.

AMT 251. Lubrication Systems & Propellers. (2 Credits)
Studies the identification and selection of lubricants for aircraft powerplants; inspection, service, troubleshooting and repair of the lubrication systems and components; identification and nomenclature of aircraft propellers; and operation, control and repair of both reciprocating and turbine engine propeller installations. Lecture 2 hours per week. Total 2 hours per week.

AMT 252. Lubrication Systems & Propellers Lab. (1 Credit)
Studies the identification and selection of lubricants for aircraft powerplants; inspection, service, troubleshooting and repair of the lubrication systems and components; identification and nomenclature of aircraft propellers; and operation, control and repair of both reciprocating and turbine propeller installations. Laboratory 4 hours per week. Total 4 hours per week. Co-requisite or Prerequisite: AMT 251.

AMT 253. Ignition & Starting Systems. (1 Credit)
Introduces the overhaul, inspection and troubleshooting of reciprocating and gas turbine ignition and starting systems, including the repair and bench testing of components. Lecture 1 hour per week. Total 1 hour per week.

AMT 254. Ignition & Starting System Lab. (1 Credit)
Introduces the overhaul, inspection and troubleshooting of reciprocating and gas turbine ignition and starting systems, including the repair and bench testing of components. Laboratory 4 hours per week. Total 4 hours per week. Co-requisite or Prerequisite: AMT 253.

AMT 255. Fuel Metering Systems. (2 Credits)
Studies the fundamental operation of fuel metering systems in aircraft powerplants; technical data to repair and overhaul carburetors and components; inspecting, troubleshooting and adjusting turbine engine fuel metering systems and electronic fuel controls; operation and service of aircraft induction, preheat, anti-ice and supercharger systems; inspection, service and repair of engine cooling systems - both air and liquid cooled installations; inspection, service and repair of engine exhaust systems, including the operations of turbo compounded engines, thrust reversers, and noise suppressors. Lecture 2 hours per week. Total 2 hours per week.

AMT 256. Fuel Metering Systems Lab. (1 Credit)
Studies the fundamental operation of fuel metering systems in aircraft powerplants; technical data to repair and overhaul carburetors and components; inspecting, troubleshooting and adjusting turbine engine fuel metering systems and electronic fuel controls; operation and service of aircraft induction, preheat, anti-ice and supercharger systems; inspection, service and repair of engine cooling systems - both air and liquid cooled installations; inspection, service and repair of engine exhaust systems, including the operations of turbo compounded engines, thrust reversers, and noise suppressors. Laboratory 5 hours per week. Total 5 hours per week. Co-requisite or Prerequisite: AMT 255.

AMT 261. Aircraft Electrical Systems. (2 Credits)
Introduces wiring, control, indication and protection devices for AC and DC systems; inspection, troubleshooting service and repair of these systems; installation, inspection, testing, servicing engine electrical system wiring, controls, indicator and protective devices; aircraft batteries, and the repair and service of electrical generating systems. Lecture 2 hours per week. Total 2 hours per week. Prerequisite: AMT 103.

AMT 262. Aircraft Electrical Systems Lab. (1 Credit)
Introduces wiring, control, indication and protection devices for AC and DC systems; inspection, troubleshooting service and repair of these systems; installation, inspection, testing, servicing engine electrical system wiring, controls, indicator and protective devices; aircraft batteries, and the repair and service of electrical generating systems. Laboratory 6 hours per week. Total 6 hours per week. Co-requisite or Prerequisite: AMT 261.

AMT 263. Aircraft Fuel, Fire & Instrument Systems. (2 Credits)
Introduces the inspection, servicing, troubleshooting and repair of aircraft and the engine fuel systems and components; inspection, servicing, troubleshooting and repair of aircraft and engine fire detection and extinguishing systems; inspection, troubleshooting, removal and replacement of aircraft and engine instruments and indicating systems. Lecture 2 hours per week. Total 2 hours per week.

AMT 264. Aircraft Fuel, Fire, & Instrument Systems Lab. (1 Credit)
Introduces the inspection, servicing, troubleshooting and repair of aircraft and engine fuel systems and components; inspection, servicing, troubleshooting and repair of aircraft and engine fire detection and extinguishing systems; inspection, troubleshooting, removal and replacement of aircraft and engine instruments and indicating systems. Laboratory 4 hours per week. Total 4 hours per week. Co-requisite or Prerequisite: AMT 263.