

North Valley  
Occupational Center



# *Aircraft Mechanic Program*

Located at the Van Nuys Airport (VNY)

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Van Nuys, CA 91406

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All education and vocational opportunities are offered without regard to handicap, marital status, race, color, ancestry, nationality, origin, age, religion, sex and sexual orientation.

# North Valley Occupational Center — Aviation Center Aircraft Mechanic Program

## **Mission Statement**

To provide meaningful and relevant technical training in the field of aircraft maintenance and preparation for the Federal Aviation Administration (FAA) examination leading to the FAA Airframe and Powerplant (A & P) Mechanic Certification.

## **About the Aviation Center**

The NVOC Aviation Center is located on Van Nuys Airport (VNY) and has been an active part of the airport community for 40 years. As an approved Federal Aviation Regulations part 147 Aviation Maintenance Technician school, the NVOC facilities include four air conditioned classrooms, a high-bay hanger and outdoor ramp area with seven light to medium propeller driven airplanes, four jet aircraft, three helicopters, an aircraft power plant shop with both piston and turbine (jet) engines, an airframe shop with aircraft systems mock-ups, airframe structural repair equipment, a technical library; both computerized and hard copy, and a fully stocked tool and supply room.



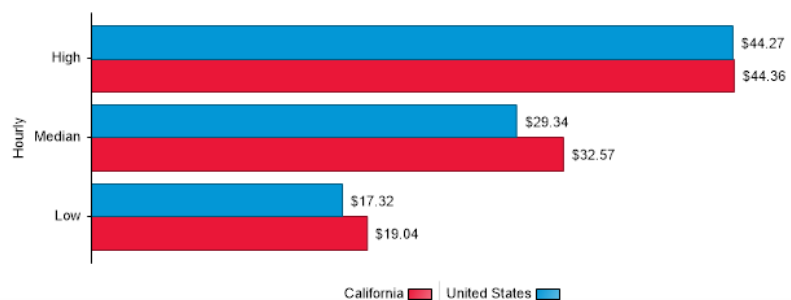
## **Employment Demand Analysis**

There is a persistent demand for both experienced and entry level FAA certified aircraft mechanics in the aircraft maintenance industry today. Major and regional airlines, corporate flight departments, helicopter operations, and fixed base operators (for small general aviation aircraft) are hiring A & P mechanics of all experience levels. In addition, aircraft airframe and engine manufacturing companies, aircraft engine and accessory overhaul facilities, aircraft modification and heavy overhaul facilities, and other aerospace companies hire our graduates.

### **Wages for Aircraft Mechanics and Service Technicians in CALIFORNIA**

[View Table](#) : [View Chart](#) : [View Map](#)

[View Yearly Wages](#)



North Valley Occupational Center — Aviation Center  
Aircraft Mechanic Program

**Program Description**

This FAA-approved program consists of 45 individual modules presented in three separate classes. The three classes are: General Subjects (11 modules), Aviation: Airframe (17 modules), and Aviation: Powerplant (17 modules). Coursework includes both classroom lecture and shop oriented projects to combine the theory of airframe, engines, and flight systems with "hands on" experience working on operational aircraft and equipment.

Upon completion, graduates will have obtained the necessary experience and skill to qualify for a FAA mechanic certification exam (*14 CFR §65.77; Experience requirements*). An FAA-issued mechanic certificate with an Airframe rating (A), or a Powerplant rating (P), or both (A&P) ratings qualifies mechanics the privilege of performing certain inspections and repair on aircraft.

**Program Prerequisites**

Prospective students must demonstrate a minimum of 9th grade proficiency on the TABE Reading and Math assessment exam. Assessment exams are administered at the NVOC main campus, located at 11450 Sharp Ave., Mission Hills, CA 91345. Candidates who qualify to begin the Aviation program may enter at the beginning of any of the four quarters of the school year. A tool supply list is provided to all students at the beginning of the program. All students are required to supply their own hand tools for the Aviation program. Sharing of tools is not suggested or recommended.

**Registration**

Registration for all Aviation Center courses is processed at the NVOC main campus. The main campus is located at 11450 Sharp Ave in Mission Hills. Counseling office hours are Monday through Thursday from 8 am until 8 pm, and Friday from 8 am until 1 pm. The Counseling Office is closed on all LAUSD school holidays.

**Class Days & Hours**

There are two learning tracks which students may follow. The full-time program track has courses Monday through Friday, 8:00 am to 3:30 pm. The part-time program courses are in the evening from 5:30 pm to 9:30 pm, Monday through Thursday. Completion of the program takes approximately two (2) years of full-time attendance, five days per week. The part-time evening program has fewer class hours, and takes longer to complete, roughly 3 to 4 years. ***NOTE: General Subjects, Airframe, and Powerplant class hours are subject to adjustment based on the most current and approved LAUSD School Board calendar.***

**Student Performance & Attendance**

The Aviation Program courses are designed with the intent for students to obtain FAA mechanic certification. Regardless of full time or part time student status, all students must demonstrate a minimum basic proficiency for all didactic (classroom) instruction, and demonstrate competency in the mechanical laboratory to remain in good standing the Aviation Program. Failure to meet any of the objectives may result in termination from the program.

Regular attendance is also necessary for the student to meet the objectives of the program. All students must complete the FAA-mandated minimum hours within each module to be granted a Certificate of Completion by the NVOC Aviation Center.

