

# Andrews University

Seek Knowledge. Affirm Faith. Change the World.

## 2015 – 2016 Bulletin

Department of Aviation

Berrien Springs, Michigan 49104  
[www.andrews.edu](http://www.andrews.edu) 800-253-2874

Admission to Andrews University is available to any student who meets the academic and character requirements of the university and who expresses willingness to cooperate with its policies. Because Andrews University is operated by the Seventh-day Adventist Church, the majority of its students are Seventh-day Adventists. However, no particular religious commitment is required for admission; any qualified student who will be comfortable within its religious, social, and cultural atmosphere may be admitted. The university does not discriminate on the grounds of race, color, creed, disability, national or ethnic origin, sex, marital status, or handicap. On request it makes available to the public its annual financial report. To obtain a copy, contact the Office of the Vice President for Financial Administration at the address below

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Please contact the appropriate personnel for information pertaining to schools, departments, programs, and courses. For all other bulletin inquiries you may contact the Publications & Communication Specialist in the Office of Academic Records by email at [bulletin@andrews.edu](mailto:bulletin@andrews.edu) or by phone at (269) 471-3233.

### **Volume 104**

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## Course Prefixes and Numbers

Courses are listed by course prefix and course number. Course prefixes are listed below in alphabetical order. At the end of each prefix designation is an abbreviated symbol in parentheses for the school in which the prefix occurs. Symbols are as follows:

College of Arts and Sciences (CAS)		School of Business Administration (SBA)		School of Health Professions (SHP)	
School of Architecture, Art & Design (SAAD)		School of Education (SED)		Seventh-day Adventist Theological Seminary (SEM)	
ACCT	Accounting (SBA)	ENGL	English (CAS)	MUCT	Music Composition & Theory (CAS)
AFLT	Aeronautical Flight	ENGR	Engineering (CAS)	MUED	Music Education (CAS)
AGRI	Agriculture	ENSL	Intensive English (CAS)	MUHL	Music History & Literature (CAS)
ALHE	Allied Health (CAS)	FDNT	Nutrition (SHP)	MUPF	Music Performance (CAS)
ANEA	Ancient Near Eastern Archaeology (SEM)	FILM	Film (SAAD)	MURE	Music—Religious (CAS)
ANSI	Animal Science	FMST	Family Studies (CAS)	NRSG	Nursing (SHP)
ANTH	Anthropology (CAS)	FNCE	Finance (SBA)	NTST	New Testament Studies (SEM)
ARCH	Architecture (SAAD)	FREN	French (CAS)	OTST	Old Testament Studies (SEM)
ART	Art Studio (SAAD)	FTES	Fitness & Exercise Studies (SHP)	PBHL	Public Health (SHP)
ARTH	Art History (SAAD)	GDPC	Graduate Psychology & Counseling (SED)	PHIL	Philosophy (CAS)
AVIA	Aviation	GEOG	Geography (CAS)	PHTH	Physical Therapy (SHP)
AVMT	Aviation Maintenance	GNST	General Studies (CAS)	PHTO	Photography (SAAD)
BCHM	Biochemistry (CAS)	GRMN	German (CAS)	PHYS	Physics (CAS)
BHSC	Behavioral Sciences (CAS)	GSEM	General Theological Seminary (SEM)	PLSC	Political Science (CAS)
BIBL	Biblical Languages (CAS)	HIST	History (CAS)	PORT	Portuguese (CAS)
BIOL	Biology (CAS)	HLED	Health Education (SHP)	PREL	Public Relations (CAS)
BSAD	Business Administration (SBA)	HONS	Honors (all undergraduate)	PSYC	Psychology (CAS)
CHEM	Chemistry (CAS)	HORT	Horticulture (CAS)	PTH	Physical Therapy – Professional & Post–Professional (SHP)
CHIS	Church History (SEM)	IDAS	International Development Admin St (CAS)	RELB	Religion—Biblical Studies (CAS)
CHMN	Christian Ministry (SEM)	IDSC	Interdisciplinary Studies (CAS)	RELG	Religion—General (CAS)
CIDS	Comm & Intl Development (CAS)	INFS	Information Systems (SBA)	RELH	Religion—History (CAS)
COMM	Communication (CAS)	INLS	International Language Studies (CAS)	RELP	Religion—Professional & Applied Studies (CAS)
CPTR	Computing & Software Engineering (CAS)	INT	Interiors (SAAD)	RELT	Religion—Theology (CAS)
DSGN	Design (SAAD)	ITLN	Italian (CAS)	SOCI	Sociology (CAS)
DSRE	Discipleship & Religious Education (SEM)	JOUR	Journalism (CAS)	SOWK	Social Work (CAS)
ECON	Economics (SBA)	LEAD	Leadership (SED)	SPAN	Spanish (CAS)
EDAL	Educational Administration & Leadership (SED)	MAED	Mathematics Education (CAS)	SPED	Special Education (SED)
EDCI	Educational Curriculum & Instruction (SED)	MATH	Mathematics (CAS)	SPPA	Speech—Language Pathology & Audiology (SHP)
EDFN	Educational Foundations (SED)	MDIA	Media (SAAD)	STAT	Statistics (CAS)
EDRM	Research & Measurement (SED)	MKTG	Marketing (SBA)	THST	Theology & Christian Philosophy (SEM)
EDTE	Teacher Education (SED)	MLSC	Medical Laboratory Sciences (SHP)		
EDUC	Education—General (SED)	MSCI	Mathematics and Science (CAS)		
		MSSN	World Mission (SEM)		

### COURSE NUMBERS

Non Credit	Below 100	Courses enabling the student to qualify for freshman standing
Undergraduate Lower Division	100–199	Courses usually taken during the freshman year
	200–299	Courses usually taken during the sophomore year
Undergraduate Upper Division	300–399	Courses usually taken during the junior year
	400–499	Courses usually taken during the senior year
Graduate Level	500–699	Courses for graduate students only
	700–999	Courses for post–masters students

# Program & Degree Index

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# Department of Aviation

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## Emeriti

Harry Lloyd

## Mission

Andrews University's Department of Aviation develops aviation professionals, empowered to engage and lead in the adventure of the aviation industry and Christ's worldwide mission.

## Programs

For the aviation professional, the most competitive aviation program emphasizes both flight and maintenance. Therefore, the Department of Aviation strongly recommends completing a degree with both Flight and Aviation Maintenance emphases. Students wishing to enter a non-flying aviation career, may limit their specialization to Aviation Maintenance. Two programs are available: A four-year Bachelor in Aviation, and a two-year Associate in Aviation. Students may select from available emphases for their area of study.

The Airpark is located about one mile from the central campus. Students should plan to arrange their own transportation to and from the airport.

