

Aviation Maintenance Technology

Award Type	Units
Certificate of Achievement:	
Airframe	47
Airframe & Powerplant	78
Aviation General Studies	18
Pilot Studies	21
Powerplant	52.5
Associate of Science Degree:	
Airframe	47*
Airframe & Powerplant	78*
Aviation General Studies	18*
Pilot Studies	21*
Powerplant	52.5*
Occupational/Technical Studies (see page 220)	18*

* and courses to meet graduation requirements, general education and electives as needed to meet the minimum of 60 units required for the degree.

Program Description

Miramar College maintains a Federal Aviation Administration (FAA), Federal Aviation Regulation (FAR) Part 147 approved Aviation Maintenance Technician Program. A prerequisite of Math 38 or equivalent is required for admission. The program is 1900 hours, which represents 78 units and takes five semesters to complete. Students seeking the Airframe and/or Powerplant ratings are required to complete the minimum hours of instruction to meet the experience requirement of 14 CFR 65.77, eligibility to test for the Mechanics Certificate. To test for the Mechanic's Certificate with Airframe and/or Powerplant Ratings, arrangements are made with the local FAA Flight Standards District Office to take the appropriate written examinations followed by the appropriate oral/practical examinations. This program prepares students for entry-level positions in the field of aviation maintenance. Flexible course selection and a variety of degrees and certificates are available to enable students to prepare for a variety of occupational goals.

Credit For Aviation Maintenance Technician– Airframe or Powerplant Rating

Pending Aviation Department review and approval, students who hold a valid FAA Airframe or Powerplant Rating may apply to the Aviation Maintenance Technology Department for a maximum of 35 units. The units granted with a grade of CR will be posted to the student's transcript upon completion of the remaining Associate of Science Degree requirements.

Credit for Military Schools and Experience

Pending Aviation Department review and approval, students who have completed military technical schools recognized by the FAA may apply to the Aviation Maintenance Technology Department for a maximum of 15 units.

Credit for Work Experience

Students who have valid work experience in the aviation industry may challenge a maximum of 15 units. (See Challenge Procedure on page 24)

Program Learning Outcomes

Upon completion of the program, students will possess the knowledge and skills necessary to research, inspect, repair, and maintain aircraft in accordance with regulations, policies, and procedures set forth by the Federal Aviation Administration and the aeronautical manufacturers and maintenance organizations of the aviation industry.

Career Options

This program is primarily intended for students interested in aviation maintenance careers. The program also provides training for aircraft owners and operators who are interested in maintaining aircraft; experimental aircraft builders seeking to develop the skills required to meet FAA recognized construction standards; and those already employed in this industry seeking to upgrade their job skills.

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Certificate of Achievement: Aviation Maintenance Technology Airframe & Powerplant

Qualifies the student for the FAA Airframe and Powerplant exam.

Courses Required for the Major: **Units**

General Curriculum

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3
AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5
AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1

Powerplant Curriculum

AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2

AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 78

Certificate of Achievement: Aviation Maintenance Technology Airframe

Qualifies the student for the FAA Airframe exam.

Courses Required for the Major: **Units**

General Curriculum:

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum:

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3
AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5

AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1

Total Units = 47

Certificate of Achievement: Aviation Maintenance Technology Powerplant

Qualifies the student for the FAA Powerplant exam.

Courses Required for the Major: Units

General Curriculum

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Powerplant Curriculum

AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2
AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 52.5

Certificate of Achievement: Pilot Studies

Qualifies the student for the FAA Private Pilot exam, with an emphasis on aircraft maintenance as it applies to the pilot.

Courses Required for the Major: Units

General Curriculum

AVIA 101	Private Pilot Ground School	3
AVIA 128	Group Dynamics: Teams Under Stress	3
AVIA 133	Human Factors in Aviation	3
AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6

Total Units = 21

Recommended Electives: Aviation 105; Aviation Maintenance Technology 102G, 102H, 105B, 111C, 111D, 112C, 112D.

Certificate of Achievement: Aviation Maintenance Technology Aviation General Studies

Prepares the student for employment in the aviation industry. This program DOES NOT meet the FAA minimum requirements for the Airframe or Powerplant rating. This is also an ideal program for students who already have their Mechanic's Certificate but wish to obtain a degree.

Courses Required for the Major: Units

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2

Select 2 or more units from the following:

General Curriculum:

AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum:

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3

AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5
AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1
Powerplant Curriculum:		
AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2
AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 18

Associate of Science Degree: Aviation Maintenance Technology Airframe & Powerplant

Qualifies the student for the FAA Airframe and Powerplant exam.

Courses Required for the Major:		Units
General Curriculum		
AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2

AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3
AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5
AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1

Powerplant Curriculum

AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2
AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 78

For graduation requirements see **Associate Degree Requirements** on page 88.

