Aviation Maintenance Technology: Airframe

ASSOCIATE IN SCIENCE ***or*** CERTIFICATE OF ACHIEVEMENT

The **AS degree** will be awarded upon satisfactory completion of the major course requirements for each option and the General Education requirements listed in the Degrees and Programs section of this Catalog.

The Airframe and Powerplant Certificates of Achievement curricula include theory and practical experience in construction, inspection, overhaul, repair, and maintenance of aircraft structures, systems, and powerplants. The program is approved by the Federal Aviation Administration. Upon completion of each course with a minimum grade of "C," the student will be eligible to apply for the FAA examination for the Airframe and Powerplant license.

The aviation program is offered at the College of Alameda aviation facility located at the north end of the Oakland International Airport. Our state-of-the-art facility includes five aircraft, aircraft system mockup trainers, and a computer lab. This is a two-year evening-only program each class runs five days a week, 3 hours a night. See the Program Coordinator for information on F.A.A. testing. Mandatory attendance is required for this program to comply with F.A.A. regulations. Any time missed must be made up. The AMT student will need to purchase ranging from $150 to $400 dollars worth of tools during the course of this program.

Career Opportunities

An airframe and powerplant mechanic (A&P) is certified and responsible to inspect and maintain aircraft. Job opportunities are available literally all over the world.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Student will interpret and assess aircraft systems as to airworthy condition. Student will demonstrate an ability to maintain these aircraft systems. Student will apply their knowledge of systems to evaluate FAA publications as to airworthy standard. Maintenance record recording will be completed to FAA standards.
- Prepare for personal, educational and/or career goals.
- Perceive, understand, and engage in verbal and nonverbal communication.
- Understand and demonstrate personal, civic, social, environmental responsibility and cooperation in order to become a productive local and global citizen.

Degree Major Requirements

DEPT/NO.	TITLE	UNITS
AMT 56L	Basic Science of Aviation Maintenance Technology	3.0
AMT 56	Basic Science of Aviation Maintenance Technology	6.5
AMT 58L	Survey of Aviation Maintenance Technology	3.0
AMT 58	Survey of Aviation Maintenance Technology	6.5
AMT 62L	Airframe Systems I	3.0
AMT 62	Airframe Systems I	6.5
AMT 64L	Airframe Systems II	3.0
AMT 64	Airframe Systems II	6.5
AMT 66L	Airframe Systems and Review	3.0
AMT 66	Airframe Systems and Review	4.0
	Minimum Required Units:	**45.0**

Aviation Maintenance Technology: Airframe ASSOCIATE IN SCIENCE

Recommended Course Sequence

	COURSE		UNITS	REQUIREMENT	COA GE AREA
FALL 1	AMT 56	Basic Science of Aviation Maintenance Technology	6.5	Major	
	AMT 56L	Basic Science of Aviation Maintenance Technology	3	Major	
	AMT 62	Airframe Systems I	6.5	Major	
	AMT 62L	Airframe Systems I	3	Major	
		Total Number of Units:	**19**		
SPRING 1	AMT 58	Survey of Aviation Maintenance Technology	6.5	Major	
	AMT 58L	Survey of Aviation Maintenance Technology	3	Major	
	ENGL 1A ENGL 1AS	Composition and Reading or Composition and Reading (w/ support)	4 or 5	GE	4A
	LIS 85 LIS 74	Introduction to Information Resources or Information Seeking Behavior	2 or 3	GE	4C
		Total Number of Units:	**15.5-17.5**		
SUMMER 1	ENGL 31 SOC 5	Survey of African-American Literature or Minority Groups	3	GE	(3 or 4D) & 5 ***or*** 2 & 5
		Total Number of Units:	**3**		
FALL 2	AMT 64	Airframe Systems II	6.5	Major	
	AMT 64L	Airframe Systems II	3	Major	
	ANTHR 7 HUMAN 3	Magic, Religion, and Witchcraft or Future Studies	3	GE	3
	MATH 202 MATH 13	Geometry or Introduction to Statistics (+213 Support Course)	3 to 6	GE	4B
		Total Number of Units:	**15.5-18.5**		
SPRING 2	AMT 66	Airframe Systems and Review	4	Major	
	AMT 66L	Airframe Systems and Review	2	Major	
	COMM 4 COMM 6	Dynamics of Group Discussion or Intercultural Communications	3	GE	4D ***or*** 2 or 4D
	GEOG 1 PHYS 10	Physical Geography or Introduction to Physics	3 or 4	GE	1
	BUS 5 GEOG 2	Human Relations in Business or Cultural Geography	3	GE	2
		Total Number of Units:	**15-16**		