## Associates

### Aviation, Aviation Maintenance Emphasis AT

**Total Credits: 73 - 76**

**Major: Degree Requirements - 52**

#### *Aviation Maintenance*

- AVMT 108 - Applied Science for Aerospace Technicians Credits: 4
- AVMT 114 - Aircraft Basic Electricity Credits: 2
- AVMT 116 - Federal Regulations, Publications, Forms and Records Credits: 2
- AVMT 120 - Materials and Processes for Aircraft Structures Credits: 4
- AVMT 204 - Aircraft Electrical Systems Credits: 2
- AVMT 206 - Powerplant Electrical Systems Credits: 4
- AVMT 210 - Aircraft Systems Credits: 4
- AVMT 220 - Aircraft Fuels and Fuel Systems Credits: 2
- AVMT 226 - Engine Fuel Metering Systems Credits: 2
- AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems Credits: 4
- AVMT 304 - Aircraft Metal Structures Credits: 4
- AVMT 306 - Aircraft Non-metal Structures Credits: 2
- AVMT 308 - Aircraft Assembly, Rigging and Inspections Credits: 2
- AVMT 310 - Gas Turbine Engines Credits: 4
- AVMT 314 - Aircraft Propellers and Engine Inspections Credits: 3
- AVMT 316 - Reciprocating Engine Systems and Overhaul Credits: 7
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)

## Andrews Core Experience - 21-24

Students must take all courses designated in the Associate Degree Requirements of the Andrews Core Experience.

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. Maintenance majors must successfully pass all general classes as well as the general oral and practical tests before continuing on to the airframe or powerplant.
- Students are required to have a Windows-compatible PC laptop (see Department of Aviation Charges).
- Required government issued photo identification.
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the maintenance program can begin. See the university bulletin section English Language Requirements for equivalent scores.
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, lab fees apply to all maintenance training courses (see Department of Aviation Charges).
- Admission into the maintenance program starts in the fall semester only

## Graduation Requirements

An Aviation Maintenance Certificate with both Airframe and Powerplant ratings is required for graduation.

## Resources

### *Student Handbook*

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

### Aviation, Flight Emphasis AT

**Total Credits: 57-60**

**Major: Core Requirements - 36**

#### *Flight*

- AFLT 110 - Basic Aircraft Systems Credits: 3
- AFLT 115 - Private Pilot Ground School Credits: 4
- AFLT 121 - Flight Training 1 Credits: 2
- AFLT 122 - Flight Training 2 Credits: 2
- AFLT 215 - Instrument Pilot Ground School Credits: 4
- AFLT 220 - Meteorology Credits: 3
- AFLT 226 - Instrument Simulator Training Credits: 2
- AFLT 227 - Instrument Flight Training Credits: 2
- AFLT 305 - Commercial Pilot Ground School Credits: 4
- AFLT 321 - Commercial Flight Training 1 Credits: 2
- AFLT 322 - Commercial Flight Training 2 Credits: 2
- AFLT 323 - Commercial Flight Training 3 Credits: 2
- AFLT 324 - Commercial Flight Training 4/Certified Flight Instructor Credits: 2
- AFLT 426 - Multiengine Flight Training Credits: 1

- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)
- 1 additional credit hour of Aviation Flight Elective is to be chosen in consultation with an advisor. This elective is added to the required core classes to make up the total hours required by the major.

## Andrews Core Experience - 21-24

Students must take all courses designated in the Associate Degree Requirements of the Andrews Core Experience.

## Admission Requirements

- 1st Class FAA medical with Student Pilot Certificate prior to entry into the Flight program, or petition the department for a waiver.
- Flight students are required to produce proof of citizenship (passport or birth certificate) as well as government issued photo identification.

**Contact the Department of Aviation a minimum of 4 WEEKS before the start of the semester to start the application process for TSA**

- For **ALL NON-U.S. CITIZENS** planning to receive flight training as part of their degree program, an additional government application to the Transportation Security Administration (TSA), which includes an FBI background check, is required for each flight class. Students must receive department authorization before starting the TSA application process. **TSA AUTHORISATION IS REQUIRED BEFORE ANY FLIGHT CLASSES CAN BE STARTED.**
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the flight program. See the university bulletin section English Language Requirements for equivalent scores.
- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. In order to proceed in the Flight program all students must successfully pass AFLT 122 and the Private Pilot Ground School as well as complete the private pilot written and flight check ride before being accepted in to regular status in the flight program.
- Students are required to have an iPad (see Department of Aviation Charges).
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, flight lab fees apply to all flight training courses (see Department of Aviation Charges).
- Admission into the flight program starts in the fall semester only.

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Graduation Requirements

A Private Pilot Certificate, Instrument Rating, and a Commercial Certificate with Single and Multi-Engine Ratings are required for AT flight option.

## Resources

### Student Handbook

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

## Bachelors

# Aviation, Aviation Maintenance and Business Emphasis BT

**Total Credits: 124**

## Major: Core Requirements - 73

### Aviation Maintenance - 52

- AVMT 108 - Applied Science for Aerospace Technicians Credits: 4
- AVMT 114 - Aircraft Basic Electricity Credits: 2
- AVMT 116 - Federal Regulations, Publications, Forms and Records Credits: 2
- AVMT 120 - Materials and Processes for Aircraft Structures Credits: 4
- AVMT 204 - Aircraft Electrical Systems Credits: 2
- AVMT 206 - Powerplant Electrical Systems Credits: 4
- AVMT 210 - Aircraft Systems Credits: 4
- AVMT 220 - Aircraft Fuels and Fuel Systems Credits: 2
- AVMT 226 - Engine Fuel Metering Systems Credits: 2
- AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems Credits: 4
- AVMT 304 - Aircraft Metal Structures Credits: 4
- AVMT 306 - Aircraft Non-metal Structures Credits: 2
- AVMT 308 - Aircraft Assembly, Rigging and Inspections Credits: 2
- AVMT 310 - Gas Turbine Engines Credits: 4
- AVMT 314 - Aircraft Propellers and Engine Inspections Credits: 3
- AVMT 316 - Reciprocating Engine Systems and Overhaul Credits: 7
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)

### Business Requirements - 21

Credits to be selected in consultation with adviser.

## Andrews Core Experience - 41-44

Students must take all courses designated in the Professional Degree Requirements of the Andrews Core Experience while noting the following approved course substitutions. If a student changes to another degree program, these course substitutions will no longer apply even if already completed.

#### Computer Literacy

- INFS 120 - Foundations of Information Technology Credits: 3
- Or ART 130 - Introduction to Digital Media Credits: 3
- Or pass a college-level competency exam of equivalent skills.

#### Service

- BHSC 100 - Philosophy of Service Credits: 2
- Or BHSC 300 - Philosophy of Service Fieldwork Credits: 1,2  
"S" designated major course or service plan or 2 credits of fieldwork (0-2 cr)

## Undergraduate Electives - 7-10

Credits to be selected in consultation with adviser.

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. Maintenance majors must successfully pass all general classes as well as the general oral and practical tests before continuing on to the airframe or powerplant.
- Students are required to have a Windows-compatible PC laptop (see Department of Aviation Charges).
- Required government issued photo identification.
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the maintenance program can begin. See the university bulletin section English Language Requirements for equivalent scores.
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.

- In addition to tuition, lab fees apply to all maintenance training courses (see Department of Aviation Charges).
- Admission into the maintenance program starts in the fall semester only

## Graduation Requirements

An Aviation Maintenance Certificate with both Airframe and Powerplant ratings is required for graduation.