For more information: Please contact us at (818) 785-7511 or (818) 256-1400.

## **Aircraft Mechanic — General Subjects (79-70-50)**

### **Module Description**

**Basic Electricity** — Electricity theory, Ohm's Law, DC and AC circuit analysis, electrical power, batteries, multi-meter usage, generators and motors theory and operation.

**Aircraft Drawings** — Aircraft drawing types and interpretation; basic drawing skills.

**Weight and Balance** — Theory and techniques performing weight and balance checks on the aircraft.

**Fluid Lines and Fittings** — Tubing and hose fabrication and related installation hardware.

**Materials and Processes** — AN hardware, metal and non-metallic aircraft structural material, heat treatment of metal, non-destructive testing, hand and measuring tools.

**Ground Operations and Servicing** — Handling aircraft on the ground and aircraft servicing procedures.

**Cleaning and Corrosion Control** — Chemicals and techniques of washing aircraft interior and exterior; theory and practice for the inspection, identification, and control of corrosion types.

**Mathematics** — Math skills and their application in aircraft design, construction and maintenance.

**Maintenance Forms** — Records and Publications; Aircraft maintenance related FAA regulations, forms, record keeping, manuals, service bulletins, and airworthiness directives.

**Basic Physics** — Physical laws as they apply to aircraft design and operation.

**Mechanic Privileges and Limitations** — FAA regulations concerning the aircraft mechanic's authority and obligations.

**NOTE:** *General Subjects, Airframe, and Powerplant class hours are subject to adjustment based on the most current and approved LAUSD School Board calendar.*

## **Aviation: Airframe Course (79-70-70)**

### **Module Description**

**Wood Structures** — Identification of acceptable wood materials for aircraft structures, inspection and repair techniques.

**Aircraft Coverings** — Fabrics and fabric covering methods for aircraft structures.

**Aircraft Finishes** — Types of paint and techniques in paint preparation and application to aircraft structures and components.

**Aircraft Sheet Metal and Non-Metallic Structures** — Sheet metal and composite material fabrication and repair for aircraft structures.

**Welding** — Oxy-acetylene and arc welding techniques for aircraft structures; brazing and soldering.

**Assembly and Rigging** — Airframe structure component assembly and alignment methods; helicopter construction, inspection, and theory of flight and control.

**Airframe Inspection** — Scope and detail of 100-hour, annual, and progressive inspections of airframe structures and systems.

**Aircraft Landing Gear** — Fixed and retractable landing gear including shock struts, brakes, wheels and tires.

**Hydraulic and Pneumatic Power Systems** — Fluid pressure system theory, aircraft hydraulic and pneumatic components and systems.

**Cabin Atmosphere Control Systems** — Fuselage pressurization systems and oxygen supply systems.

**Aircraft Instrument Systems** — Aircraft flight instruments and airframe system sensors and indicators.

**Communication and Navigation Systems** — Description of electronic communication, navigation and automatic flight control systems.

**Aircraft Fuel Systems** — Aviation fuels and airframe fuel system components including fuel tanks, pumps and valves.

**Aircraft Electrical Systems** — Aircraft electrical power distribution systems, component control, metering, wiring materials and installation techniques.

**Position and Warning Systems** — Sensors and indicators of aircraft component position and system alerting units.

**Ice and Rain Control Systems** — Aircraft anti-icing, deicing, rain removal systems.

**Fire Protection** — Aircraft fire detection and extinguishing systems.

## **Aviation: Powerplant Course (79-70-90)**

### **Module Description**

**Reciprocating Engines** — Aircraft piston engine theory of operation, engine parts identification and inspection; engine assembly practices.

**Turbine Engines** — Aircraft turbine engine theory of operation, engine parts identification and inspection; engine assembly practices.

**Engine Removal and Replacement** — Methods and techniques in the installation, removal and storage of aircraft piston and turbine engines.

**Engine Maintenance and Operation** — Servicing, operating, and troubleshooting of piston and turbine engines.

**Engine Inspection** — 100-hour, annual, and progressive inspections of aircraft engines.

**Engine Instrument Systems** — Aircraft engine instrument system sensors and indicators.

**Engine Fire Protection Systems** — Fire warning and extinguishing systems for aircraft engines.

**Engine Electrical Systems** — Generator and alternator drive methods, wiring, connectors, and installation of electrical units.

**Lubrication Systems** — Types of engine oil, oil passages in engines, oil pumps, filters, tanks, and scavenge methods.

**Ignition Systems** — Piston engine ignition systems including magnetos, ignition harnesses, and spark plugs; turbine engine ignition systems including igniter box and igniter plugs.

**Starting Systems** — Electric and pneumatic starting systems for piston and turbine engines.

**Fuel Metering Systems** — Float and pressure carburetors, fuel injection, and turbine engine fuel control systems.

**Engine Fuel Systems** — Fuel delivery systems for aircraft engines; fuel pumps, filters, fuel lines, and valves.

**Induction and Engine Airflow Systems** — Piston engine induction system parts and function, turbo—charging and super—charging systems; turbine engine air intake systems.

**Engine Cooling Systems** — Engine heat dissipation methods through fluid heat transfer.

**Engine Exhaust and Reverser Systems** — Piston engine exhaust collector and tail—pipe construction; turbine engine exhaust and thrust—reversers.

**Propellers** — Removal, installation, servicing and maintenance of aircraft propellers, governors, and propeller controls.