Please meet with a counselor to develop a personalized education plan to help you meet your specific goals.

Aviation Maintenance Technology: Airframe CERTIFICATE OF ACHIEVEMENT

Recommended Course Sequence

	COURSE		UNITS	REQUIREMENT
FALL 1	AMT 56	Basic Science of Aviation Maintenance Technology	6.5	Major
	AMT 56L	Basic Science of Aviation Maintenance Technology	3	Major
	AMT 62	Airframe Systems I	6.5	Major
	AMT 62L	Airframe Systems I	3	Major
		Total Number of Units:	**19**	
SPRING 1	AMT 58	Survey of Aviation Maintenance Technology	6.5	Major
	AMT 58L	Survey of Aviation Maintenance Technology	3	Major
		Total Number of Units:	**9.5**	
FALL 2	AMT 64	Airframe Systems II	6.5	Major
	AMT 64L	Airframe Systems II	3	Major
		Total Number of Units:	**9.5**	
SPRING 2	AMT 66	Airframe Systems and Review	4	Major
	AMT 66L	Airframe Systems and Review	2	Major
		Total Number of Units:	**6**	

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Aviation Maintenance Technology: Powerplant Technician

ASSOCIATE IN SCIENCE ***or*** CERTIFICATE OF ACHIEVEMENT

The **AS degree** will be awarded upon satisfactory completion of the major course requirements for each option and the General Education requirements listed in the Degrees and Programs section of this Catalog.

The Airframe and Powerplant **Certificates of Achievement** curricula include theory and practical experience in construction, inspection, overhaul, repair, and maintenance of aircraft structures, systems, and powerplants. The program is approved by the Federal Aviation Administration. Upon completion of each course with a minimum grade of "C," the student will be eligible to apply for the FAA examination for the Airframe and Powerplant license.

The aviation program is offered at the College of Alameda aviation facility located at the north end of the Oakland International Airport. Our state-of-the-art facility includes five aircraft, aircraft system mockup trainers, and a computer lab. This is a two-year evening-only program each class runs five days a week, 3 hours a night. See the Program Coordinator for information on F.A.A. testing. Mandatory attendance is required for this program to comply with F.A.A. regulations. Any time missed must be made up. The AMT student will need to purchase ranging from $150 to $400 dollar worth of tools during the course of this program.

Career Opportunities

An airframe and powerplant mechanic (A&P) is certified and responsible to inspect and maintain aircraft. Job opportunities are available literally all over the world.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Student will interpret and assess aircraft systems as to airworthy condition. Student will demonstrate an ability to maintain these aircraft systems. Student will apply their knowledge of systems to evaluate FAA publications as to airworthy standard. Maintenance record recording will be completed to FAA standards.
- Prepare for personal, educational and/or career goals.
- Perceive, understand, and engage in verbal and nonverbal communication.
- Understand and demonstrate personal, civic, social, environmental responsibility and cooperation in order to become a productive local and global citizen.

