

# AVIATION

## Programs

- Aviation - Unmanned Aircraft Systems, Certificate of Achievement (Level I) (<https://catalog.nmc.edu/archives/2020-2021/programs-az/aviation/aviation-unmanned-aircraft-systems-certificate-achievement-level-i/>)
- Aviation, Associate in Applied Science Degree (<https://catalog.nmc.edu/archives/2020-2021/programs-az/aviation/aviation/>)

## Courses

### Aviation Flight

#### AVF 111 - Private Flight

**Credit Hours: 5, Contact Hours: 5**

Division: Aviation

A flight course structured to provide a minimum of 40 dual and solo flight hours to meet the aeronautical experience requirements for a private pilot. Upon completion of this course, the student will have attained the FAA Private Pilot Rating. Course requires 42.4 hours of flight time, 8.0 hours of pre/post, and 17.5 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: Instructor Permission Required

#### AVF 132 - Instrument Flight

**Credit Hours: 4, Contact Hours: 4**

Division: Aviation

A flight course designed to meet the aeronautical experience requirements for the FAA Instrument check ride. Upon completion of this course, the student will have attained the FAA Instrument Rating. Course requires 39.8 flight hours, 9.8 hours of pre/post, and 17.7 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: Private Pilot Rating; AVF 111 and AVG 101

#### AVF 141 - Remote Pilot Flight

**Credit Hours: 3, Contact Hours: 4**

Division: Aviation

Students will be introduced to the world of Unmanned Aerial Systems. This course takes a look at everything from current Unmanned Aircraft Systems to future civilian applications. In addition to learning about this new industry, students will be introduced to flying remotely piloted aircraft and operating entry level Unmanned Aerial Vehicles. Group 2 course.

#### AVF 211 - Commercial Drone Operations

**Credit Hours: 4, Contact Hours: 4**

Division: Aviation

This course will guide students deeper into the Unmanned Aerial Systems Industry. Topics will include Federal Regulations for UAS, components of Unmanned Aerial Vehicles, autopilot programming and flight plan development. Students will be working with UAS autopilot simulators and also be introduced to flying professional UAS systems. Group 2 course.

Required Prerequisites: AVF 141, AVG 142

Recommended Prerequisites: AVG 101

#### AVF 230 - Commercial Flight I

**Credit Hours: 2, Contact Hours: 2**

Division: Aviation

The student will advance their skills required by the FAA to obtain a Commercial Pilot Certificate. They will gain experience in different aircraft with the opportunity to gain a Tailwheel Endorsement or Seaplane Rating. Students will increase their instrument proficiency while conducting cross country flights. Course requires 35 flight hours, 6 of pre/post, and 7 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 130 or AVF 132 and AVG 252, both with a 2.0 or better or equivalent rating.

#### AVF 232 - Commercial Flight II

**Credit Hours: 3, Contact Hours: 3**

Division: Aviation

A flight course structured to provide a dual and solo flight hours to partially fulfill the flight hour requirements for the FAA Commercial Pilot Certificate. This course will provide a review of VFR cross country navigation procedures and introduce the student to multi-engine flight. Course requires 35 flight hours, 3.0 hours of pre/post, and 27.8 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for single engine ground instruction and \$69/hour for multi-engine flight instruction and \$230/hour for the single aircraft and flight instructor and \$340/hour for the multi-engine aircraft and instructor. Group 2 course.

Required Prerequisites: AVF 230 with a 2.0 or better - may be taken concurrently.

#### AVF 234 - Commercial Flight III

**Credit Hours: 2, Contact Hours: 2**

Division: Aviation

This course is the last of three flight courses required to obtain the FAA Commercial Pilot Certificate. This course consists of flight hours with an emphasis on commercial flight maneuvers in preparation for the Commercial Pilot FAA Practical Test. Upon completion of this course, the student will have attained the FAA Commercial Pilot Certificate. Course requires 24.6 flight hours, 3.6 hours of pre/post, and 8.0 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 232 with a 2.0 or better.

#### AVF 241 - Advanced Drone Operations

**Credit Hours: 3, Contact Hours: 4**

Division: Aviation

Students will apply what they have learned in previous courses by working largely in the field conducting simulated and real life flight missions. This course focuses on applying Unmanned Aerial Systems to future civilian applications such as inspections, aerial mapping, and aerial photography. Group 2 course.

Required Prerequisites: AVF 141 and either AVF 211 or AVG 210

#### AVF 261 - Aerosonde UAS Flight Training

**Credit Hours: 3, Contact Hours: 4**

Division: Aviation

This hands on flight course allows students to earn a manufacturer certification from one of the leading UAS platform manufacturers in the U.S. Students will participate in live flight training utilizing the Aerosonde Small UAS platform, a leading platform currently operated for U.S. Department of Defense customers around the globe. Group 2 course.

