**Aviation**

**College of Education**

**Department of Aviation and Business Education**

328 Armstrong Hall • 507-389-6116

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**Aviation Program Mission.** The mission of the Minnesota State Mankato Aviation Program is to prepare principled professional aviation practitioners for responsible positions in the air transportation industry, including airline operations and management, corporate aviation, airport management, and government operations. The program aims to equip students to thrive in the rapidly changing and highly competitive fields of aviation and motivate them to engage in lifelong learning.

**Admission to Major Students.** Students may begin flight training and enroll in 100/200 level aviation courses prior to admission to major. Electronic admission is available in 117 Armstrong Hall. Minnesota State Mankato coursework must be submitted (unofficial transcript). Transfer students must also submit a copy of their transfer credit evaluation form. Students must meet the following requirements:
- a minimum of 32 earned semester credit hours.
- a minimum cumulative GPA of 2.00 (C).

### AVIATION BS

**Required for Major (Aviation Core, 25 credits):**
- AVIA 100 World of Aviation (3)
- AVIA 150 Private Pilot (4)
- AVIA 151 Private Pilot Flight Lab (3)
- AVIA 250 Commercial Pilot (3)
- AVIA 260 Instrument Pilot (4)
- AVIA 334 Aviation Management (4)
- AVIA 437 Aviation Safety (4)

**Required for Major (Aviation Electives, 12 credits):**
Choose 4 courses from the following:
- AVIA 333 Airline Operations (3)
- AVIA 336 Basic Avionics and Mechanics (3)
- AVIA 343 Airport Management (3)
- AVIA 452 Aviation Law (3)
- AVIA 455 Aviation Insurance (3)
- AVIA 436 Advanced Flight Operations (3)
- AVIA 438 Flight Engineer (3)
- AVIA 440 Regional Airlines Operations (3)
- AVIA 442 Fundamentals of Air Traffic Control (3)
- AVIA 443 Airline Dispatch (3)
- AVIA 445 Aviation Resource Management (3)
- AVIA 450 Airline Transport Pilot (3)

**Required for Major (40 credits):** Choose Professional Flight or Aviation Management option below:

#### PROFESSIONAL FLIGHT OPTION I

**Required for Option (AVIA Electives, 10 credits):**
Choose 10 credits from the choices listed:
- AVIA 251 Commercial Pilot Flight Lab (3)
- AVIA 261 Instrument Pilot Flight Lab (3)
- AVIA 371 Multi Engine Flight Lab (1)
- AVIA 380 Flight Instructor (3)
- AVIA 381 Flight Instructor Flight Lab (1)
- AVIA 382 Multi Engine Instructor Flight Lab (1)
- AVIA 391 Instrument Instructor Flight Lab (1)
- AVIA 451 Airline Transport Pilot Flight Lab (2)

**Required Focus Area (30 credits):**
Students may complete business foundation courses (below) or an approved minor offered from any university department. When students complete a minor in lieu of business foundation courses, the balance of the required 30 credits may be aviation electives, internship, or individual study.

**AVIATION MANAGEMENT OPTION II (Aviation Management *10 credits):**
- AVIA 497 Aviation Internship (1-10)
- AVIA 499 Individual Study in Aviation (1-10)

### Additional Aviation Electives

**Required Focus Area for Aviation Mgmt. (Business Foundation courses 30 credits)**
Students must complete all Business Foundation Courses listed below:
- ACCT 200 Financial Accounting (3)
- ACCT 210 Managerial Accounting (3)
- BLAW 200 Legal, Political and Regulatory Environment of Business (3)
- ECON 201 Principles of Macroeconomics (3)
- ECON 202 Principles of Microeconomics (3)
- BED 345 Business Communications (3)
- MRKT 310 Principles of Marketing (3)
- MGMT 330 Principles of Management (3)
- FINA 362 Business Finance (3)
- IBUS 380 Principles of International Business (3)

**Required Minor: None.**

#### AVIATION MANAGEMENT MINOR

**Required for Minor (Core, 14 credits):**
- AVIA 150 Private Pilot (4)
- AVIA 250 Commercial Pilot (3)
- AVIA 260 Instrument Pilot (4)

**Required Electives (10 credits):**
Choose 10 credits from the following:
- AVIA 251 AVIA 261 AVIA 333 AVIA 336 AVIA 343
- AVIA 371 AVIA 432 AVIA 435 AVIA 436 AVIA 438
- AVIA 440 AVIA 442 AVIA 443

### POLICIES/INFORMATION

**Flight Lab:** Flight lab completion requires evaluation by aviation faculty. Flight costs are determined on an hourly basis for aircraft and flight instruction. To obtain FAA certifications requires FAA exams which may require a fee.

