

# AVIATION MAINTENANCE

College of Rural and Community Development  
Community and Technical College  
907-455-2809  
[www.ctc.uaf.edu/programs/amt/](http://www.ctc.uaf.edu/programs/amt/)

## Certificate; A.A.S. Degree

Minimum Requirements for Certificate: 31 – 49 credits; for Degree: 64 credits

Aviation maintenance offers an A.A.S. degree and certificates in three areas: airframe, powerplant, or airframe and powerplant.

Students who receive a certificate in airframe and powerplant may elect to complete the A.A.S. degree in aviation maintenance to enhance their employability.

Students in the airframe and powerplant certificate program may complete requirements for the Federal Aviation Administration (FAA) mechanic's certificate with both airframe and powerplant ratings in as little as one year. The aviation maintenance program covers many subject areas, but it places special emphasis on those skills most sought after in the Alaska job market. Through classroom and hands-on laboratory instruction, this intensive curriculum prepares students for entry into the aviation field. Graduates who pass the FAA examinations for the airframe and powerplant ratings are qualified for entry-level positions in the maintenance, repair, overhaul and modification of aircraft.

Students interested in qualifying for an FAA airframe mechanic's certificate may choose to earn only the airframe certificate, and those who wish to qualify for an FAA powerplant mechanic's certificate may choose to earn only the powerplant certificate.

Admission to the airframe and powerplant programs is at the discretion of the program faculty and requires an interview with the faculty advisor. The program normally starts around the first of September of each year. Applicants may start at other times if they meet experience and educational qualifications that meet departmental approval.

### Airframe and Powerplant — Certificate Program

- Complete the general university requirements (page 93).
- Complete the certificate requirements. (See page 95. As part of the certificate requirements, the communication, computation and human relations content is embedded in the major required courses for this program.)
- Complete the following general requirements:
 

AFPM F145—Basic Mathematics .....	1
AFPM F146—Basic Electricity .....	2
AFPM F147—Physics for Mechanics .....	0.5
AFPM F148—Aircraft Drawing .....	1
AFPM F149—Fluid Lines and Fitting .....	0.5
AFPM F150—Materials and Processes .....	2
AFPM F151—Cleaning and Corrosion Control .....	1
AFPM F152—Federal Aviation Regulations .....	1
AFPM F153—Weight and Balance .....	1
AFPM F154—Ground Operations and Servicing .....	0.5
- Complete the following airframe structures requirements:
 

AFPM F261—Non Metallic Structures .....	1
AFPM F262—Aircraft Coverings .....	1
AFPM F263—Aircraft Finishes .....	0.5
AFPM F264—Sheet Metal Structures .....	3
AFPM F265—Aircraft Welding .....	1.5
AFPM F266—Assembly and Rigging .....	1.5
AFPM F267—Airframe Inspections .....	0.5
AFPM F270—Airframe Testing .....	0.5

- Complete the following airframe systems and components requirements:
 

AFPM F230—Aircraft Electrical Systems .....	2.5
AFPM F253—Transport Category Aircraft .....	1
AFPM F254—Ice and Rain Control Systems .....	0.5
AFPM F256—Communications and Navigation Systems .....	0.5
AFPM F258—Cabin Atmosphere Control Systems .....	1
AFPM F259—Hydraulic and Pneumatic Systems .....	1.5
AFPM F260—Aircraft Landing Gear Systems .....	1.5
- Complete the following powerplant theory and maintenance requirements:
 

AFPM F235—Aircraft Reciprocating Engines .....	4.5
AFPM F240—Turbine Engines .....	2
AFPM F271—Powerplant Inspections .....	0.5
AFPM F272—Powerplant Testing .....	0.5
- Complete the following powerplant systems and components requirements:
 

AFPM F231—Powerplant Electrical Systems .....	1.5
AFPM F244—Lubrication Systems .....	1.5
AFPM F245—Ignition Systems .....	2
AFPM F246—Fuel Metering Systems .....	2
AFPM F248—Induction Systems .....	0.5
AFPM F249—Powerplant Cooling Systems .....	0.5
AFPM F250—Powerplant Exhaust Systems .....	0.5
AFPM F252—Propellers .....	2
- Complete the following combined systems and components requirements:
 

AFPM F251—Fuel Systems .....	1.5
AFPM F255—Fire Protection Systems .....	0.5
AFPM F257—Instrument Systems .....	0.5
- Minimum credits required .....