Electives as needed to meet minimum of 60 units required for the degree.

Associate of Science Degree: Aviation Maintenance Technology Airframe

Qualifies the student for the FAA Airframe exam.

Courses Required for the Major: Units

General Curriculum:

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum:

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3
AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5
AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1

Total Units = 47

For graduation requirements see **Associate Degree Requirements** on page 88.

Electives as needed to meet minimum of 60 units required for the degree.

Associate of Science Degree: Aviation Maintenance Technology Powerplant

Qualifies the student for the FAA Powerplant exam.

Courses Required for the Major: Units

General Curriculum

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2
AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Powerplant Curriculum

AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2
AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 52.5

For graduation requirements see **Associate Degree Requirements** on page 88.

Electives as needed to meet minimum of 60 units required for the degree.

Associate of Science Degree: Pilot Studies

Qualifies the student for the FAA Private Pilot exam, with an emphasis on aircraft maintenance as it applies to the pilot.

Courses Required for the Major: Units**General Curriculum**

AVIA 101	Private Pilot Ground School	3
AVIA 128	Group Dynamics: Teams Under Stress	3
AVIA 133	Human Factors in Aviation	3
AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6

Total Units = 21

Recommended Electives: Aviation 105; Aviation Maintenance Technology 75, 102G, 102H, 105B, 111C, 111D, 112C, 112D.

For graduation requirements see **Associate Degree Requirements** on page 88.

Electives as needed to meet minimum of 60 units required for the degree.

Students who intend to transfer to a four-year institution should select courses for their General Education requirements that are on the CSU General Education Breadth List.

Associate of Science Degree Aviation Maintenance Technology Aviation General Studies

Prepares the student for employment in the aviation industry. This program DOES NOT meet the FAA minimum requirements for the Airframe or Powerplant rating. This is also an ideal program for students who already have their Mechanic's Certificate but wish to obtain a degree.

Note: Prerequisites may be waived depending on the student's background.

Courses Required for the Major: Units

AVIM 101G	General Aviation Technology Theory I	6
AVIM 101H	General Aviation Technology Theory II	6
AVIM 102G	General Aviation Maintenance Technology Practices I	2
AVIM 102H	General Aviation Maintenance Technology Practices II	2

Select 2 or more units from the following:

General Curriculum:

AVIM 109D	Aircraft Fire Protection and Digital Logic	1
AVIM 120	Basic D.C. Electronics Theory	3
AVIM 121A	Applied Basic D.C. Electronics	1.5

Airframe Curriculum:

AVIM 103A	Aircraft Wood, Fabric, Finishing and Composite Structures	3
AVIM 104A	Applied Aircraft Wood, Fabric, Finishing and Composite Structures	1.5
AVIM 103B	Aircraft Welding and Sheet Metal Structures	3
AVIM 103C	Aircraft Hydraulic Systems	3
AVIM 104B	Applied Aircraft Welding and Sheetmetal Structures	1.5
AVIM 104C	Applied Aircraft Hydraulic Systems	1
AVIM 103D	Aircraft Landing Gear Systems	3
AVIM 104D	Applied Aircraft Landing Gear Systems	1
AVIM 105A	Aircraft Cabin Atmosphere Control	1.5
AVIM 106A	Aircraft Cabin Atmosphere Control	0.5
AVIM 105B	Aircraft Assembly, Rigging and Inspection	1.5
AVIM 106B	Applied Aircraft Assembly, Rigging and Inspection	1
AVIM 109A	Airframe Electrical Systems	3
AVIM 110A	Applied Airframe Electrical Systems	1

Powerplant Curriculum:

AVIM 107B	Turbine Engines	3
AVIM 108B	Applied Turbine Engines	1
AVIM 109B	Powerplant Ignition Systems	2
AVIM 110B	Applied Powerplant Ignition Systems	0.5
AVIM 109C	Powerplant Electrical Systems	3
AVIM 110C	Applied Powerplant Electrical Systems	0.5
AVIM 111C	Reciprocating Engines I	3
AVIM 112C	Applied Reciprocating Engines I	2
AVIM 111D	Reciprocating Engines II	3
AVIM 112D	Applied Reciprocating Engines II	1
AVIM 241	Aircraft Propeller Systems	3
AVIM 242	Applied Aircraft Propeller Systems	1
AVIM 249	Induction and Fuel Metering	3
AVIM 250	Applied Induction and Fuel Metering	1
AVIM 253	Lubrication, Cooling, and Exhaust	3
AVIM 254	Applied Lubrication, Cooling, and Exhaust	1

Total Units = 18

For graduation requirements, see **Requirements for the Associate Degree** on page 88.

Electives as needed to meet minimum of 60 units required for the degree.