Degree Major Requirements

DEPT/NO.	TITLE	UNITS
AMT 56L	Basic Science of Aviation Maintenance Technology	3.0
AMT 56	Basic Science of Aviation Maintenance Technology	6.5
AMT 58L	Survey of Aviation Maintenance Technology	3.0
AMT 58	Survey of Aviation Maintenance Technology	6.5
AMT 70L	Theory of Powerplants I	2.5
AMT 70	Theory of Powerplants I	5.0
AMT 74L	Theory of Powerplants II	2.5
AMT 74	Theory of Powerplants II	5.0
AMT 76L	Theory of Advanced Powerplants I	3.0
AMT 76	Theory of Advanced Powerplants I	5.0
AMT 78L	Theory of Advanced Powerplants II	3.0
AMT 78	Theory of Advanced Powerplants II	5.0
	Minimum Required Units:	**50.0**

Recommended:

AMT 270, Aviation Maintenance Technology Preparation (1-3) (if needed)

Aviation Maintenance Technology: Powerplant Technician ASSOCIATE IN SCIENCE

Recommended Course Sequence

	COURSE		UNITS	REQUIREMENT	COA GE AREA
FALL 1	AMT 56	Basic Science of Aviation Maintenance Technology	6.5	Major	
	AMT 56L	Basic Science of Aviation Maintenance Technology	3	Major	
	MATH 202 MATH 13	Geometry ***or*** Introduction to Statistics (+213 Support Course)	3 to 6	GE	4B
	ENGL 1A ENGL 1AS	Composition and Reading ***or*** Composition and Reading (w/ support)	4 or 5	GE	4A
		Total Number of Units: 16.5-20.5			
SPRING 1	AMT 58	Survey of Aviation Maintenance Technology	6.5	Major	
	AMT 58L	Survey of Aviation Maintenance Technology	3	Major	
	AMT 70	Theory of Powerplants I	5	Major	
	AMT 70L	Theory of Powerplants I	2.5	Major	
		Total Number of Units: 17			
SUMMER 1	ENGL 31 SOC 5	Survey of African-American Literature ***or*** Minority Groups	3	GE	(3 or 4D) & 5 ***or*** 2 & 5
	GEOG 1 PHYS 10	Physical Geography ***or*** Introduction to Physics	3 or 4	GE	1
		Total Number of Units: 6-7			
FALL 2	AMT 74	Theory of Powerplants II	5	Major	
	AMT 74L	Theory of Powerplants II	2.5	Major	
	AMT 76	Theory of Advanced Powerplants I	5	Major	
	AMT 76L	Theory of Advanced Powerplants I	3	Major	
	LIS 85 LIS 74	Introduction to Information Resources ***or*** Information Seeking Behavior	2 or 3	GE	4C
		Total Number of Units: 17.5-18.5			
SPRING 2	AMT 78	Theory of Advanced Powerplants II	5	Major	
	AMT 78L	Theory of Advanced Powerplants II	3	Major	
	BUS 5 GEOG 2	Human Relations in Business ***or*** Cultural Geography	3	GE	2
	ANTHR 7 HUMAN 3	Magic, Religion, and Witchcraft ***or*** Future Studies	3	GE	3
	COMM 4 COMM 6	Dynamics of Group Discussion ***or*** Intercultural Communications	3	GE	4D ***or*** 2 or 4D
		Total Number of Units: 17			

Please meet with a counselor to develop a personalized education plan to help you meet your specific goals.

Aviation Maintenance Technology: Powerplant Technician

CERTIFICATE OF ACHIEVEMENT

Recommended Course Sequence

	COURSE		UNITS	REQUIREMENT
FALL 1	AMT 56	Basic Science of Aviation Maintenance Technology	6.5	Major
	AMT 56L	Basic Science of Aviation Maintenance Technology	3	Major
		Total Number of Units:	**9.5**	
SPRING 1	AMT 58	Survey of Aviation Maintenance Technology	6.5	Major
	AMT 58L	Survey of Aviation Maintenance Technology	3	Major
	AMT 70	Theory of Powerplants I	5	Major
	AMT 70L	Theory of Powerplants I	2.5	Major
		Total Number of Units:	**17**	
FALL 2	AMT 74	Theory of Powerplants II	5	Major
	AMT 74L	Theory of Powerplants II	2.5	Major
	AMT 76	Theory of Advanced Powerplants I	5	Major
	AMT 76L	Theory of Advanced Powerplants I	3	Major
		Total Number of Units:	**15.5**	
SPRING 2	AMT 78	Theory of Advanced Powerplants II	5	Major
	AMT 78L	Theory of Advanced Powerplants II	3	Major
		Total Number of Units:	**8**	

Please meet with a counselor to develop a personalized education plan to help you meet your specific goals.