### Airframe — Certificate Program

- Complete the general university requirements (page 93).
- Complete the certificate requirements. (See page 95. As part of the certificate requirements, the communication, computation and human relations content is embedded in the major required courses for this program.)
- Complete the following general requirements:
 

AFPM F145—Basic Mathematics .....	1
AFPM F146—Basic Electricity .....	2
AFPM F147—Physics for Mechanics .....	0.5
AFPM F148—Aircraft Drawing .....	1
AFPM F149—Fluid Lines and Fitting .....	0.5
AFPM F150—Materials and Processes .....	2
AFPM F151—Cleaning and Corrosion Control .....	1
AFPM F152—Federal Aviation Regulations .....	1
AFPM F153—Weight and Balance .....	1
AFPM F154—Ground Operations and Servicing .....	0.5
- Complete the following airframe structures requirements:
 

AFPM F261—Non-Metallic Structures .....	1
AFPM F262—Aircraft Coverings .....	1
AFPM F263—Aircraft Finishes .....	0.5
AFPM F264—Sheet Metal Structures .....	3
AFPM F265—Aircraft Welding .....	1.5
AFPM F266—Assembly and Rigging .....	1.5
AFPM F267—Airframe Inspections .....	0.5
AFPM F270—Airframe Testing .....	0.5

5. Complete the following airframe systems and components requirements:
  - AFPM F230—Aircraft Electrical Systems .....2.5
  - AFPM F253—Transport Category Aircraft.....1
  - AFPM F254—Ice and Rain Control Systems.....0.5
  - AFPM F256—Communications and Navigation Systems.....0.5
  - AFPM F258—Cabin Atmosphere Control Systems.....1
  - AFPM F259—Hydraulic and Pneumatic Systems .....1.5
  - AFPM F260—Aircraft Landing Gear Systems .....1.5
6. Complete the following combined systems and components requirements:
  - AFPM F251—Fuel Systems .....1.5
  - AFPM F255—Fire Protection Systems .....0.5
  - AFPM F257—Instrument Systems .....0.5
7. Minimum credits required .....31

**Powerplant — Certificate Program**

1. Complete the general university requirements (page 93).
2. Complete the certificate requirements. (See page 95. As part of the certificate requirements, the communication, computation and human relations content is embedded in the major required courses for this program.)
3. Complete the following general requirements:
  - AFPM F145—Basic Mathematics .....1
  - AFPM F146—Basic Electricity .....2
  - AFPM F147—Physics for Mechanics .....0.5
  - AFPM F148—Aircraft Drawing .....1
  - AFPM F149—Fluid Lines and Fitting .....0.5
  - AFPM F150—Materials and Processes .....2
  - AFPM F151—Cleaning and Corrosion Control .....1
  - AFPM F152—Federal Aviation Regulations.....1
  - AFPM F153—Weight and Balance .....1
  - AFPM F154—Ground Operations and Servicing.....0.5

4. Complete the following powerplant theory and maintenance requirements:
  - AFPM F235—Aircraft Reciprocating Engines .....4.5
  - AFPM F240—Turbine Engines.....2
  - AFPM F271—Powerplant Inspections .....0.5
  - AFPM F272—Powerplant Testing .....0.5
5. Complete the following powerplant and systems components requirements:
  - AFPM F231—Powerplant Electrical Systems .....1.5
  - AFPM F244—Lubrication Systems .....1.5
  - AFPM F245—Ignition Systems .....2
  - AFPM F246—Fuel Metering Systems .....2
  - AFPM F248—Induction Systems .....0.5
  - AFPM F249—Powerplant Cooling Systems .....0.5
  - AFPM F250—Powerplant Exhaust Systems.....0.5
  - AFPM F252—Propellers.....2

6. Complete the following combined systems and components requirements:
    - AFPM F251—Fuel Systems .....1.5
    - AFPM F255—Fire Protection Systems .....0.5
    - AFPM F257—Instrument Systems .....0.5
  7. Minimum credits required .....31
- Note: This is a one-year program, usually starting at the beginning of September. Entry at other times is allowed only with departmental approval. A personal background check and drug test will be required prior to acceptance into the airframe and powerplant, airframe or powerplant certificate programs.*

**Aviation Maintenance — A.A.S. Degree**

1. Complete the general university requirements (page 93).
  2. Complete the A.A.S. degree requirements (page 97).
  3. Complete the requirements for the airframe and powerplant certificate .....49
  4. Minimum credits required .....64
- \* Students must earn a C grade (2.0) or better in each course.