## Resources

### *Student Handbook*

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

# Aviation, Aviation Maintenance Emphasis BT

**Total Credits: 124**

## Major: Degree Requirements - 60

### *Aviation Maintenance Requirements - 52*

- AVMT 108 - Applied Science for Aerospace Technicians Credits: 4
- AVMT 114 - Aircraft Basic Electricity Credits: 2
- AVMT 116 - Federal Regulations, Publications, Forms and Records Credits: 2
- AVMT 120 - Materials and Processes for Aircraft Structures Credits: 4
- AVMT 204 - Aircraft Electrical Systems Credits: 2
- AVMT 206 - Powerplant Electrical Systems Credits: 4
- AVMT 210 - Aircraft Systems Credits: 4
- AVMT 220 - Aircraft Fuels and Fuel Systems Credits: 2
- AVMT 226 - Engine Fuel Metering Systems Credits: 2
- AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems Credits: 4
- AVMT 304 - Aircraft Metal Structures Credits: 4
- AVMT 306 - Aircraft Non-metal Structures Credits: 2
- AVMT 308 - Aircraft Assembly, Rigging and Inspections Credits: 2
- AVMT 310 - Gas Turbine Engines Credits: 4
- AVMT 314 - Aircraft Propellers and Engine Inspections Credits: 3
- AVMT 316 - Reciprocating Engine Systems and Overhaul Credits: 7
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)

### *Departmental Electives - 8*

Credits to be selected in consultation with adviser.

## Andrews Core Experience - 41-44

Students must take all courses designated in the Professional Degree Requirements of the Andrews Core Experience while noting the following approved course substitutions. If a student changes to another degree program, these course substitutions will no longer apply even if already completed.

#### **Computer Literacy**

- INFS 120 - Foundations of Information Technology Credits: 3
- Or ART 130 - Introduction to Digital Media Credits: 3
- Or pass a college-level competency exam of equivalent skills.

#### **Service**

- BHSC 100 - Philosophy of Service Credits: 2

- Or BHSC 300 - Philosophy of Service Fieldwork Credits: 1,2  
"S" designated major course or service plan or 2 credits of fieldwork (0-2 cr)

## Undergraduate Electives - 20-23

Credits to be selected in consultation with adviser.

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. Maintenance majors must successfully pass all general classes as well as the general oral and practical tests before continuing on to the airframe or powerplant.
- Students are required to have a Windows-compatible PC laptop (see Department of Aviation Charges).
- Required government issued photo identification.
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the maintenance program can begin. See the university bulletin section English Language Requirements for equivalent scores.
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, lab fees apply to all maintenance training courses (see Department of Aviation Charges).
- Admission into the maintenance program starts in the fall semester only

## Graduation Requirements

An Aviation Maintenance Certificate with both Airframe and Powerplant ratings is required for graduation.

## Resources

### *Student Handbook*

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

# Aviation, Flight and Aviation Maintenance Emphasis BT

**Total Credits: 129 - 132**

## Major: Degree Requirements - 88

### *Aviation Maintenance - 52*

- AVMT 108 - Applied Science for Aerospace Technicians Credits: 4
- AVMT 114 - Aircraft Basic Electricity Credits: 2
- AVMT 116 - Federal Regulations, Publications, Forms and Records Credits: 2
- AVMT 120 - Materials and Processes for Aircraft Structures Credits: 4
- AVMT 204 - Aircraft Electrical Systems Credits: 2
- AVMT 206 - Powerplant Electrical Systems Credits: 4
- AVMT 210 - Aircraft Systems Credits: 4
- AVMT 220 - Aircraft Fuels and Fuel Systems Credits: 2
- AVMT 226 - Engine Fuel Metering Systems Credits: 2
- AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems Credits: 4



- AVMT 304 - Aircraft Metal Structures Credits: 4
- AVMT 306 - Aircraft Non-metal Structures Credits: 2
- AVMT 308 - Aircraft Assembly, Rigging and Inspections Credits: 2
- AVMT 310 - Gas Turbine Engines Credits: 4
- AVMT 314 - Aircraft Propellers and Engine Inspections Credits: 3
- AVMT 316 - Reciprocating Engine Systems and Overhaul Credits: 7
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)

## Flight - 36

- AFLT 110 - Basic Aircraft Systems Credits: 3
- AFLT 115 - Private Pilot Ground School Credits: 4
- AFLT 121 - Flight Training 1 Credits: 2
- AFLT 122 - Flight Training 2 Credits: 2
- AFLT 215 - Instrument Pilot Ground School Credits: 4
- AFLT 220 - Meteorology Credits: 3
- AFLT 226 - Instrument Simulator Training Credits: 2
- AFLT 227 - Instrument Flight Training Credits: 2
- AFLT 305 - Commercial Pilot Ground School Credits: 4
- AFLT 321 - Commercial Flight Training 1 Credits: 2
- AFLT 322 - Commercial Flight Training 2 Credits: 2
- AFLT 323 - Commercial Flight Training 3 Credits: 2
- AFLT 324 - Commercial Flight Training 4/Certified Flight Instructor Credits: 2
- AFLT 426 - Multiengine Flight Training Credits: 1
- 1 additional credit hour of Aviation Flight elective is to be chosen in consultation with an advisor. This elective is added to the required core classes to make up the total hours required by the major.

## Andrews Core Experience - 41-44

Students must take all courses designated in the Professional Degree Requirements of the Andrews Core Experience while noting the following approved course substitutions. If a student changes to another degree program, these course substitutions will no longer apply even if already completed.

### Computer Literacy

- INFS 120 - Foundations of Information Technology Credits: 3
- Or ART 130 - Introduction to Digital Media Credits: 3
- Or pass a college-level competency exam of equivalent skills.

### Service

- BHSC 100 - Philosophy of Service Credits: 2
- Or BHSC 300 - Philosophy of Service Fieldwork Credits: 1,2  
"S" designated major course or service plan or 2 credits of fieldwork (0-2 cr)

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- 1st Class FAA medical with Student Pilot Certificate prior to entry into the Flight program, or petition the department for a waiver.
- Flight students are required to produce proof of citizenship (passport or birth certificate) as well as government issued photo identification.

**Contact the Department of Aviation a minimum of 4 WEEKS before the start of the semester to start the application process for TSA**

- For **ALL NON-U.S. CITIZENS** planning to receive flight training as part of their degree program, an additional government application to the Transportation Security Administration (TSA), which includes an FBI background check, is required for each flight class. Students must receive department authorization before starting the TSA application process. **TSA AUTHORISATION IS REQUIRED BEFORE ANY FLIGHT CLASSES CAN BE STARTED.**

- International Students - A Toefl score of 550 or equivalent must be on file before admission to the flight and maintenance program. See the university bulletin section English Language Requirements for equivalent scores.
- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. In order to proceed in the Flight program all students must successfully pass AFLT 122 and the Private Pilot Ground School as well as complete the private pilot written and flight check ride before being accepted in to regular status in the flight program. In order to proceed in the Aviation Maintenance program students must successfully pass all general classes as well as the general oral and practical tests before continuing on to the airframe or powerplant courses.
- Students are required to have an iPad and a laptop computer (see Department of Aviation Charges).
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, flight lab fees apply to all flight training and maintenance courses (see Department of Aviation Charges).