**Transfer of college credit and credit for certificates and/or ratings:** The Minnesota State Mankato Department of Aviation bases its flight education philosophy in a four-year university degree. Consequently, students who have obtained flight certificates/ratings without earned college credit may not have satisfied the academic and flight requirements for the aviation major. Students must demonstrate that they have received the full breadth and depth of knowledge, skills, abilities, and attitudes consistent with an education received at Minnesota State Mankato. Once enrolled at Minnesota State Mankato, students are expected to complete all subsequent flight training within Minnesota State Mankato's aviation program.

**Transfer credits:** To satisfy aviation curriculum requirements, students with pilot certificates and ratings earned with college credit through a Council on Aviation Accreditation (CAA) accredited university may transfer those credits without demonstration of proficiency. College credits obtained through a non-CAA accredited institution will be reviewed by the Department of Aviation to ensure the issuing institution follows policies and practices consistent with CAA accreditation standards. In the event credits do not transfer, students may be required to follow Credit for Experience procedures.

**Prior Experience:** Students entering Minnesota State Mankato with completed FAA certificates must register for and complete the requirements for the applicable ground school and flight lab courses. Prior flight experience will be evaluated by the faculty and may result in advanced standing in flight labs. Students are responsible for aircraft rental required for the evaluation.
COURSE DESCRIPTIONS

AVIA 100 (3) World of Aviation
A study of how aviation fits into our modern world, relation to business, and contribution to the economy. Study of aviation as a visible alternative in transportation.
F, S
CD-Related

AVIA 150 (4) Private Pilot
A study of basic aeronautical knowledge including principals of flight, aerodynamics, aviation regulations, weather, visual and instrument navigation, and emergencies. The course meets, but is not limited to, FAR part 61.105 (a, 1-6). Satisfactory completion of this course may result in an endorsement for the FAA Private Pilot written exam.
F, S

AVIA 151 (3) Private Pilot Flight Lab
Provides beginning flight student with the in-flight requirements needed to obtain the FAA Private Pilot’s Certificate.
F, S

AVIA 250 (3) Commercial Pilot
A study of advanced aeronautical knowledge, including aerodynamics, aviation regulations, weather, visual and instrument navigation, and emergencies. The course meets, but is not limited to, FAR part 61.125 (a, 1-6). Satisfactory completion of this course may result in an endorsement for the FAA Commercial Pilot written exam.
Pre: AVIA 150, or equivalent F, S

AVIA 251 (3) Commercial Pilot Flight Lab
Prepares advanced flight students with the in-flight requirements needed to obtain the FAA Commercial Pilot’s Certificate.
Pre: AVIA 151, or equivalent F, S

AVIA 260 (4) Instrument Pilot
A study of the aeronautical knowledge including aviation regulations, weather, instrument navigation, and instrument emergencies. The course meets, but is not limited to, FAR part 61.65 (b, 1-4). Satisfactory completion of this course may result in an endorsement for the FAA Instrument Pilot written exam.
Pre: AVIA 150, or equivalent F, S

AVIA 261 (3) Instrument Pilot Flight Lab
Prepares advanced flight students with the in-flight requirements needed to obtain the FAA Instrument Pilot rating.
Pre: AVIA 151, or equivalent F, S

AVIA 333 (3) Airline Operations
Designed to cover the complex area of operation techniques and problems confronting the airlines today. Entails a study of marketing research, passenger trends, feasibility route studies, etc.
F, S

AVIA 334 (4) Aviation Management
Provides an understanding of management and financial techniques related to aviation businesses. Generally accepted and proven business techniques and proven business techniques are applied to the aviation setting.
F, S

AVIA 336 (3) Basic Avionics and Mechanics
Trains the student in the basic radio and navigation procedures, components, and electronic technology. The student also gains an understanding of aircraft engines and systems.