Aviation Maintenance Technology (AMT)

The Aviation Maintenance Technology (AMT) program at College of Alameda provides the opportunity for students to qualify for the **Federal Aviation Administration (FAA) Airframe and Powerplant Certificate** upon successful completion of our two-year Diamond Award-winning program.

The AMT faculty and staff are dedicated to helping each and every student through this program. College of Alameda graduates are recognized throughout the aviation industry for their acquired skills and knowledge. There are programs at the College that offer financial aid and assistance to student of needs or with learning difficulties. Feel free to visit us at any time, or speak with our well qualified college's counselors, ask questions, and tour the aviation facility. Come join us for an exciting career in aviation.

NOTE: If interested in joining the AMT program, please contact College Counselors at College of Alameda, or the AMT Department directly.

AMT 49
Independent Study in Aviation Maintenance
- .5-5 units: .5-5 hours lecture (GR or P/NP)
- Acceptable for credit: CSU

In-depth exploration of an area or problem of the student's choice not covered by regular catalog offerings in Aviation Maintenance Technology. Student must obtain approval from an appropriate faculty member. For more details, see the section on independent study in the college catalog. 0950.00

AMT 56
Basic Science of Aviation Maintenance Technology
- 6.5 units, 6.5 hours lecture (GR)
- Acceptable for credit: CSU

Introduction to maintenance of both large and small aircraft: Rivet installation, basic shop math and physics, aircraft structures, aerodynamics, basic electricity, cleaning and corrosion control; and Federal Aviation Administration regulation, Part 65, Appendix D. 0950.00

AMT 56L
Basic Science of Aviation Maintenance Technology
- 3 units, 9 hours laboratory (GR)
- Acceptable for credit: CSU

Introduction to maintenance of both large and small aircraft: Rivet installation, basic shop math and physics, aircraft structures, aerodynamics, basic electricity, and cleaning and corrosion control. 0950.00

AMT 58
Survey of Aviation Maintenance Technology
- 6.5 units, 6.5 hours lecture (GR)
- Acceptable for credit: CSU

Survey of aviation maintenance technology: Federal Aviation Administration regulations, weight and balance, non-destructive testing, aircraft drawings, fluid lines and fittings, maintenance publications and forms and records, materials and processes, ground operations, aircraft finishes, and plastic and bonded structures. 0950.00

AMT 58L
Survey of Aviation Maintenance Technology
- 3 units, 9 hours laboratory (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Survey of aviation maintenance technology: Federal Aviation Administration regulations, weight and balance, non-destructive testing, aircraft drawings, fluid lines and fittings, maintenance publications and forms and records, materials and processes, ground operations, aircraft finishes, and plastic and bonded structures. 0950.00

AMT 62
Airframe Systems I
- 6.5 units, 6.5 hours lecture (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Introduction to airframe systems: Advanced airframe electrical systems, sheet metal structures; aircraft instrument, cabin environmental control, ice and rain control, and pneumatic systems. 0950.10

AMT 62L
Airframe Systems I
- 3 units, 9 hours laboratory (GR)
- Acceptable for credit: CSU

Introduction to airframe systems: Advanced airframe electrical systems, sheet metal structures; aircraft instrument, cabin environmental control, ice and rain control, and pneumatic systems. 0950.10

AMT 64
Airframe Systems II
- 6.5 units, 6.5 hours lecture (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Continuation of airframe systems: Assembly and rigging; hydraulic, fuel, and landing gear systems. 0950.10