Required Prerequisites: AVF 241 - may be taken concurrently and AVG 260

**AVF 271 - Multi-Engine Flight****Credit Hours: 1, Contact Hours: 1**

Division: Aviation

This flight course is designed to give the student the aeronautical knowledge, proficiency, and experience required to meet the FAA Practical Test Standards for the Private or Commercial Multi-engine rating. Upon completion of this course, the student will have attained the FAA Multi-engine Land Rating. Course requires 4 flight hours, 1 hour of pre/post, and 1 ground hour. Hourly rates effective March 2018 are \$69/hour for ground instruction and \$340/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 234 with a 2.0 or better.

**AVF 272 - Multi Engine Instructor****Credit Hours: 2, Contact Hours: 2**

Division: Aviation

In this course, the student will learn the skills to be a Certified Multi Engine Flight Instructor (MEI). They will master the skills of the Private and Commercial Pilot ratings. In addition, they will learn how to be an effective teacher and understand all FAA rules and regulations that accompany being an instructor. Course requires 5 flight hours, 1.3 hours of pre/post, and 5 hours of ground instruction. Hourly rates effective March 2018 are \$69/hour for ground instruction and \$271/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 382

**AVF 274 - Tailwheel Flight****Credit Hours: 1, Contact Hours: 1**

Division: Aviation

This course is designed to provide the student with the skills, knowledge, and experience to receive a logbook endorsement to fly tailwheel aircraft. Course requires 4 flight hours and 1 hour of pre/post. Hourly rate effective March 2018 is \$209/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 111 and AVG 101 - both with a 2.0 or better.

**AVF 275 - Seaplane Flight****Credit Hours: 2, Contact Hours: 2**

Division: Aviation

In this course, the student will gain the skills, knowledge, and experience to receive endorsement for the FAA Practical Test. Students will learn in a Piper Super Cub on floats as they demonstrate maneuvers and landings. Course requires 5 flight hours, 1.2 hours of pre/post, and 1 hour of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$209/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 234 with a 2.0 or better.

**AVF 283 - Upset Maneuver Training****Credit Hours: 1, Contact Hours: 1**

Division: Aviation

In this course, the student will learn the foundations to safely perform basic aerobatic maneuvers. Also, the student will gain confidence and skills necessary to recover from various unusual flight attitudes that will increase the students' overall flight safety. Course requires 6 flight hours, 1.5 hours of pre/post, and 2 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$209/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 111 and AVG 101, both with a 2.0 or better

**AVF 284 - Instrument Flight Instructor****Credit Hours: 2, Contact Hours: 2**

Division: Aviation

The student perfects both teaching and instrument flying skills while sitting in the right seat of the cockpit. The student develops the knowledge and ability to teach others instrument flying procedures. Course requires 6 flight hours, 1.2 hours of pre/post, and 8 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 382 with a 2.0 or better

**AVF 382 - Flight Instructor Rating****Credit Hours: 4, Contact Hours: 4**

Division: Aviation

In this course the student will learn the skills to be a Certified Flight Instructor (CFI). They will master the skills of the Private and Commercial Pilot ratings. In addition they will learn how to be an effective teacher and understand all FAA rules and regulations that accompany being an instructor. Course requires 18 flight hours, 4.5 hours of pre/post, and 20 hours of ground instruction. Hourly rates for effective March 2018 are \$59/hour for ground instruction and \$212/hour for the aircraft and flight instructor. Group 2 course.

Required Prerequisites: AVF 234 with a 2.0 or better and instructor permission.

## Aviation Ground

**AVG 101 - Private Ground School****Credit Hours: 5, Contact Hours: 5**

Division: Aviation

This course will provide the aeronautical knowledge required of a private pilot and prepare the student to take the FAA Private Pilot written examination. Topics include: aerodynamics, engine and aircraft systems, airport operations, weight and balance, aircraft performance, Federal Aviation Regulations, meteorology, airspace, navigation, and flight physiology. Group 2 course.

Required Prerequisites: Instructor Permission Required

**AVG 102 - Leadership in Aviation****Credit Hours: 2, Contact Hours: 2**

Division: Aviation

This course identifies and develops leadership characteristics specifically applicable to professional pilots. This course is designed to teach students how to combine strong technical knowledge, aeronautical decision-making and ethics to be a successful leader and contributor in the aviation industry. Group 2 course.

Required Prerequisites: AVF 111, may be taken concurrently.

**AVG 142 - Remote Pilot Ground****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

An online course structured to provide the aeronautical knowledge required of a remote pilot and to prepare the student to take the FAA Unmanned Aircraft General written examination. Topics include: airport operations, aircraft performance, regulations, meteorology, airspace, maintenance, sUAS operations, risk assessment/management. This course will be completed upon the student passing the FAA Unmanned Aircraft General written examination. Group 2 course.