## Graduation Requirements

A Private Pilot Certificate, Instrument Rating, and a Commercial Certificate with Single and Multi-Engine Ratings and Aircraft Maintenance Certificate with Airframe and Powerplant rating are required for graduation.

## Resources

### Student Handbook

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

# Aviation, Flight and Business Emphasis BT

## Total Credits: 124

## Major: Degree Requirements - 75

### Flight - 42

- AFLT 110 - Basic Aircraft Systems Credits: 3
- AFLT 115 - Private Pilot Ground School Credits: 4
- AFLT 121 - Flight Training 1 Credits: 2
- AFLT 122 - Flight Training 2 Credits: 2
- AFLT 215 - Instrument Pilot Ground School Credits: 4
- AFLT 220 - Meteorology Credits: 3
- AFLT 226 - Instrument Simulator Training Credits: 2
- AFLT 227 - Instrument Flight Training Credits: 2
- AFLT 230 - Aerodynamics Credits: 3
- AFLT 305 - Commercial Pilot Ground School Credits: 4
- AFLT 310 - Advanced Systems Credits: 3
- AFLT 321 - Commercial Flight Training 1 Credits: 2
- AFLT 322 - Commercial Flight Training 2 Credits: 2
- AFLT 323 - Commercial Flight Training 3 Credits: 2
- AFLT 324 - Commercial Flight Training 4/Certified Flight Instructor Credits: 2
- AFLT 426 - Multiengine Flight Training Credits: 1
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)
- 1 additional hour of aviation flight elective is to be chosen in consultation with an advisor. This elective is added to the required core classes to make up the total hours required by the major.

## Business - 21

Credits to be selected in consultation with adviser.

## Andrews Core Experience - 41-44

Students must take all courses designated in the Professional Degree Requirements of the Andrews Core Experience while noting the following approved course substitutions. If a student changes to another degree program, these course substitutions will no longer apply even if already completed.

### Computer Literacy

- INFS 120 - Foundations of Information Technology Credits: 3
- Or ART 130 - Introduction to Digital Media Credits: 3
- Or pass a college-level competency exam of equivalent skills.

### Service

- BHSC 100 - Philosophy of Service Credits: 2
  - Or BHSC 300 - Philosophy of Service Fieldwork Credits: 1,2
- "S" designated major course or service plan or 2 credits of fieldwork (0-2 cr)

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- 1st Class FAA medical with Student Pilot Certificate prior to entry into the Flight program, or petition the department for a waiver.
- Flight students are required to produce proof of citizenship (passport or birth certificate) as well as government issued photo identification.

**Contact the Department of Aviation a minimum of 4 WEEKS before the start of the semester to start the application process for TSA**

- For **ALL NON-U.S. CITIZENS** planning to receive flight training as part of their degree program, an additional government application to the Transportation Security Administration (TSA), which includes an FBI background check, is required for each flight class. Students must receive department authorization before starting the TSA application process. **TSA AUTHORISATION IS REQUIRED BEFORE ANY FLIGHT CLASSES CAN BE STARTED.**
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the flight program. See the university bulletin section English Language Requirements for equivalent scores.
- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. In order to proceed in the Flight program all students must successfully pass AFLT 122 and the Private Pilot Ground School as well as complete the private pilot written and flight check ride before being accepted in to regular status in the flight program.
- Students are required to have an iPad (see Department of Aviation Charges).
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, flight lab fees apply to all flight training courses (see Department of Aviation Charges).
- Admission into the flight program starts in the fall semester only.

## Graduation Requirements

A Private Pilot Certificate, Instrument Rating, and a Commercial Pilot Certificate with Single and Multi-Engine Ratings are required for graduation.

## Resources

### Student Handbook

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

# Aviation, Flight Emphasis BT

## Total Credits: 124

## Major: Degree Requirements - 60

### Flight - 60

- AFLT 110 - Basic Aircraft Systems Credits: 3
- AFLT 115 - Private Pilot Ground School Credits: 4
- AFLT 215 - Instrument Pilot Ground School Credits: 4
- AFLT 220 - Meteorology Credits: 3
- AFLT 121 - Flight Training 1 Credits: 2
- AFLT 122 - Flight Training 2 Credits: 2
- AFLT 226 - Instrument Simulator Training Credits: 2
- AFLT 227 - Instrument Flight Training Credits: 2
- AFLT 230 - Aerodynamics Credits: 3
- AFLT 300 - Aviation Safety Management Credits: 3
- AFLT 305 - Commercial Pilot Ground School Credits: 4
- AFLT 310 - Advanced Systems Credits: 3
- AFLT 321 - Commercial Flight Training 1 Credits: 2
- AFLT 322 - Commercial Flight Training 2 Credits: 2
- AFLT 323 - Commercial Flight Training 3 Credits: 2
- AFLT 324 - Commercial Flight Training 4/Certified Flight Instructor Credits: 2
- AFLT 340 - Airspace and Air Traffic Control Credits: 3
- AFLT 410 - Aviation Law Credits: 3
- AFLT 415 - Human Factors in Aviation Credits: 3
- AFLT 426 - Multiengine Flight Training Credits: 1
- AFLT 430 - Crew Resource Management Credits: 2
- AFLT 485 - Airline Transport Pilot Ground School Credits: 3
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)
- 2 additional hours of Aviation Flight Electives are to be chosen in consultation with an advisor. These electives are added to the required core classes that make up the total hours required by the major.

## Undergraduate Electives - 23-20

Undergraduate electives are to be chosen in consultation with an advisor.

## Andrews Core Experience - 41-44

Students must take all courses designated in the Professional Degree Requirements of the Andrews Core Experience while noting the following approved course substitutions. If a student changes to another degree program, these course substitutions will no longer apply even if already completed.

### Computer Literacy

- INFS 120 - Foundations of Information Technology Credits: 3
- Or ART 130 - Introduction to Digital Media Credits: 3
- Or pass a college-level competency exam of equivalent skills.

### Service

- BHSC 100 - Philosophy of Service Credits: 2
  - Or BHSC 300 - Philosophy of Service Fieldwork Credits: 1,2
- "S" designated major course or service plan or 2 credits of fieldwork (0-2 cr)

## Maintaining Academic Standing

- Students must maintain minimum GPA of 2.5 in all aviation coursework and 2.25 cumulative overall.

## Admission Requirements

- 1st Class FAA medical with Student Pilot Certificate prior to entry into the Flight program, or petition the department for a waiver.
- Flight students are required to produce proof of citizenship (passport or birth certificate) as well as government issued photo identification.

