



### AviPLAN Essentials Extra | Extended fundamentals of Airside Planning and Design

Public classroom training best suited to users working with, or interested in, AviPLAN Airside or Airside Pro

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#### Duration

Public classroom course - 3 days

*On-site courses, tailored to client requirements, are also available*

#### Prerequisites

- A basic understanding of AutoCAD®, MicroStation® or BricsCAD®
- A sound understanding of airport/airside planning concepts
- A basic understanding of international regulations in airfield design (ICAO Annex 14 and ADM Part 2, EASA CS-ADR-DSN or FAA AC 150-5300-13)

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### Course Content Day 1:

#### 8:30

##### Introduction

- General introduction
- Different versions (Turn – Turn Pro – Airside – Airside Pro)
- Installation guidelines
- Origin of data and explanation of the simulation method
- Overview of menus, ribbons and commands
- Finding your way in (digital) documentation
- 2D/3D planning vs. visualization

##### Settings

- Overview of user default settings options
- Overview of current drawing settings options

##### Select Object dialog

- Overview of the Select Object dialog
- Effective methods to search, filter and sort

##### Park command

- View selection; 2D top view / side view, front view
- Insertion methods; FreeInsert, Insert on Target and Insert Parallel to Target
- Parking objects using different insertion points and offsets.
- Saving and reopening sessions
- Handling sessions with CAD functionality
- Move, save as and deleting of sessions

#### 10:30 - 10:45

Break

#### 10:45

##### Session Manager command

- Showing/hiding sessions or session elements
- Controlling elements; layers, colours, clearance envelopes, jet blast etc.
- Creating templates
- Finding sessions in the drawing



- Session layer vs. property layers
- Organizing your work

### 12:30 – 13:00

Break

### 13:00

#### Design Path command

- Path building theory, basic settings and selections
- Forward/Reverse
- Simulation speed settings and principals
- Turn types; Arc, Dynamic arc, Direct and Oversteer
- Insert and construction modes; FreeDrive, Target, Parallel, Fixed angle and Follow
- Steering limits and response
- Aircraft turning limits theory, recommendations and practical (a-symmetric / symmetric trust)
- Commands, copy, move and save as
- Opening path sessions for editing, undo/redo the button
- 'Path sections' vs 'path segments' explained
- Splitting sections for transition visualization.
- Following existing marking lines
- Creating vehicle/airplane combinations
- Push-back functionality and best practices
- Animation during path building
- Creating reports

### 15:00 – 15:15

Break

### 15:15 – 17:30

#### Vehicle Editor command

- Creating vehicles and combinations
- Dimensions, coupling characteristics, steering properties etc.
- Selecting the vehicle in the Select Object dialog

#### Service Arrangement Editor

- Creating custom service arrangements for Passenger and cargo airplanes

#### Data Manager command

- Sharing data, including sessions, custom objects, groups and templates

#### Case Studies

- Lead-in design
- Power-in, power-out
- Taxiway evaluation and fillet design
- Service vehicle manoeuvres
- Jet blast impact



### Course Content Day 2:

#### 8:30

Revision of day 1

#### 9:00

##### Theory

- Turn types, why, when and where they are best applied

##### Group Manager command

- Create groups of airplanes
- Using groups in the Select Object dialog

##### Design Task command - Fillet Design

- Design taxiway fillets on curves and at intersections, including shoulders
- Aircraft categories, main gear width and clearances FAA/ICAO/EASA
- Selecting the correct critical airplane(s)
- Creating and understanding reports

#### 10:30 - 10:45

Break

#### 10:45

##### Terrain Manager command

- Picking/Naming meshes and 3D faces
- Adding surfaces
- Removing terrain objects

##### Design Path command (Pro version advanced options)

- Starting/ending simulations with SmartTarget
- Dividing path movements into sections for detailed analysis
- Constructing paths on 3D terrain surfaces
- Converting sessions to 3D

##### Create 2D Presentation command

- Handling single and multiple simulations
- Changing camera positions, zoom levels and following objects
- Previewing animations
- Recording and saving session combinations to AVI video format for independent display

#### 12:30 – 13:00

Break



### 13:00

#### Create 3D Presentation command (differences between 2D and 3D)

- Changing camera positions, angles and zoom levels in 3D
- Constructing 3D path simulations
- Recording and saving session combinations to AVI video format for independent display

### 15:00 – 15:15

Break

### 15:15 – 17:30

#### Case Studies with design comprehension tests

- Lead-in design
- Pushback, conventional/towbarless aircraft movers
- Jet blast, after pushback and during taxi-out
- Power-in, power-out
- Runway turn and marking construction (ICAO Annex 14, EASA CS-ADR-DSN)
- Marking design
- Service vehicle manoeuvres

### Course Content Day 3:

### 8:30

#### AviPLAN Airside Pro – “Start As” version option

- How to start AviPLAN as a lower version to comply with client drawings

#### Design Stand command - Remote stand design

- Stand design theory, basic elements and parameters
- Stand setup non-contact, remote stand
- Local coordinates vs. Drawing coordinates
- Lead-in line setup; positioning, limits and settings
- Adding and positioning stop lines using manual method
- Moving airplanes between stop bars
- Stop bar types and designators
- Using the automated airplane positioning method
- Conflict detection on the stand
- Commands, copy, move and save as
- Reviewing output in the Stand Results dialog
- Creating and reviewing reports from the command
- Creating and reviewing reports from the Session Manager

### 10:30 - 10:45

Break

### 10:45

#### Design Stand command – Contact stand design

- Stand design theory, basic elements and parameters
- Stand setup; contact vs. non-contact, reference system (and apron slope, when applicable)



- Passenger Boarding Bridge setup; selection and settings
- Boarding bridge types
- Best practises in setting extension and rotation limits for Passenger Boarding Bridges
- Setting bridge envelope limits
- Lead-in line setup; positioning, limits and settings
- Fixed installation setup; selection, positioning and settings
- Docking rules and Dock-to-door selection
- Adding and positioning stop lines using range indicator assistant
- Using the automated airplane positioning methods
- Defining parking positions for Passenger Boarding Bridges
- Possible problems with a double bridge configuration
- Possible solutions for a double bridge configuration
- Setting up A380 three-bridge solutions – upper deck bridge
- Offset door connection
- Adapter option for commuter aircraft
- Conflict detection on the stand
- Solving conflicts at the stand
- Reviewing output in the Stand Results dialog
- Creating and reviewing stand reports

### 12:30 – 13:00

Break

### 13:00

#### Create 3D Presentation command

- Constructing and combining 3D docking simulations to a single presentation

#### Stand Design Case Studies

- Simple contact stand design
- Contact stand with multiple Passenger Boarding Bridges
- Contact stand with multiple lead-in lines
- Stand design on digital terrain

### 15:00 – 15:15

Break

### 15:15 – 17:30

#### Stand Design Case Studies

- MARS stand design with multiple fixed installation
- Conflict detection on MARS stands
- Reviewing output in the Stand Results dialog

#### Case Studies for revision, design comprehension tests and group discussion

- Lead-in design and operational area assessment
- Pushback theory, practice and marking concepts
- Jet blast impact analysis, theory and best practices
- Power-in, power-out capacity assessment
- Moving sessions from defined elevation to terrain models