Autodesk NavPack Design Training Course

Course Overview

Course Length: 16 Hours

- 16 hours (8 x 2-hrs) of instructor-led training delivered across multiple sessions
- Remote training delivered over MS Teams
- Sessions are recorded and download links are provided for future reference
- Suitable for 1–3 participants
- Scheduling can commence within 14 days of order confirmation
- Flexible session planning to suit project deadlines and team availability
- Private course content tailored to your NavPack Design and Alias NavDesign workflows
- Includes a Certificate of Completion

The Autodesk NavPack Design Training Course is a 16-hour hands-on program for designers who want to bring near-real-time Physics AI into their studio workflows. Delivered as an instructor-led course, this training introduces NavPack Design and Alias NavDesign so you can predict performance KPIs, interpret field overlays, and iterate form with confidence.
Through demos and lab exercises, participants learn how to load models, run first drag and lift predictions, read pressure and sensitivity maps, use uncertainty visualisations, generate brand-grounded design variants, and collaborate effectively with engineering teams.
Whether you are an Alias Class-A designer, a design–engineering liaison adopting left-shifted validation, or part of an OEM studio evaluating Physics AI earlier in the creative process, this course builds the practical skills needed to apply near-real-time performance insight alongside Autodesk Alias and related visualisation tools.

Topics Covered

- Run near-real-time Physics AI predictions (drag, lift, and other KPIs) inside Alias via NavDesign
- Interpret pressure, flow, and sensitivity overlays on surface geometry
- Use uncertainty and confidence visualisations to know when to trust results vs escalate to engineering
- Iterate Alias surfaces and compare KPI deltas across design states
- Generate generative design variants that respect brand and surface quality constraints
- Apply design–engineering collaboration patterns for handoff and high-fidelity validation

Prerequisites

Working knowledge of Autodesk Alias (or equivalent Class-A / surfacing CAD) is recommended. Access to NavPack Design / NavDesign and a sample trained model is provided for labs. Optional familiarity with CFD concepts such as drag, pressure, and streamlines is helpful but not required.

Training Guide Contents

Chapter 1: NavPack Design Overview

- Physics AI concepts for design studios
- Where NavPack Design fits in the creative process
- Left-shifting performance insight earlier in form development
- Value of near-real-time KPIs versus late engineering loops

Chapter 2: Ecosystem and Related Tools

- NavPack Design versus NavPack Core roles
- Alias NavDesign as the primary studio host
- VRED visualisation and shared design truth
- Optional Blender, ParaView, and Python access paths

Chapter 3: Setup and NavDesign in Alias

- Environment and licence readiness checks
- Opening NavDesign inside Autodesk Alias
- Connecting a design model for prediction
- Workspace layout and prediction session basics

Chapter 4: First KPIs on a Design

- Running near-real-time drag and lift predictions
- Selecting and reviewing key performance indicators
- Interpreting first results on a sample surface
- Comparing baseline KPI values across design states

Chapter 5: Field Overlays and Sensitivity

- Pressure and flow field overlays on surface geometry
- Reading sensitivity maps for design hotspots
- Linking overlay cues to candidate surface changes
- Using visual fields to prioritise iteration areas

Chapter 6: Uncertainty and Confidence

- Uncertainty visualisation concepts in Physics AI
- Confidence cues for trusting or questioning results
- Deciding when to escalate to engineering simulation
- Documenting confidence alongside KPI outcomes

Chapter 7: Iterate the Surface

- Controlled Alias surface edits for performance trials
- Re-predicting KPIs after geometry changes
- Tracking near-real-time KPI movement across iterations
- Preserving Class-A intent while exploring performance

Chapter 8: Generative Design Variants

- Generating performance-aware design variants
- Respecting studio design language and brand cues
- Maintaining surface quality constraints in variants

- Reviewing and selecting variants for further study

Chapter 9: Multi-Physics Awareness

- Structural KPI awareness alongside aerodynamics
- Thermal indicators where trained models support them
- Balancing multi-physics signals in early design choices
- Knowing model coverage limits for each physics domain

Chapter 10: Design–Engineering Collaboration

- Sharing findings with CFD and CAE stakeholders
- Hand-off patterns for high-fidelity validation
- Closing the loop with NavPack Core-trained models
- Collaboration practices that reduce late redesign cycles

Chapter 11: Capstone Project

- End-to-end predict, iterate, and variant workflow
- Documenting KPI deltas across design states
- Capturing uncertainty and confidence outcomes
- Presenting design–engineering ready findings

Chapter 12: Review and Best Practices

- Recapping the NavPack Design studio workflow
- Common pitfalls and misreads of Physics AI results
- When not to rely on Physics AI alone
- Next learning steps and continued practice guidance