**Contact the Department of Aviation a minimum of 4 WEEKS before the start of the semester to start the application process for TSA**

- For **ALL NON-U.S. CITIZENS** planning to receive flight training as part of their degree program, an additional government application to the Transportation Security Administration (TSA), which includes an FBI background check, is required for each flight class. Students must receive department authorization before starting the TSA application process. **TSA AUTHORISATION IS REQUIRED BEFORE ANY FLIGHT CLASSES CAN BE STARTED.**
- International Students - A Toefl score of 550 or equivalent must be on file before admission to the flight program. See the university bulliten section English Language Requirements for equivalent scores.
- Status as an aviation major is provisional until the student demonstrates satisfactory academic and performance skills. In order to proceed in the Flight program all students must successfully pass AFLT 122 and the Private Pilot Ground School as well as complete the private pilot written and flight check ride before being accepted in to regular status in the flight program.
- Students are required to have an iPad (see Department of Aviation Charges).
- Credit by exam will only be approved for new students transferring in with previous FAA certificates subject to departmental approval.
- In addition to tuition, flight lab fees apply to all flight training courses (see Department of Aviation Charges).
- Admission into the flight program starts in the fall semester only.

## Graduation Requirements

A Private Pilot Certificate, Instrument Rating, and a Commercial Pilot Certificate with Single and Multi-Engine Ratings and Certified Flight Instructor and Air Transport Pilot written exam are required for graduation.

## Resources

### *Student Handbook*

A handbook for flight and maintenance students outlining policies, operational guidelines, and general information is available from the department office or is online at the department website. Students are responsible for all policies outlined in the Department of Aviation Handbook.

## Undergraduate Minors

### Aviation, Aviation Maintenance Emphasis Minor

#### Total Credits - 32

#### Maintenance

Note: A Aircraft Maintenance Certificate with either the Airframe or Powerplant Rating is required.

#### *General - 12*

- AVMT 108 - Applied Science for Aerospace Technicians Credits: 4
- AVMT 114 - Aircraft Basic Electricity Credits: 2
- AVMT 116 - Federal Regulations, Publications, Forms and Records Credits: 2
- AVMT 120 - Materials and Processes for Aircraft Structures Credits: 4
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)

#### *Airframe Rating - 20*

- AVMT 204 - Aircraft Electrical Systems Credits: 2
- AVMT 210 - Aircraft Systems Credits: 4
- AVMT 220 - Aircraft Fuels and Fuel Systems Credits: 2
- AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems Credits: 4
- AVMT 304 - Aircraft Metal Structures Credits: 4
- AVMT 306 - Aircraft Non-metal Structures Credits: 2
- AVMT 308 - Aircraft Assembly, Rigging and Inspections Credits: 2

#### *Powerplant Rating - 20*

- AVMT 206 - Powerplant Electrical Systems Credits: 4
- AVMT 226 - Engine Fuel Metering Systems Credits: 2
- AVMT 310 - Gas Turbine Engines Credits: 4
- AVMT 314 - Aircraft Propellers and Engine Inspections Credits: 3
- AVMT 316 - Reciprocating Engine Systems and Overhaul Credits: 7

## Aviation, Flight Emphasis Minor

#### Total Credits - 20

#### Flight

Note: A Private Certificate with an instrument rating is required.

- AFLT 115 - Private Pilot Ground School Credits: 4
- AFLT 121 - Flight Training 1 Credits: 2
- AFLT 122 - Flight Training 2 Credits: 2
- AFLT 215 - Instrument Pilot Ground School Credits: 4
- AFLT 226 - Instrument Simulator Training Credits: 2
- AFLT 227 - Instrument Flight Training Credits: 2
- AVIA 200 - Aviation Forum Credits: 0 (must register each semester)
- Remaining 4 credits to be selected in consultation with adviser.

## Certificates

### FAA Certification

**FAA-Approved Instruction.** The Department of Aviation operates a Flight School under Part 61, as well as an Airframe and Powerplant Maintenance Technician School approved by the FAA under Title 14 CFR, Part 147.

**FAA Flight Certification Programs.** Qualifying students may take flight instruction for the following levels of certification:

- Private Pilot
- Instrument Rating
- Commercial Pilot
- Flight Instructor
- Multi-Engine Rating
- Multi-Engine Flight Instructor
- Instrument Flight Instructor
- Airline Transport Pilot

**FAA Aviation Maintenance Certification Programs.** Students may earn the following FAA approved certificates from the department's Part 147 Aviation Maintenance Technician School:

- Airframe
- Powerplant

## Aviation Flight

#### AFLT 104 - Introduction to Aviation

**Credits:** 1–4 | Acquaints students with the history and opportunities in aviation, such as mission flying, flight instruction, aircraft maintenance, avionics, sales, safety, and aerodynamics of flight. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Repeatable:** Repeatable up to 4 credits | **Schedule Type:** Lecture | **Offering:** Fall, Spring | **College Code:** DAA

### AFLT 110 – Basic Aircraft Systems

**Credits:** 3 | The study of small aircraft systems, including: reciprocating engines, propellers and prop governors; fuel, electrical, hydraulic, pressurization, pneumatic and de-icing systems, flight controls, aircraft structures, weight and balance, and aircraft instrument systems. Also included will be pilot maintenance and a brief introduction of the FAA requirements for maintenance, inspections and recordkeeping. | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 115 – Private Pilot Ground School

**Credits:** 4 | Ground training to prepare students for the FAA private pilot airplane knowledge test. Topics include aerodynamics, weight and balance, Federal Aviation Regulations, navigation, meteorology, aircraft systems and performance. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 120 – Applied Science for Aviation

**Credits:** 4 | Applies the sciences of mathematics and physics to the aerodynamics of flight, maintenance, weight and balance and various maintenance problems that the aircraft maintenance technician and pilot could encounter. Includes the study and use of aircraft drawings, schematics, and basic ground operations. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 121 – Flight Training 1

**Credits:** 2 | This course is the first part of the private pilot flight training and includes the flight training up through solo flight. Student MUST have a Pilot Medical Certificate/Student Pilot Certificate, obtained through an Aviation Medical Examiner, prior to registering for the course. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Corequisite(s):** The student must be currently enrolled in AFLT 115 or have passed the private pilot knowledge test. | **Schedule Type:** Flight Training | **Offering:** Fall | **College Code:** DAA

### AFLT 122 – Flight Training 2

**Credits:** 2 | This course is the last half of the flight training in preparation for taking the FAA Private Pilot Practical Exam. The FAA Medical and Student Pilot Certificate required in AFLT121 must be valid. | Weekly: two 1-hour lectures and two 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT 121 and have passed the FAA Private pilot knowledge test. | **Schedule Type:** Flight Training | **Offering:** Spring | **College Code:** DAA

### AFLT 124 – Aircraft Electricity

**Credits:** 2 | A study of the fundamental basics of electricity and electronics; including electrical diagrams, calculations, sources of electrical power, direct and alternating current, aircraft storage batteries, capacitance and inductance, binary code and the basics of solid state logic. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 126 – Federal Aviation Regulations, Publications, Forms and Records

**Credits:** 2 | Study of the federal regulations and manufacturer publications as they apply to aircraft design, maintenance, inspections, forms and records, and the certification and privileges/limitations of aviation maintenance technicians and pilots. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 210 – Aircraft Systems

**Credits:** 4 | An in-depth study into the inspection, repair, checking, servicing and troubleshooting of the following aircraft systems; ice-and rain detection, cabin atmosphere (pressurization, heating, cooling, and oxygen), position warning systems, navigation and communication systems, and aircraft instruments and their use in trouble-shooting of aircraft systems. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### AFLT 215 – Instrument Pilot Ground School