AMT 64L
Airframe Systems II
- 3 units, 9 hours laboratory (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Continuation of airframe systems: Assembly and rigging; hydraulic, fuel, and landing gear systems. 0950.10

AMT 66
Airframe Systems and Review
- 4 units, 4 hours lecture (GR)
- Acceptable for credit: CSU

Review in preparation for the Federal Aviation Administration examination: Airframe, communication and navigation, and take-off warning systems; welding, and airframe inspection. 0950.10

AMT 66L
Airframe Systems and Review
- 2 units, 6 hours laboratory (GR)
- Acceptable for credit: CSU

Review in preparation for the Federal Aviation Administration examination: Airframe, communication and navigation, and take-off warning systems; welding, and airframe inspection. 0950.10

AMT 70
Theory of Powerplants I
- 5 units, 5 hours lecture (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Basic powerplant theory and systems: Reciprocating engine overhaul, operation, installation and removal; powerplant lubrication, and engine fuel and cooling systems. 0950.20

AMT 70L
Theory of Powerplants I
- 2.5 units, 7.5 hours laboratory (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Basic powerplant theory and systems: Reciprocating engine overhaul, operation, installation and removal; powerplant lubrication, and engine fuel and cooling systems. 0950.20

AMT 74
Theory of Powerplants II
- 5 units, 5 hours lecture (GR)
- Acceptable for credit: CSU

Continuation of basic powerplant theory and systems: Fuel metering, induction and exhaust, powerplant electrical, and engine instrument systems. 0950.20

AMT 74L
Theory of Powerplants II
- 2.5 units, 7.5 hours laboratory (GR)
- Acceptable for credit: CSU

Continuation of basic powerplant theory and systems: Fuel metering, induction and exhaust, powerplant electrical, and engine instrument systems. 0950.20

AMT 76
Advanced Powerplants I
- 5 units, 5 hours lecture (GR)
- Acceptable for credit: CSU

Advanced powerplant systems: Propeller systems, reciprocating engine inspection and troubleshooting, engine fire protection systems, and powerplant inspection. 0950.20

AMT 76L
Advanced Powerplants I
- 3 units, 9 hours laboratory (GR)
- Acceptable for credit: CSU

Advanced powerplant systems: Propeller systems, reciprocating engine inspection and troubleshooting, engine fire protection systems, and powerplant inspection. 0950.20

AMT 78
Advanced Powerplants II
- 5 units, 5 hours lecture (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Continuation of advanced powerplant systems: Ignition systems; gas turbine engine classification, construction, nomenclature, installation and operation, overhaul, inspection and repair; turboprop engines; helicopter powerplants and installation; auxiliary power units; and review in preparation for FAA written examinations. 0950.20

AMT 78L
Advanced Powerplants II
- 3 units, 9 hours laboratory (GR)
- Eligible for credit by examination
- Acceptable for credit: CSU

Continuation of advanced powerplant systems: Ignition systems; gas turbine engine classification, construction, nomenclature, installation and operation, overhaul, inspection and repair; turboprop engines; helicopter powerplants and installation; auxiliary power units; and review in preparation for FAA written examinations. 0950.20

AMT 200
Introduction and Certification for Aircraft Electronics Technicians
- 3 units, 3 hours lecture (GR or P/NP)
- Recommended Preparation: Students should have taken some aviation courses, be active in the field, or have aircraft mechanical certification.

Preparation for the AET certification from Certec: Basic knowledge and understanding of becoming an Aircraft Electronic Technician; includes fly-by-wire and other emerging technologies. 0950.40

AMT 270
Aviation Maintenance Technology Preparation

- 1-3 units, 3-9 hours laboratory (GR)
- Course partially meets certification requirements of Part 147 of Federal Aviation Administration regulations covering airframe and powerplant mechanics.
- Non-degree applicable
- Course study under this section may be repeated two times for a maximum of 3 units.

Preparation for the oral, practical, and written portions of the Federal Aviation Administration examination: Covers the general, airframe, and powerplant sections of the examination. 0950.00