**AVG 161 - Mechanics for Pilots****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course will teach the students about the systems, components, safe repair, and regulations involved with maintaining and operating small aircraft. Students will learn in the classroom and in the maintenance hangar. Group 2 course.

**AVG 190 - Aviation Weather****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course offers thorough coverage in the application and analysis of meteorological charts and how they pertain to aviation. It emphasizes the need for advanced knowledge on how NWS/NOAA charts are derived and how to understand their use in aviation today. Additional emphasis will be placed on predominant weather patterns, associated weather and planning flights to avoid severe weather. A basic understanding in the theory of meteorology is desired. Group 2 course.

Recommended Prerequisites: AVG 101

**AVG 201 - International Aviation****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course will provide an overview and analysis of the international aviation industry. International oversight organizations will be reviewed along with interactions with national regulations. Students will evaluate country differences with regard to aviation regulations, global aviation safety and business forecasts. An analysis of cultural differences for International Aviation Operations will be covered with case studies from current international pilots. Group 2 course.

Recommended Prerequisites: Placement into ENG 111

**AVG 202 - Advanced Aircraft Systems****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course is designed to prepare those students seeking to be career pilots to be successful in the intense aircraft systems ground schools offered by the airlines, manufacturers, and private training providers such as Flight Safety. Each major system of large turbine aircraft will be studied, first, in a general overview and then for a specific model, large transport category, jet aircraft. Group 2 course.

Recommended Prerequisites: AVG 101

**AVG 204 - Airline Aircraft Ground School****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course is designed to prepare those students seeking to be career pilots to be successful in the intense aircraft ground schools provided by the airlines. Canadair Regional Jet systems, limitations, normal and emergency checklist, and flows and flight procedures will be covered in this course. Group 2 course.

Recommended Prerequisites: AVG 202

**AVG 231 - Aviation Law****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

A study of fundamental legal and aviation law principles as they apply to the various segments of the aviation industry. There will be special emphasis on contemporary aviation legal issues. Group 2 course.

**AVG 240 - Corporate Aviation Ground****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

Students taking this course will learn about the aspects of business aviation. Aircraft types, regulations, business customs, and future outlooks of corporate aviation will be presented. Group 2 course.

Recommended Prerequisites: AVG 202

**AVG 251 - Commercial Ground School****Credit Hours: 4, Contact Hours: 4**

Division: Aviation

This course is an advanced study of aviation topics including: GPS, meteorology, radio communications, airspace, and Federal Aviation Regulations. In addition, aircraft systems, career opportunities, aviation safety, aircraft weight and balance, performance charts, and aerodynamics are reviewed with emphasis on commercial pilot operations. Group 2 course.

Required Prerequisites: AVG 252 with a 2.0 or higher

**AVG 252 - Instrument Ground School****Credit Hours: 4, Contact Hours: 4**

Division: Aviation

This course provides the aeronautical knowledge required for the instrument rating and prepare the student to take the FAA Instrument Rating - Airplane written examination. Topics include: flight instruments, radio navigation, departure, enroute and arrival procedures, VOR, NDB, ILS, and GPS approaches, IFR emergencies, aviation weather, and IFR cross-country flight planning. Group 2 course.

Required Prerequisites: AVF 111 and AVG 101 both with a 2.0 or higher; or equivalent rating.

**AVG 260 - Aerosonde UAS Ground****Credit Hours: 4, Contact Hours: 5**

Division: Aviation

This ground school and simulator course will provide the foundation training on the Textron Aerosonde UAS platform, one of the leading UAS platforms in the U.S. Students will learn the systems and operational procedures along with in-depth simulator training that will prepare them for the Aerosonde UAS Flight Course. Group 2 course.

Required Prerequisites: AVF 211 may be taken concurrently

**AVG 285 - Crew Resource Management****Credit Hours: 3, Contact Hours: 3**

Division: Aviation

This course is an introduction to the principles of crew resource management (CRM) and will acquaint students with the concepts and skills required of aircrew members in safely operating multi-place aircraft. Topics will include flight safety concepts, communications skills, effective teamwork principles, and aircraft accident case studies. Students will practice CRM concepts in the Frasca flight training device. Group 2 course.

Required Prerequisites: AVG 252-may be taken concurrently

**AVG 381 - Instructor Ground School****Credit Hours: 5, Contact Hours: 5**

Division: Aviation

A course of study that will provide basic education principles and a review of the aeronautical knowledge required for the flight instructor (airplane single engine) certificate and prepare the student to take the FAA Fundamentals of Instruction (FOI) and the Flight Instructor-Airplane Single Engine written examinations. Through classroom presentations and one-on-one student teaching, students will gain practical teaching experience. Group 2 course.

Required Prerequisites: AVF 230 and AVG 251 both with a 2.0 or higher