I.G. Risk Management

Objectives	The student should develop knowledge of the elements related to managing and mitigating risk as described in the CFI PTS.
Elements	✈ Principles of risk management ✈ Risk management process ✈ Level of risk ✈ Assessing risk ✈ Mitigating risk ✈ IMSAFE checklist ✈ PAVE checklist ✈ 5P checklist
Schedule	1. Discuss objectives 2. Review material 3. Development 4. Conclusion
Equipment	✈ White board ✈ Markers ✈ References
Instructor's Actions	1. Discuss lesson objectives 2. Present lecture 3. Questions 4. Homework
Student's Actions	Participate in discussion Take notes
Completion Standards	The student can recognize potentially hazardous situations and effectively mitigate risks using the concepts and procedures discussed in this lesson.

References	FAA-H-8083-9, *Aviation Instructor's Handbook* (Chapter 8)

Instructor Notes

Introduction

Overview—review objectives and key ideas.
Why—flying is inherently dangerous, but it shouldn't be unnecessarily dangerous. We need to recognize and mitigate the risk involved with flying.

Risk management

Risk—probability and possible severity of accident or loss from exposure to various hazards
Risk management—logical process of weighing the potential costs of risks against the possible benefits of allowing those risks to stand uncontrolled. Decision-making process designed to identify hazards systematically, assess the degree of risk, and determine the best course of action.

Principles of risk management

- Accept no unnecessary risk
  Unnecessary risk carries no commensurate return in terms of benefits or opportunities. Flying is impossible without risk—unnecessary risk comes without return.
- Make risk decisions at the appropriate level
  The appropriate decision-maker is the person who can develop and implement risk controls. Single pilot operations—PIC makes decisions. In other situations, it's possible to go higher up (chief pilot, for example).
- Accept risk when benefits outweigh the costs
  Compare all identified benefits to all identified costs. It is necessary to accept some degree of risk in any flying activity.
- Integrate risk management into planning at all levels
  Risks are more easily assessed and managed in the planning stages of an operation. Changes become more expensive and time consuming later on in the process. Plan early.

Risk management process

- Step 1—Identify the hazard
  Use experience, common sense, and specific analytical tools to help identify the risks.
- Step 2—Assess the risk
  Application of quantitative/qualitative measures to determine the level of risk associated with specific hazards. Defines probability and severity of an accident.
- Step 3—Analyze risk control measures
  Investigate specific strategies/tools that reduce, mitigate, or eliminate the risk in terms of the probability of occurrence and/or the severity of the hazard.
- Step 4—Make control decisions

Identify the appropriate decision-making to choose the best control/combination of controls based on the analysis.

- Step 5—Implement risk controls
  Formulate a plan—time, materials, personnel.
- Step 6—Supervise and review
  Reevaluate the process periodically to ensure control effectiveness.

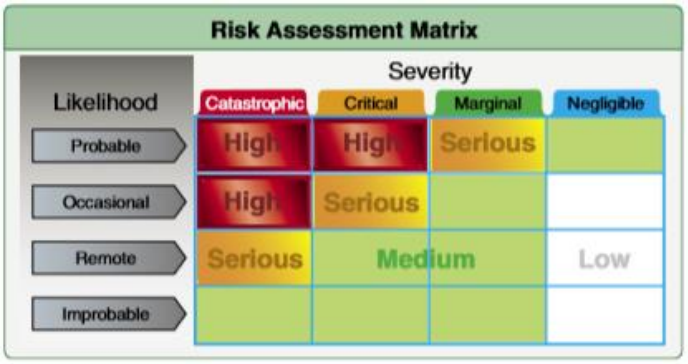
Level of risk

Level of risk posed by a given hazard. Measured in terms of severity and probability.
Severity—extent of possible loss.
Probability—likelihood that a hazard will cause a loss.

Assessing risk

Differentiate between low-risk and high-risk flight in advance. Establish review process, develop strategies to minimize risk on all flights.

Risk matrix—assesses the likelihood of an event occurring, and the consequences of that event.
Likelihood: probable, occasional, remote, improbable
Severity: catastrophic, critical, marginal, negligible



Mitigating risk

After determining the level of risk, we need to reduce it. Analyze different options that can reduce unnecessary risk.

IMSAFE

Determines physical/mental readiness for flight.
Illness
Medication
Stress
Alcohol
Fatigue
Eating

PAVE

Divides risk to assess into four categories
Pilot in Command **IMSAFE**

Aircraft (is the aircraft appropriate for the trip?)
en**V**ironment (weather, terrain, airports, airspace, day/night, …)
External Pressures (influences outside the flight that create pressure to complete the flight at the expense of safety)

External pressure is the most important key to risk management—the one risk factor category that can cause a pilot to ignore all other risk factors. Plan for delays, manage passenger expectations.

Three-P model for pilots

Used to evaluate the pilot's current situation at key decision points during the flight, or when an emergency arises. Review/consider the 5 Ps at least five times before and during the flight—usually during preflight, before takeoff, at the midpoint of the flight, during descent, and before the FAF.

- The Plan
  The mission—planning, weather, route, fuel, current publications, etc. The plan is always changing and we need to adjust.
- The Plane
  Aircraft condition, abilities, equipment, etc.
- The Pilot **IMSAFE**
  Allows the pilot to recognize and review their physiological situation.
- The Passengers
  Plan ahead as much as possible and ensure passengers are involved in the decision-making process. Understand what they want to do and ensure they understand the risk involved in different situations.
- The Programming
  Plan in advance when and where you will program approaches and route changes and gather information. Be familiar with the equipment, the route, the local ATC environment.

Conclusion	Review of main points. It is extremely important that pilots can recognize and effectively mitigate risk to provide safe flights. There are many factors to consider and ways to reduce the inherent risk of flying.

CFI PTS

Objective: To determine that the applicant exhibits instructional knowledge of risk management by describing:

1. Principles of risk management.
2. Risk management process.
3. Level of risk.
4. Assessing risk.
5. Mitigating risk.
6. IMSAFE checklist.
7. PAVE checklist.
8. 5P checklist.

***DECIDE model

***3P model – perceive, process, perform

Airline industry refers to this as TEM – threat and error management. Replaced CRM, which replaced ORM

IMSAFE

Plan, pilot, passengers, programming