**Credits:** 4 | Ground training to prepare the student for the FAA instrument rating airplane knowledge test. Topics include Federal Aviation Regulations, meteorology, instrument flight charts, flight planning, instrument approaches, use of navigation

equipment, and FAA publications relating to instrument flight. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Corequisite(s):** AFLT226 | **Prerequisite(s):** AFLT115 | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### AFLT 220 – Meteorology

**Credits:** 3 | Meteorology provides students with a comprehensive study of the principles of meteorology while simultaneously providing classroom and laboratory applications focused on current weather situations. It provides real experiences demonstrating the value of computers and electronic access to time sensitive data and information. | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, alternate years | **College Code:** DAA

### AFLT 225 – Aircraft Fuels and Fuel Systems

**Credits:** 2 | A study of the various types and handling of fuels used in aircraft. Includes a study of aircraft fuel systems, fuel metering methods and the inspection, checking, servicing, troubleshooting, repair and overhaul of fuel systems and their components, and fire detection and protection. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### AFLT 226 – Instrument Simulator Training

**Credits:** 2 | This course is the introduction to attitude instrument flight in preparation for taking the FAA Instrument Rating. Weekly: One 1-hour lecture and two 2-hour flight blocks. The FAA Medical is required. | Weekly: one 1-hour lecture and two 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Schedule Type:** Flight Training | **Offering:** Spring | **College Code:** DAA

### AFLT 227 – Instrument Flight Training

**Credits:** 2 | This course completes the preparation for taking the FAA Instrument Pilot Rating Practical Exam. The FAA Medical is required. A valid instrument Airplane Written exam must be on file prior to starting this course. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT 226 and have passed the FAA Instrument knowledge test. | **Schedule Type:** Flight Training | **Offering:** Spring | **College Code:** DAA

### AFLT 230 – Aerodynamics

**Credits:** 3 | The study of aerodynamic principles used in aircraft. Designed for a better understanding of basic design and devices used to improve aircraft performance. | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, alternate years | **College Code:** DAA

### AFLT 300 – Aviation Safety Management

**Credits:** 3 | The study of physiological and psychological factors related to flight safety, emphasizing cause-and-effect of airplane accidents and their prevention. Includes a systems approach to safety program development and management. | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### AFLT 305 – Commercial Pilot Ground School

**Credits:** 4 | Ground training to prepare the student for the FAA commercial-pilot airplane knowledge test. Topics include advanced navigation, FAR Parts 61, 91, and 135 for air taxi, complex aircraft systems, weight and balance, and performance charts. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Corequisite(s):** AFLT321 | **Prerequisite(s):** AFLT215, AFLT226 | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

### AFLT 310 – Advanced Systems

**Credits:** 3 | The study of transport category aircraft systems, including: turbine engines, APUs, fuel, electrical, hydraulic, pneumatic, environmental control, emergency oxygen, pressurization, de-icing systems, and advanced avionics systems. Particular emphasis will be placed on preparing for airline systems ground school. | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** AFLT 305. | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### AFLT 316 – Turbine Engines

**Credits:** 4 | Principles and theory of jet-engine propulsion, design, types of, and associated systems. Maintenance, overhaul, installation removal, repair, trimming, and troubleshooting of turbine engines. (This course does not count toward FAA maintenance program credit.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, alternate years | **College Code:** DAA

### AFLT 321 – Commercial Flight Training 1

**Credits:** 2 | This course is the introduction to commercial airplane flight introducing commercial pilot maneuvers, and building night and cross-country experience. The FAA Medical is required. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) |

**Prerequisite(s):** AFLT 227 | **Schedule Type:** Flight Training | **Offering:** Fall | **College Code:** DAA

### **AFLT 322 – Commercial Flight Training 2**

**Credits:** 2 | This course continues the commercial pilot training covering, upset training, tail wheel and building additional night and cross-country experience with the emphasis on solo flight. The FAA Medical is required. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT 321 and have passed the FAA Single Engine Land Commercial knowledge test. | **Schedule Type:** Flight Training | **Offering:** Spring | **College Code:** DAA

### **AFLT 323 – Commercial Flight Training 3**

**Credits:** 2 | This course continues the student for the Commercial Pilot Rating. Complex aircraft operations are introduced and additional experience in cross-county and commercial pilot maneuvers are included. The FAA Medical is required. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT 322 and have passed the FAA Single Engine Land Commercial knowledge test. | **Schedule Type:** Flight Training | **Offering:** Fall, Summer | **College Code:** DAA

### **AFLT 324 – Commercial Flight Training 4/Certified Flight Instructor**

**Credits:** 2 | This course completes the preparation for taking the FAA Commercial Airplane Land Pilot Rating Practical Exam and the Certified Flight Instructor Rating. Final refinement of commercial maneuvers, including right seat proficiency is included. The FAA Medical is required. | Weekly: two 1-hour lectures and three 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT 323 and have passed the FAA Single Engine Land Commercial knowledge test. | **Schedule Type:** Flight Training | **Offering:** Spring, Summer | **College Code:** DAA

### **AFLT 340 – Airspace and Air Traffic Control**

**Credits:** 3 | Examines how instrument flight operations function within the FAA air traffic control system. Study of air traffic controller roles, procedures, and regulatory requirements for instrument operations in the terminal and enroute air traffic environment. | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite/Corequisite:** AFLT 227, AFLT 321, AFLT 220 (may be taken concurrently) | **Schedule Type:** Lecture | **Offering:** Variable | **College Code:** DAA

### **AFLT 355 – Flight Instructor Ground School**

**Credits:** 2 | Ground training to prepare the student for the FAA flight instructor airplane knowledge test. Topics include techniques of teaching, analysis of maneuvers, and lesson planning. | Weekly: 2 lectures and a 2-hour lab | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture/Lab | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 356 – Flight Instructor Flight Training**

**Credits:** 1,2 | Flight and ground training to prepare the student for the FAA flight instructor airplane practical test. Topics include the performance, teaching, and analysis of flight maneuvers required for the private and commercial airplane pilot (2 cr. for initial CFI; 1 cr. for CFI add-on). | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** AFLT355, FAA written tests passed: Fundamentals of Instruction, Flight Instructor-Airplane, FAA commercial pilots license with an instrument rating. | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 364 – Basic and Advanced Ground Instructor**

**Credits:** 2 | Prepares the student for the FAA basic and advanced ground instructor knowledge test. Topics include techniques of teaching aerodynamics, aircraft performance, aircraft systems, weight and balance, meteorology, navigation, and regulations. | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 365 – Instrument Flight Instructor Ground School**

**Credits:** 2 | Prepares the student for the FAA instrument flight instructor knowledge test. Topics include techniques of teaching instrument flight, analysis of instrument maneuvers, instrument approaches, enroute operations, regulations, and lesson planning. | Weekly: 2 lectures and a 2-hour lab | **Grade Mode:** Normal (A-F,I,W) | **Corequisite(s):** AFLT366 | **Prerequisite(s):** AFLT355 | **Schedule Type:** Lecture/Lab | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 366 – Instrument Flight Instructor Flight Training**

