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COURSE BROCHURE

Airport Master Planning and Capacity Phasing Training Course

18 – 22 April 2027
Manama

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Registered in the United Kingdom and Saudi Arabia

Airport Master Planning and Capacity Phasing Training Course

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Airport master planning and capacity phasing is a 1-week training course for airport planners and development managers who shape how an airfield, terminal and surrounding land grow over several decades, and who leave with a phased capacity roadmap. Rising traffic, tighter land and changing passenger habits make each expansion choice costly to reverse. Jupiter Prime Training presents airport master planning as a decision discipline rather than a drawing exercise.

Why Airport Master Planning Matters Now

Three forces shape airport master planning today. Traffic recovery and new airline models shift peak-hour demand faster than concrete can be poured. Neighbouring communities, landowners and transport authorities expect earlier consultation on noise, access and land take. Funding partners want each phase tied to triggers rather than to calendar promises. An airport that phases capacity well opens stands, piers and roads just before congestion bites and protects land for the long term; one that phases badly strands capital in idle facilities or queues passengers in temporary ones. The course rests on demand forecasting, level-of-service planning and design-hour methods used across the industry.

Who Gains Most from Airport Master Planning

- Planners who prepare traffic forecasts and translate them into facility requirements
- Development managers who sequence terminal, apron and runway projects
- Engineers who safeguard airfield geometry and obstacle surfaces in layout options
- Landside and access specialists who size forecourts, car parks and transit links
- Strategy and finance leads who weigh phasing triggers against investment cases

Airport development units gain most when forecasters, layout engineers and commercial planners attend together and test one shared growth scenario.

Airport Master Planning Capabilities

Participants move from forecast tables to land-use decisions, linking each facility to the demand trigger that justifies it.

- Build a design-hour forecast with high, base and low scenarios — capacity sizing
- Calculate stand, gate and processor requirements against level-of-service targets — terminal sizing
- Compare airside and landside layout options using evaluation criteria — preferred concept selection
- Specify demand triggers that release each development phase — investment committees
- Design a land-use plan that safeguards future runways and aprons — local planning partners

- Communicate phasing choices to airlines, communities and landowners — consultation outcomes

Key Airport Master Planning Terms

- Design hour — a representative busy hour used to size facilities, usually below the absolute annual peak.
- Level of service — the space and waiting time standard a facility offers passengers at the design hour.
- Demand trigger — a measured traffic threshold that releases funding and construction for the next phase.
- Land-use plan — a map allocating airport land to aviation, support, commercial and reserved uses.
- Obstacle limitation surfaces — imaginary surfaces around runways that buildings and structures must not penetrate.
- Airport layout plan — a scaled drawing showing existing and proposed airfield, terminal and landside facilities.

Airport Master Planning Day by Day

Day 1: Growth Drivers and Planning Horizons

- Master Plan Purpose and Horizon Years — Long-Term Development Direction
- Inventory of Existing Facilities — Baseline Capacity and Constraints
- Airline Network and Fleet Trends — Future Aircraft Mix Assumptions
- Stakeholder Mapping for Development — Early Consultation Priorities
- Planning Objectives and Evaluation Criteria — Concept Comparison Basis

Day 2: Traffic Forecasts and Design Hours

- Econometric and Market Share Forecasting — Annual Passenger and Cargo Volumes
- Scenario Ranges and Uncertainty Bands — Resilient Capacity Decisions
- Peak Hour Derivation Methods — Design Hour Selection
- Aircraft Movement and Fleet Mix Forecasts — Runway and Stand Demand
- Forecast Validation and Sensitivity Tests — Credibility With Funding Partners

Day 3: Airside and Terminal Requirements

- Runway and Taxiway Capacity Assessment — Airfield Expansion Timing
- Stand Demand and Apron Layout Sizing — Contact Versus Remote Stand Mix
- Terminal Processor Sizing by Level of Service — Check-In, Security and Gates
- Obstacle Surface Safeguarding — Height Limits on Future Buildings
- Support Facility Requirements — Fuel, Cargo and Maintenance Zones

Day 4: Landside Access and Land Use

- Forecourt and Car Park Demand Models — Landside Space Allocation
- Public Transport and Road Access Planning — Mode Share Targets
- Land-Use Zoning Within the Boundary — Aviation and Commercial Reserves
- Noise Contours and Community Impact — Consultation and Mitigation Choices
- Layout Option Evaluation Matrix — Preferred Development Concept

Day 5: Practising the Phased Capacity Roadmap

- Design Hour Forecast Applied to a Case Airport — Facility Gaps
- Phasing Triggers Linked to Traffic Thresholds — Investment Sequence
- Airside and Landside Option Selection — Preferred Layout Agreement
- Consultation Messaging for Each Phase — Stakeholder Acceptance
- Phased Capacity Roadmap Assembly — Development Committee Submission

Applying Airport Master Planning After the Course

- Rebuild the current design-hour forecast with three scenarios and flag the first facility to hit its level-of-service limit.
- Draft demand triggers for the next terminal or apron phase and review them with the finance and airline liaison leads.

Airport Master Planning Questions FAQ

What is airport master planning and why does it matter now?

Airport master planning sets how an airport grows over decades, from forecasts to land use. It matters now because demand shifts quickly, land is scarce and funders want each phase justified by measured traffic rather than fixed dates.

Which roles gain most from airport master planning skills?

Airport planners, development managers, layout engineers and landside specialists gain most. Strategy and finance leads also benefit, because airport master planning decides when capital is committed and which land stays protected for future runways, aprons and terminals.

How does airport master planning differ from airport business continuity planning?

Airport master planning looks ahead decades to size and phase new capacity. Business continuity planning protects current operations during disruption. One shapes what gets built and when; the other keeps existing facilities running when something fails.

What do you bring back from airport master planning training?

You bring back a phased roadmap built on your own forecast scenarios. It links each stand, pier, road and land reserve to a demand trigger, so your development committee can approve phases with clear evidence and timing.

Airport Master Planning: The Way Forward

The phased capacity roadmap first informs which facility to fund next and the traffic level that releases it. Development committees, airline partners and local planning bodies use it to align their own investments. After its first use, revisit the forecast scenarios and the land reserves, since a shift in fleet mix or access mode can move every later trigger.