

Course Information Form (CIF)

Course Code: AVI 135

Course Title: Aviation Accident Investigation and Human Factors

Department: Aviation

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 49.0102

Repeatability: 0

Credit Hours

Catalog Notation: 3-0-3

Credit Hour Distribution:

Lecture: 3

Lab: 0

Clinical: 0

Total: 3

General Course Information

Catalog Description

Fundamental concepts of aviation accident investigation with emphasis on accident prevention and casualty reduction through crash-worthy design and safety enhancements; strong emphasis on human factors aspects of accident and accident mitigation.

General Course Objectives

To understand the fundamental concepts of aviation accident investigative procedures with an emphasis on accident prevention and casualty reduction through crash-worthy design and safety enhancements; students will learn about the human factors aspects of accident and accident mitigation and gain knowledge that can be employed in their daily flying activities.

Minimum Placement Levels

English

None

Reading

None

Math

None

Prerequisites

Credit in AVI 101

Methods of Evaluation

Learning is evaluated through 9-12 homework assignments, 2-4 exams, and a written project or presentation to analyze human factors causes of aircraft accidents.

Instructional Materials and Additional Supplies

None.

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Aviation Safety Trends	1. Identify and explain current and historic aviation safety trends and relate them to likelihood of accident occurrence.	2	0	0
Investigation Process	1. Summarize investigative process as it pertains to various parties to the investigation.	2	0	0
Investigation Preparation	1. Describe how to prepare for an aircraft accident investigation. 2. Explain steps involved with initial notification of an accident.	3.5	0	0
Collecting Accident Data/Evidence in the Field	1. Recall methods of data collection at the accident site, and illustrate methods of recording that data. 2. Evaluate simulated accident site data and summarize findings.	7	0	0
Collecting Other Accident Related Data: Flight Data Recorders, Eyewitness Data, Mechanical Aspects, Injury and Autopsy	1. Discuss methods of obtaining and evaluating data collected outside of the accident site. 2. Interpret data recorder findings. 3. Describe process of administering eyewitness interviews. 4. Classify aspects of mechanical failure into failure mode. 5. Evaluate nature of injuries to determine conditions and circumstances of flight at time of accident.	10.5	0	0
Pilot/Human Error/Human Factors Issues	1. Explain the nature of human error as it pertains to pilots and other aviation crew. 2. Distinguish between various types of human error; describe human factors as they relate to aviation operations.	6	0	0
Human Factors Accident Classification System	1. Explain HFACS classification philosophy. 2. Interpret human error findings for classification under HFACS.	3.5	0	0
Crash Survival Issues as Related to Aircraft Design	1. Classify aspects of survivability in terms of design features. 2. Define survivability features and their importance depending on aircraft type. 3. Distinguish between design and human inputs to the survivability likelihood.	3.5	0	0
NTSB accident review	1. Review accident cases and evaluate for human error or mechanical failure evidence. 2. Be able to classify an accident based on available data.	7	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	0	0