**Credits:** 1,2 | Flight and ground training to prepare the student for the FAA instrument flight instructor airplane practical test. Topics include the performance, teaching, and analysis of attitude instruments, instrument approaches, and enroute operations. (2 cr. for initial; 1 cr. for add-on.) | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** AFLT356, FAA written test passed - Flight Instructor - Instrument | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 410 – Aviation Law**

**Credits:** 3 | Legal principles governing the aviation industry, historical precedents, regulatory statutes, standards, contracts, liability and insurance. Current developments and court decisions. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Commercial Pilot or Maintenance Certificates. | **Schedule Type:** Lecture | **Offering:** Variable | **College Code:** DAA

### **AFLT 415 – Human Factors in Aviation**

**Credits:** 3 | Flight Physiology Effects of high altitude flight on the human body, flying and health, first aid and survival. Attention will also be given to information processing and perception in flight. | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** FAA Commercial Pilot or Maintenance Certificates | **Schedule Type:** Lecture | **Offering:** Variable | **College Code:** DAA

### **AFLT 416 – Turbine Transition**

**Credits:** 2 | Ground and simulator training to prepare the student to work in a multiple crew aircraft operating under FAR Part 121 and 135. Topics include crew checklist usage and standard operating procedures (SOPs). | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 426 – Multiengine Flight Training**

**Credits:** 1 | Flight instruction in a multi-engine aircraft in preparation for the FAA multi-engine rating. The FAA Medical is required. | Weekly: one 1-hour lecture and two 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** FAA Single Engine Land Commercial | **Schedule Type:** Flight Training | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 427 – Multiengine Flight**

**Credits:** 1 | 30 hours of additional experience in multiengine aircraft with a focus on cross country and instrument experience. The FAA Medical is required. | Weekly: two 2-hour flight blocks | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** FAA Single Engine Land Commercial | **Repeatable:** Repeatable | **Schedule Type:** Flight Training | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 430 – Crew Resource Management**

**Credits:** 2 | Study of the effective use of resources available to the crew to achieve safe and efficient flight operations. Areas include human factors, communication, conflict resolution, leadership, teamwork, and situational awareness as applied to flight operations. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** FAA Commercial Pilots Certificate and an Instrument Rating or by permission of the instructor. | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AFLT 467 – Multi-Engine Flight Instructor**

**Credits:** 1,2 | Flight and ground training to prepare the student for the FAA multi-engine airplane flight instructor practical test. Topics include the performance, teaching, and analysis of maneuvers and procedures for the multi-engine airplane (2 cr. for initial CFI; 1 cr. for CFI add-on). | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Commercial Pilots Certificate with Multengine Rating, CFI or CFII. | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 469 – Instrument Ground Instructor**

**Credits:** 2 | Prepares the student for the FAA instrument ground instructor knowledge test. Topics include the techniques of teaching advanced weather theory, weather reports and forecasts, instrument procedures and regulations, approaches, and enroute operations. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** AFLT355/364 or CFI | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

### **AFLT 474 – Techniques of Mission Flying**

**Credits:** 3 | Develops special piloting skills required in remote undeveloped bush operations. Topics include pilotage, dead reckoning, GPS navigation, low-level operations, terrain flying, mountain passes and canyons, cargo drops, short fields, uphill and downhill operations on primitive airstrips, maximum performance techniques, and precision airplane control. | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Commercial Pilots Certificate | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AFLT 485 – Airline Transport Pilot Ground School**

**Credits:** 3 | Prepares the student for the FAA airline transport pilot knowledge test. Topics include air-carrier or air-taxi regulations, high altitude weather, advanced weight and balance, and the performance and special problems in large airplane operations. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Commercial Pilots Certificate | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

## AFLT 486 – Airline Transport Pilot Flight Training

**Credits:** 3 | Flight and ground training to prepare the student for the FAA airline transport pilot airplane practical test. Topics include instrument procedures, in-flight maneuvers, take-offs, landings, advanced airplane systems, and emergency procedures. | \$ - Course or lab fee | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Commercial Pilots Certificate | **Schedule Type:** Lecture | **Offering:** Fall, Spring, Summer | **College Code:** DAA

# Aviation

## AVIA 140 – Welding Technology

**Credits:** 2 | Oxyacetylene and electric welding processes including oxyacetylene welding, cutting, and brazing; basic shielded metal arc welding and basic gas metal arc welding. A limited amount of out-of-position welding will be stressed. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture, Lab | **Offering:** Fall | **College Code:** DAA

## AVIA 200 – Aviation Forum

**Credits:** 0 | A bi-weekly seminar giving instruction in Aviation Safety and Operational Control. Required of all aviation majors. Students must register for this class each semester in residence. | **Grade Mode:** Satisfactory (S,U,I,W) | **Repeatable:** Repeatable | **Schedule Type:** Blended Learning | **Offering:** Fall, Spring | **College Code:** DAA

## AVIA 250 – Machine Shop

**Credits:** 3,4 | Basic set-up and operation of lathes, milling machines, grinders, drilling machines, and shapers; safety, machine maintenance, off-hand grinding, drill sharpening, layout, and inspection emphasized. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

## AVIA 275 – Topics in \_\_\_\_\_

**Credits:** 1 | **Grade Mode:** Normal (A-F,I,W) | **Repeatable:** Repeatable with different topics | **Schedule Type:** Lecture | **Offering:** Arranged | **College Code:** DAA

## AVIA 285 – Project Course

**Credits:** 1–4 | Development of a skill in a given area of technology under the supervision of the instructor. | **Grade Mode:** Normal w S/DG (A-F,I,S,U,DG,W) | **Prerequisite(s):** Permission of instructor. | **Repeatable:** Repeatable up to 12 credits | **Schedule Type:** Independent | **Offering:** Fall, Spring | **College Code:** DAA

## AVIA 294 – Cooperative Work Experience

**Credits:** 1–3 | Work experience with an aviation organization or airline. A minimum of 120 hours of work required per credit. | **Grade Mode:** Satisfactory w/DG (S,U,I,W,DG) | **Prerequisite(s):** Permission of the department. | **Repeatable:** Repeatable | **Schedule Type:** Practicum | **Offering:** Arranged | **College Code:** DAA

## AVIA 296 – Independent Study

**Credits:** 1 | Enables students to pursue topics in aviation not offered in other scheduled courses. | **Grade Mode:** Normal w S/DG (A-F,I,S,U,DG,W) | **Prerequisite(s):** Permission of the department. | **Repeatable:** Repeatable up to 4 credits | **Schedule Type:** Independent | **Offering:** Arranged | **College Code:** DAA

## AVIA 390 – Internship

**Credits:** 1–4 | On-the-job internship experience for those students seeking industrial experience which cannot be simulated in a classroom setting. A range of 120–150 clock hours of work are required for each credit. Selected in consultation with the student's advisor. | **Grade Mode:** Satisfactory w/DG (S,U,I,W,DG) | **Repeatable:** Repeatable | **Schedule Type:** Practicum | **College Code:** DAA

## AVIA 395 – Practicum

**Credits:** 1–4 | Lab or on-the-job experience to build skills in a specific area of technology. | **Grade Mode:** Normal with DG (A-F,I,W,DG,DN) | **Prerequisite(s):** Permission of department. | **Repeatable:** Repeatable up to 6 credits | **Schedule Type:** Practicum | **Offering:** Arranged | **College Code:** DAA

