



# Module 2 – Airport Planning, Design, Construction & Environmental Cybersecurity



## Module 2

# Airport Planning, Design, Construction & Environmental Cybersecurity

This module looks at the processes behind developing and modifying airport infrastructure, a core administrative function of airports. We will cover various levels of airport planning, including the National Plan of Integrated Airport Systems (NPIAS), state system plans, and detailed Airport Master Plans. The major focus of this module will be on understanding the components and importance of the Airport Layout Plan (ALP). The module will also explore key elements of airfield design and construction (such as runways, taxiways, and aprons), considerations for airport terminal design and passenger experience, and the essential environmental requirements and review processes (like NEPA) that airports must navigate. Throughout these topics, we will discuss cybersecurity impacts on the planning and development process, identifying vulnerabilities and implementing protective measures for the sensitive data, complex systems, and project management tools important to these planning, design, construction, and environmental compliance activities.

## Lecture Focus

Airport planning processes (NPIAS, Master Plans, ALP), airfield design/construction, terminal design basics, and related environmental considerations, focusing on securing data and systems in these areas.

## Cybersecurity Focus

Securing planning data (GIS, eALP), cybersecurity in construction project management systems, protecting environmental compliance data, securing building management systems (HVAC, etc.) and physical security interfaces (PACS).

## Course Alignment

- **Outcome 5:** Evaluate cybersecurity risks in airport commercial

development and property management, applying solutions to safeguard digital systems and tenant data.

- **Objective 5.2:** Understand the relationship between cybersecurity measures and the protection of airport property management systems.
- **Objective 5.5:** Analyze potential cybersecurity risks in commercial development projects and propose solutions to mitigate them.
- **Outcome 6:** Assess the cybersecurity considerations in managing the Airport Improvement Program (AIP) and capital development funding processes to prevent cyber threats and ensure data integrity.
  - **Objective 6.1:** Identify common cybersecurity risks in digital grant management systems.
  - **Objective 6.3:** Assess the cybersecurity of systems used for capital development and grant applications under AIP.

## CM Module Content

- CM Module 2: Airport Planning (ALP, Master Plans, System Planning)
- CM Module 2: Airfield Design and Construction (Runway, Taxiway, Apron Design, Construction Contract Management)
- CM Module 2: Airport Terminal Design, Location and the Passenger Experience (Commercial Service Airport Terminal Design, Terminal Design and Configuration)
- CM Module 2: Airport Environmental Requirements and Processes (The Environmental Process when Conducting a Federal Action, The Environmental Impact Categories, Environmental Responsibilities Related to Airport Operational Activities)

## Module 2 – Overview

Web Page



## Module 2 – Reading

Web Page



## Module 2 - Presentation

PDF document



## Module 2 – Podcast

Audio



### Important Materials



#### IATA Training – Airport Master Planning

Link



#### FAA – TCAP Airport Layout Plan Review

Link



#### FAA – Runway Basics

Link



#### FAA – Basic-Taxiway-Design

Link



WSJ – Expert Explains Hidden  
Airport Design Tricks That  
Guide Travelers

[Link](#)



FAA – Environmental  
Considerations

[Link](#)



FAA – An Enterprise GIS

[Link](#)



Schneider Electric –  
Modernizing Building  
Management Systems for  
Cybersecurity & Energy  
Efficiency

[Link](#)



## Supplemental Materials



CLE – 2013 Airport Layout Plan

[PDF document](#)



CLE – 2019 Master Plan  
Update

PDF document



CAK – 2025 FAA 5010

PDF document



Graded Assignments



Module 2 – Quiz

Quiz



Module 2 – Group Discussion

Assignment