F

AVIA 343 (3) Airport Management
Provides an understanding of management and operations techniques related to airports. Aspects of design, finance, planning and public relations are emphasized.
S

AVIA 371 (1) Multi-Engine Flight Lab
Prepares advanced flight student with the in-flight requirements needed to obtain the FAA Multi-Engine Pilot rating.
Pre: AVIA 151, or equivalent F, S

AVIA 380 (3) Flight Instructor
A study of the fundamentals of instruction including the learning process, effective teaching evaluation, course development, lesson planning, and instructing techniques. The course meets, but is not limited to, FAR part 61.187 (a, 1-6). Satisfactory completion of this course may result in an endorsement for the FOI and CFI-A written exam.
Pre: AVIA 150 and 260, or equivalent F, S

AVIA 381 (1) Flight Instructor Flight Lab
Prepares advanced flight students with the in-flight requirements needed to obtain the FAA Certified Flight Instructor’s Certificate.
Pre: AVIA 251 and 261, or equivalent F, S

AVIA 382 (1) Multi-Engine Instructor Flight Lab
Prepares advanced flight students for the in-flight requirements needed to obtain the FAA Multi-Engine Flight Instructor’s Certificate.
Pre: AVIA 251 and 261, or equivalent F, S

AVIA 383 (1) Advanced Flight Instructor Flight Lab
Prepares advanced flight students with the in-flight requirements needed to obtain the FAA Instrument Flight Instructor’s Certificate.
Pre: AVIA 251 and 261, or equivalent F, S

AVIA 384 (3) Aviation Law
To instruct the student relative to legal implications of aircraft ownership, leases, rentals, and overall aircraft operation. Emphasis is placed on the understanding of liability and negligence from the operator and pilot standpoints.
S

AVIA 385 (3) Aviation Insurance
Identifies the various rudiments of insurance related to aircraft and airport operations including basic insurance principles, non-ownership pilot liability exposures, aircraft hull consideration, fleet insurance and premium costs.
S

AVIA 386 (3) Advanced Flight Operations
Introduces advanced flight students to the systems and techniques used in high performance and turbine aircraft. Emphasis is on aircraft systems and high altitude flight operations, and corporate flight operation.

AVIA 387 (4) Aviation Safety
The understanding and implementation of safe operating procedures. Assists the student in arriving at proper decisions related to periods of stress when operating as pilot in command. Various FAA regulations and standard and safe operating procedures are also discussed.
F

AVIA 388 (3) Flight Engineer
Provides students with the knowledge necessary to pass the FAA flight engineers written exam.
F

AVIA 440 (3) Regional Airline Operations
Introduces the management and operation of a regional airline including regulatory concerns. Also introduces complex aircraft systems found on the typical regional airline aircraft.

F
AVIA 442 (3) Fundamentals of Air Traffic Control
To provide the student with the basic knowledge of ATC as a career and the fundamentals necessary for FAA certification.

AVIA 443 (3) Airline Dispatch
Introduces the workings of the complex system of air control in the US and abroad. Covers such subjects as radio communications, airspace classification, radar control, and operation as well as aircraft separation. Looks at present and future air traffic control systems.

AVIA 445 (3) Aviation Resource Management
A study of various techniques designed to enhance management and leadership methods. Emphasizes decisionmaking and judgment skills as well as methods to improve effective communication and skills to develop a productive work environment for flight crew and other airline personnel.

AVIA 450 (3) Airline Transport Pilot
Introduces the technical training required for the operation of large aircraft in airline service. Provide knowledge to pass the FAA written test for Airline Transport Pilot Certificate.

AVIA 451 (2) Airline Transport Pilot Flight Lab
Prepares students who desire careers as professional pilots. Emphasizes complete ground tutoring and flight instruction relating to instrument maneuvers, regulation interpretation, pilot discipline and professional procedures.

AVIA 490 (1-10) Aviation Workshop
Variable

AVIA 497 (1-12) Aviation Internship
Supervised experience in business, industry, state or federal institutions.

AVIA 499 (1-6) Individual Study in Aviation
Allows the student an individual course of study on an aviation topic to be arranged with the department. This course will be writing intense.