## AVIA 460 – Program Continuation

**Credits:** 0 | Aviation students may register for this title while clearing deferred grade (DG) and/or incomplete (I) classes, or working to complete practical tests in the flight and/or maintenance programs. Registration for this title indicates full-time status. | \$ - Course or lab fee | **Course Attribute:** Full-time status | **Grade Mode:** Noncredit (NC,W) | **Prerequisite(s):** Permission of advisor and department chair. | **Repeatable:** Repeatable | **Schedule Type:** Independent | **College Code:** DAA

## AVIA 470 – Project Course

**Credits:** 1–4 | Development of a skill in a given area of technology under the supervision of the instructor. | **Grade Mode:** Normal w S/DG (A-F,I,S,U,DG,W) |

**Prerequisite(s):** Permission of instructor. | **Repeatable:** Repeatable up to 12 credits | **Schedule Type:** Independent | **Offering:** Fall, Spring | **College Code:** DAA

## AVIA 476 – Topics in \_\_\_\_\_

**Credits:** 1–4 | **Grade Mode:** Normal (A-F,I,W) | **Repeatable:** Repeatable with different topics | **Schedule Type:** Lecture | **Offering:** Arranged | **College Code:** DAA

## AVIA 495 – Independent Study

**Credits:** 1–3 | Enables students to pursue topics in aviation not offered in other scheduled courses. | **Grade Mode:** Normal w S/DG (A-F,I,S,U,DG,W) | **Prerequisite(s):** Permission of the department. | **Repeatable:** Repeatable up to 4 credits | **Schedule Type:** Independent | **Offering:** Arranged | **College Code:** DAA

# Aviation Maintenance

## AVMT 108 – Applied Science for Aerospace Technicians

**Credits:** 4 | Applies the sciences of mathematics and physics to the aerodynamics of flight, maintenance, weight and balance and various maintenance problems that the aircraft maintenance technician could encounter. Includes the study and use of drawings and basic ground operations. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

## AVMT 114 – Aircraft Basic Electricity

**Credits:** 2 | A study of the fundamental basics of electricity and electronics; including electrical diagrams, calculations, sources of electrical power, direct and alternating current, aircraft storage batteries, capacitance and inductance, binary code and the basics of solid state logic. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

## AVMT 116 – Federal Regulations, Publications, Forms and Records

**Credits:** 2 | Study of the federal regulations and manufacturer publications as they apply to aircraft design, maintenance, inspections, forms and records, and the certification and privileges/limitations of the aviation maintenance technicians. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

## AVMT 120 – Materials and Processes for Aircraft Structures

**Credits:** 4 | Includes hand and power tool usage, aircraft hardware and materials, precision measurements, corrosion control, nondestructive testing, and fluid lines and fittings. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall | **College Code:** DAA

## AVMT 204 – Aircraft Electrical Systems

**Credits:** 2 | Practical study of aircraft electrical systems, including installation practices, repair, troubleshooting, service, and inspections. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

## AVMT 206 – Powerplant Electrical Systems

**Credits:** 4 | A study of engine ignition and engine electrical systems (starter, generators, alternators, auxiliary electrical power units and their control circuits, engine instruments, and engine fire protection suppression systems). | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

## AVMT 210 – Aircraft Systems

**Credits:** 4 | An in-depth study into the inspection, repair, checking, servicing and troubleshooting of the following aircraft systems; ice-and rain detection, cabin atmosphere (pressurization, heating, cooling, and oxygen), position warning systems, navigation and communication systems, and aircraft instruments and their use in trouble-shooting of aircraft systems. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

## AVMT 220 – Aircraft Fuels and Fuel Systems

**Credits:** 2 | A study of the various types and handling of fuels used in aircraft. Includes a study of aircraft fuel systems, fuel metering methods and the inspection, checking, servicing, troubleshooting, repair and overhaul of fuel systems and their components, and fire detection and protection. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

## AVMT 226 – Engine Fuel Metering Systems

**Credits:** 2 | A study of the engine side of the fuel systems (firewall forward). Includes an in-depth study of fuel-metering devices used on aircraft engines (carburetors, pressure carburetors, direct and continuous fuel-injection systems). Service, maintenance, repair and trouble-shooting of each different system type is covered in

detail. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AVMT 228 - Maintenance: General, Airframe, or Power Plant Review**

**Credits:** 1-3 | A review of all subjects from a selected curriculum. A minimum of five examinations per curriculum area is required. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Prerequisite(s):** All applicable curriculum subjects must have been completed. | **Repeatable:** Repeatable up to 3 credits | **Schedule Type:** Lecture | **Offering:** Fall, Spring | **College Code:** DAA

### **AVMT 237 - Aircraft Hydraulic, Pneumatic, and Landing Gear Systems**

**Credits:** 4 | Operation and maintenance of aircraft hydraulic systems, pneumatic systems, landing-gear systems, and the inspection, checking, servicing, troubleshooting, and repair of these systems and system components. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AVMT 304 - Aircraft Metal Structures**

**Credits:** 4 | A study and application of the processes used in the fabrication and repair of aircraft metal structures. Welding theory and practice with emphasis on weld-quality identification. Riveted, aircraft, aluminum, sheet-metal structures including the fabrication and repair of such structures. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, alternate years | **College Code:** DAA

### **AVMT 306 - Aircraft Non-metal Structures**

**Credits:** 2 | A study of wood and fabric as used in the construction of aircraft and a study of the methods, tooling, inspection, processes, and repair of composite aircraft structures. Includes the application, identification, and functions of aircraft protective finishes. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AVMT 308 - Aircraft Assembly, Rigging and Inspections**

**Credits:** 2 | Study of the nomenclature and design features of both fixed-wing and rotor-wing aircraft and the assembly, alignment of aircraft structures, and rigging and balancing of control system. A detailed inspection of the entire aircraft or rotorcraft is covered as it applies to the airframe 100-hour and other required inspection. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AVMT 310 - Gas Turbine Engines**

**Credits:** 4 | Principles and theory of jet-engine propulsion, design, types of, and associated systems. Maintenance, overhaul, installation-removal, repair, trimming, and troubleshooting of turbine engines. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Fall, alternate years | **College Code:** DAA

### **AVMT 314 - Aircraft Propellers and Engine Inspections**

**Credits:** 3 | Theory and limited work on propellers, both wood and metal. Encompasses fixed, adjustable, controllable, feathering, reversible, and the control of the latter by mechanical, hydromatic, or electrical control systems. The inspection practice of performing the 100-hour inspection on aircraft engines and propellers. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA

### **AVMT 316 - Reciprocating Engine Systems and Overhaul**

**Credits:** 7 | A study of reciprocating engine theory, overhaul methods, and practices and the installation of reciprocating engines. Also includes a study of the following engine systems: exhaust, cooling, induction, and lubrication. | \$ - Course or lab fee | **Grade Mode:** Normal (A-F,I,W) | **Schedule Type:** Lecture | **Offering:** Spring | **College Code:** DAA