All degrees (e.g. Certificate, A.A., A.A.S., A.S., etc) require additional courses. Refer to specific degree and program requirements.

## Certificate Requirements

### COMMUNICATION (2-3)

Complete one of the following:

ENGL F111X.....	(3)	_____
ABUS F170 .....	(3)	_____
ABUS F271 .....	(3)	_____
ENGL F211X.....	(3)	_____
ENGL F212 .....	(3)	_____
ENGL F213X.....	(3)	_____
COMM F131X.....	(3)	_____
COMM F141X.....	(3)	_____
DEVS F104.....	(1 – 3)	_____
DEVS F105 .....	(3)	_____

*Other program-approved discipline-based communication course or discipline-based courses with embedded communication content. (2 – 3)*

\* ENGL F212 does not fulfill the second half of the written communication requirement for the bachelor's degree.

### COMPUTATION (2-3)

Complete one of the following:

Any course at the F100-level or above in mathematical sciences (computer science, math or statistics).....	(3)	_____
ABUS F155 .....	(3)	_____
DEVM F105.....	(3)	_____
ECE F117 .....	(3)	_____
HLTH F116 .....	(3)	_____
HUMS F117.....	(3)	_____
PRT F155.....	(3)	_____
TTCH F131 .....	(3)	_____

*Other program-approved discipline-based computation course or discipline-based courses with embedded computation content. (2 – 3)*

### HUMAN RELATIONS (2-3)

Complete one of the following:

ANTH F100X/SOC F100X.....	(3)	_____
ABUS F154 .....	(3)	_____
ANL F287.....	(3)	_____
ECE F245 .....	(3)	_____
ED/PSY F245.....	(3)	_____
HLTH F106 .....	(3)	_____
HUMS F120.....	(3)	_____
RHS F110 .....	(1)	_____
AND RHS F115 .....	(2)	_____

*Other program-approved discipline-based human relations course or discipline-based courses with embedded human relations content. (2 – 3)*

**MAJOR SPECIALTY CREDITS (minimum)..... 21**

**Minimum credits for required certificate..... 30**

## Associate of Applied Science Requirements

### COMMUNICATION (9)

ENGL F111X.....	(3)	_____
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Complete one of the following:

ABUS F271 .....	(3)	_____
ENGL F211X.....	(3)	_____
ENGL F212 .....	(3)	_____
ENGL F213X.....	(3)	_____

\* ENGL F212 does not fulfill the second half of the written communication requirement for the bachelor's degree.

Complete one of the following:

COMM F131X.....	(3)	_____
COMM F141X.....	(3)	_____

### COMPUTATION (3)

Complete one of the following:

Any course at the F100-level or above in mathematical sciences (computer science, math or statistics).....	(3)	_____
ABUS F155 .....	(3)	_____
DEVM F105.....	(3)	_____
ECE F117 .....	(3)	_____
HLTH F116 .....	(3)	_____
HUMS F117.....	(3)	_____
PRT F155.....	(3)	_____
TTCH F131 .....	(3)	_____

*Other program-approved discipline-based computation course or discipline-based courses with embedded computation content. (3)*

### HUMAN RELATIONS (2-3)

Complete one of the following:

ANTH F100X/SOC F100X.....	(3)	_____
ABUS F154 .....	(3)	_____
ANL F287.....	(3)	_____
ECE F245 .....	(3)	_____
ED/PSY F245.....	(3)	_____
HLTH F106 .....	(3)	_____
HUMS F120.....	(3)	_____
RHS F110 .....	(1)	_____
AND RHS F115 .....	(2)	_____

*Other program-approved discipline-based human relations course or discipline-based courses with embedded human relations content. (3)*

**MAJOR SPECIALTY CREDITS (minimum)..... 30**

**Minimum credits required for degree ..... 60**



**UNIVERSITY OF ALASKA FAIRBANKS**

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