

## AVIATION

### Aviation

College of Education  
Department of Aviation  
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 life long learning.

**Advising.** AVIA students will be assigned a AVIA faculty advisor following an initial or transfer orientation session. Faculty advising appointments may be scheduled through Karla Worden, Administrative Assistant in the Aviation Department Office. Cheryl Kalakian, College of Education Student Relations Coordinator, is also available for general education, cultural diversity, major admission and program completion (application for graduation) advisement. Students may make appointments through the College of Education Academic Advisement Office (Armstrong Hall 117). On-site airport advising is also available and hours will be posted.

**Admission to Major.** Coordinator for Admission to Major, Cheryl Kalakian, 117 Armstrong Hall.

All students must submit an unofficial transcript or DARS report (available at the Campus Hub).

Students must meet the following requirements:

- a minimum of 32 earned semester credit hours.
- a minimum cumulative GPA of 2.00.

Students may enroll in 100 and 200 aviation coursework prior to admission to major.

### 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 432	Aviation Law (3)
AVIA 435	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:*

#### 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 (1-12)
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)
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 151	Private Pilot Flight Lab (3)
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 knowl-

edge, 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.

**GPA Policy.** Admission to College of Education, 2.0 cumulative GPA.

**P/N Grading Policy.** Only elective and general education courses may be taken P/N, unless offered P/N only.

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## 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.

Fall, Spring  
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.

Fall, Spring

### 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.

Fall, Spring

### 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, 1-4). Satisfactory completion of this course may result in an endorsement for the FAA Commercial Pilot written exam.

Pre: AVIA 150, or equivalent  
Fall, Spring

### 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  
Fall, Spring

### 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  
Fall, Spring

### 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  
Fall, Spring

### 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.

Fall, Spring

### 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.

Fall, Spring

### 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.

Fall

### 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.

Spring

### 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  
Fall, Spring

### 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 AVIA 260, or equivalent  
Fall, Spring

### 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 AVIA 261, or equivalent  
Fall, Spring

### 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 AVIA 261, or equivalent  
Fall, Spring

### AVIA 391 (1) Instrument 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 AVIA 261, or equivalent  
Fall, Spring

### AVIA 432 (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.

Spring

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## AVIATION

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### **AVIA 435 (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.

Spring

### **AVIA 436 (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 437 (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.

Fall

### **AVIA 438 (3) Flight Engineer**

Provides students with the knowledge necessary to pass the FAA flight engineers written exam.

Fall

### **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.

Fall, Spring

### **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.

Fall

### **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.

Spring

### **AVIA 445 (3) Aviation Resource Management**

A study of various techniques designed to enhance management and leadership methods. Emphasizes decision-making 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.

Fall

### **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.

Fall

### **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.

Fall, Spring

### **AVIA 490 (1-10) Aviation Workshop**

Variable

### **AVIA 497 (1-12) Aviation Internship**

Supervised experience in business, industry, state or federal institutions.

Fall, Spring

### **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.

Fall, Spring