

AVIATION MAINTENANCE

College of Rural and Community Development
Community and Technical College
907-455-2809
www.ctc.uaf.edu/programs/amt/

Certificate; AAS Degree

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

Aviation maintenance offers an AAS 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 AAS 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

1. Complete the general university requirements (page 95).
2. Complete the certificate requirements. (See page 97. 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 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 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
7. 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
8. 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
9. Minimum credits required49

Airframe — Certificate Program

1. Complete the general university requirements (page 95).
2. Complete the certificate requirements. (See page 97. 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 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 Systems1.5
 - AFPM F255—Fire Protection Systems.....0.5
 - AFPM F257—Instrument Systems.....0.5
7. Minimum credits required31

Powerplant — Certificate Program

1. Complete the general university requirements (page 95).
2. Complete the certificate requirements. (See page 97. 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 Electricity2
 - AFPM F147—Physics for Mechanics0.5
 - AFPM F148—Aircraft Drawing1
 - AFPM F149—Fluid Lines and Fitting.....0.5
 - AFPM F150—Materials and Processes2
 - AFPM F151—Cleaning and Corrosion Control1
 - 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 Inspections0.5
 - 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 Systems2
 - AFPM F246—Fuel Metering Systems2
 - 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 Systems1.5
 - AFPM F255—Fire Protection Systems.....0.5
 - AFPM F257—Instrument Systems.....0.5
7. Minimum credits required31

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 — AAS Degree

1. Complete the general university requirements (page 95).
 2. Complete the AAS degree requirements (page 99).
 3. Complete the requirements for the airframe and powerplant certificate 49
 4. Minimum credits required64
- * Students must earn a C- grade or better in each course.

Certificate Requirements

Communication 2 – 3 Credits

Complete one of the following:

- ENGL F111X—Introduction to Academic Writing.....(3)
- ABUS F170—Business English.....(3)
- ABUS F271—Business Communications(3)
- ENGL F211X—Academic Writing about Literature.....(3)
- ENGL F212—Business, Grant and Report Writing*(3)
- ENGL F213X—Academic Writing about the Social and Natural Sciences(3)
- COMM F131X—Fundamentals of Oral Communication: Group Context(3)
- COMM F141X—Fundamentals of Oral Communication: Public Context.....(3)
or successful completion of competency test
- DEVS F104—University Communications..... (1 – 3)
- DEVS F105—Intensive Reading Development(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 Credits

Complete one of the following:

- Any course at the F100-level or above in mathematical sciences
(computer science, math or statistics).(3)
- ABUS F155—Business Math.....(3)
- DEVM F105—Intermediate Algebra(3)
- ECE F117—Math Skills for Early Childhood Educators.....(3)
- HLTH F116—Mathematics in Health Care(3)
- HUMS F117—Math Skills for Human Services(3)
- TTCH F131—Mathematics for the Trades(3)
- Other program-approved discipline-based computation course or
discipline-based courses with embedded computation content. (2 – 3)

Human Relations 2 – 3 Credits

Complete one of the following:

- ANTH F100X/SOC F100X—Individual, Society and Culture(s)(3)
- ABUS F154—Human Relations(3)
- ANL F287—Teaching Methods for Alaska Native Languages (h).....(3)
- ECE F104—Child Development: Prenatal, Infants and Toddlers (s)(3)
- ECE F107—Child Development II: Preschool and Primary Years (s)(3)
- ED/PSY F245—Child Development (s)(3)
- HLTH F106—Human Behavior in Health Care (s).....(3)
- HUMS F120—Cultural Diversity in Human Services.....(3)
- RHS F110—Cross-Cultural Bridging Skills (1) AND
RHS F115—Issues of Personal Development(2)
- Other program-approved discipline-based human relations or
discipline-based courses with embedded human relations content. (2 – 3)

Major specialty at least 21 Credits

Electives to total 30 Credits

Associate of Applied Science Requirements

Written Communication 6 Credits

- ENGL F111X—Introduction to Academic Writing.....(3)

Complete one of the following:

- ABUS F271—Business Communications(3)
- ENGL F211X—Academic Writing about Literature.....(3)
- ENGL F212—Business, Grant and Report Writing*(3)
- ENGL F213X—Academic Writing about the Social and Natural Sciences(3)

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

Oral Communication 3 Credits

Complete one of the following:

- COMM F131X—Fundamentals of Oral Communication: Group Context(3)
- COMM F141X—Fundamentals of Oral Communication: Public Context.....(3)
or successful completion of competency test

Computation 3 Credits

Complete one of the following:

- Any course at the F100-level or above in mathematical sciences
(computer science, math or statistics).(3)
- ABUS F155—Business Math.....(3)
- DEVM F105—Intermediate Algebra(3)
- ECE F117—Math Skills for Early Childhood Educators.....(3)
- HLTH F116—Mathematics in Health Care(3)
- HUMS F117—Math Skills for Human Services(3)
- TTCH F131—Mathematics for the Trades(3)
- Other program-approved discipline-based computation course or
discipline-based courses with embedded computation content. (3)

Human Relations 3 Credits

Complete one of the following:

- ANTH F100X/SOC F100X—Individual, Society and Culture (s)(3)
- ABUS F154—Human Relations(3)
- ANL F287—Teaching Methods for Alaska Native Languages (h).....(3)
- ECE F104—Child Development: Prenatal, Infants and Toddlers (s)(3)
- ECE F107—Child Development II: Preschool and Primary Years (s)(3)
- ED/PSY F245—Childhood Development (s)(3)
- HLTH F106—Human Behavior in Health Care (s)(3)
- HUMS F120—Cultural Diversity in Human Services.....(3)
- RHS F110—Cross-Cultural Bridging Skills (1) AND
RHS F115—Issues of Personal Development(2)
- Other program-approved discipline-based human relations course or
discipline-based courses with embedded human relations content. (3)

Major specialty at least 30 Credits

Electives to total 60 Credits

Minimum credits required for degree 60 Credits